



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2026 Standard Performance Evaluation Corporation

Maginfra Co., Ltd.  
QR8218-D3 (AMD EPYC 9255)

SPECrate®2017\_int\_base = 721

SPECrate®2017\_int\_peak = 734

CPU2017 License: 9087

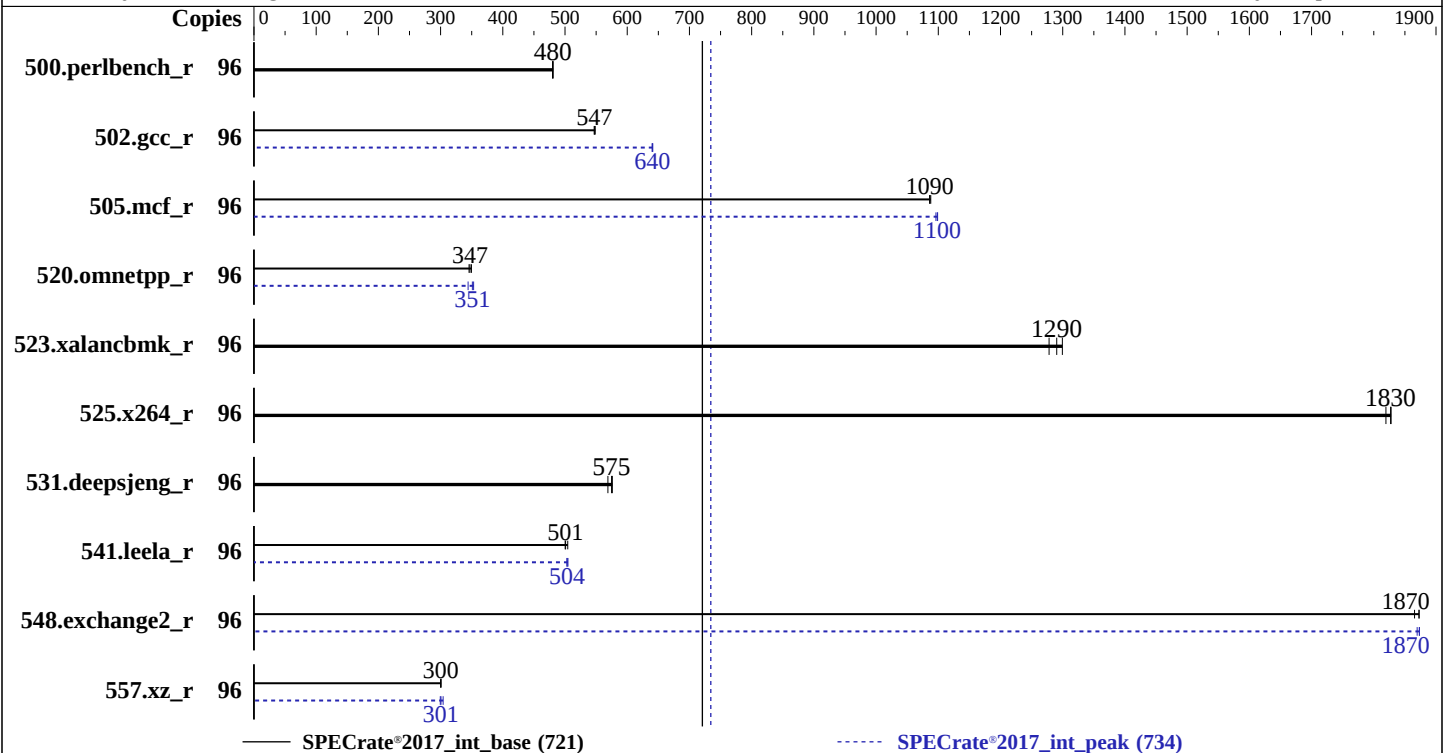
Test Sponsor: Maginfra Co., Ltd.

Tested by: Maginfra Co., Ltd.

Test Date: Jun-2026

Hardware Availability: Dec-2025

Software Availability: Apr-2025



## Hardware

CPU Name: AMD EPYC 9255  
Max MHz: 4300  
Nominal: 3200  
Enabled: 48 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: 128 MB I+D on chip per chip, 32 MB shared / 6 cores  
Other: None  
Memory: 1536 GB (24 x 64 GB 2Rx4 PC5-6400B-R)  
Storage: 1 x 4 TB NVME SSD  
Other: CPU Cooling: Air

## Software

OS: SUSE Linux Enterprise Server 15 SP7  
6.4.0-150700.51-default  
Compiler: C/C++/Fortran: Version 5.0.0 of AOCC  
Parallel: No  
Firmware: Version 01.14.00 released Dec-2025  
File System: xfs  
System State: Run level 3 (multi-user)  
Base Pointers: 64-bit  
Peak Pointers: 32/64-bit  
Other: None  
Power Management: BIOS and OS set to prefer performance at the cost of additional power usage.



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2026 Standard Performance Evaluation Corporation

Maginfra Co., Ltd.

QR8218-D3 (AMD EPYC 9255)

SPECrate®2017\_int\_base = 721

SPECrate®2017\_int\_peak = 734

CPU2017 License: 9087

Test Sponsor: Maginfra Co., Ltd.

Tested by: Maginfra Co., Ltd.

Test Date: Jun-2026

Hardware Availability: Dec-2025

Software Availability: Apr-2025

## Results Table

| Benchmark       | Base   |                    |                    |                   |                   |                   |                    | Peak   |                    |                    |                   |                   |                   |                    |
|-----------------|--------|--------------------|--------------------|-------------------|-------------------|-------------------|--------------------|--------|--------------------|--------------------|-------------------|-------------------|-------------------|--------------------|
|                 | Copies | Seconds            | Ratio              | Seconds           | Ratio             | Seconds           | Ratio              | Copies | Seconds            | Ratio              | Seconds           | Ratio             | Seconds           | Ratio              |
| 500.perlbench_r | 96     | 318                | 480                | <b><u>318</u></b> | <b><u>480</u></b> | 318               | 481                | 96     | 318                | 480                | <b><u>318</u></b> | <b><u>480</u></b> | 318               | 481                |
| 502.gcc_r       | 96     | 248                | 549                | 249               | 547               | <b><u>248</u></b> | <b><u>547</u></b>  | 96     | 212                | 640                | <b><u>212</u></b> | <b><u>640</u></b> | 212               | 641                |
| 505.mcf_r       | 96     | 143                | 1090               | 143               | 1090              | <b><u>143</u></b> | <b><u>1090</u></b> | 96     | 141                | 1100               | 142               | 1100              | <b><u>141</u></b> | <b><u>1100</u></b> |
| 520.omnetpp_r   | 96     | 364                | 346                | <b><u>363</u></b> | <b><u>347</u></b> | 360               | 350                | 96     | 357                | 353                | <b><u>359</u></b> | <b><u>351</u></b> | 366               | 344                |
| 523.xalancbmk_r | 96     | <b><u>78.6</u></b> | <b><u>1290</u></b> | 79.3              | 1280              | 78.0              | 1300               | 96     | <b><u>78.6</u></b> | <b><u>1290</u></b> | 79.3              | 1280              | 78.0              | 1300               |
| 525.x264_r      | 96     | <b><u>92.0</u></b> | <b><u>1830</u></b> | 92.4              | 1820              | 92.0              | 1830               | 96     | <b><u>92.0</u></b> | <b><u>1830</u></b> | 92.4              | 1820              | 92.0              | 1830               |
| 531.deepsjeng_r | 96     | 193                | 569                | 191               | 576               | <b><u>191</u></b> | <b><u>575</u></b>  | 96     | 193                | 569                | 191               | 576               | <b><u>191</u></b> | <b><u>575</u></b>  |
| 541.leela_r     | 96     | <b><u>317</u></b>  | <b><u>501</u></b>  | 318               | 500               | 315               | 504                | 96     | <b><u>316</u></b>  | <b><u>504</u></b>  | 315               | 505               | 316               | 503                |
| 548.exchange2_r | 96     | <b><u>134</u></b>  | <b><u>1870</u></b> | 134               | 1870              | 135               | 1870               | 96     | <b><u>134</u></b>  | <b><u>1870</u></b> | 134               | 1870              | 135               | 1870               |
| 557.xz_r        | 96     | 346                | 300                | 345               | 301               | <b><u>345</u></b> | <b><u>300</u></b>  | 96     | 341                | 304                | 346               | 299               | <b><u>345</u></b> | <b><u>301</u></b>  |

SPECrate®2017\_int\_base = 721

SPECrate®2017\_int\_peak = 734

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

Tuned service was stopped using 'systemctl stop tuned'  
To enable Transparent Hugepages (THP) only on request for base runs,  
'echo madvise > /sys/kernel/mm/transparent\_hugepage/enabled' run as root.  
To enable THP for all allocations for peak runs,  
'echo always > /sys/kernel/mm/transparent\_hugepage/enabled' and  
'echo always > /sys/kernel/mm/transparent\_hugepage/defrag' run as root.



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2026 Standard Performance Evaluation Corporation

**Maginfra Co., Ltd.**

**QR8218-D3 (AMD EPYC 9255)**

**SPECrate®2017\_int\_base = 721**

**SPECrate®2017\_int\_peak = 734**

**CPU2017 License:** 9087

**Test Sponsor:** Maginfra Co., Ltd.

**Tested by:** Maginfra Co., Ltd.

**Test Date:** Jun-2026

**Hardware Availability:** Dec-2025

**Software Availability:** Apr-2025

## Environment Variables Notes

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

LD\_LIBRARY\_PATH =

"/home/CPU2017/amd\_rate\_aocc500\_znver5\_A\_lib/lib:/home/CPU2017/amd\_rate\_aocc500\_znver5\_A\_lib/lib32:"

MALLOC\_CONF = "retain:true"

## General Notes

Binaries were compiled on a system with 2x AMD EPYC 9174F CPU + 1.5TiB Memory using RHEL 8.6

NA: The test sponsor attests, as of date of publication, that CVE-2017-5754 (Meltdown) is mitigated in the system as tested and documented.

Yes: The test sponsor attests, as of date of publication, that CVE-2017-5753 (Spectre variant 1) is mitigated in the system as tested and documented.

Yes: The test sponsor attests, as of date of publication, that CVE-2017-5715 (Spectre variant 2) is mitigated in the system as tested and documented.

## Platform Notes

BIOS configuration:

NUMA nodes per socket = NPS4

Determinism Slider = Power

CTDP Control = Manual

CTDP = 500

Package Power Limit Control = Manual

Package Power Limit = 500

Sysinfo program /home/CPU2017/bin/sysinfo

Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197

running on localhost Fri Jun 19 20:58:14 2026

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 254 (254.24+suse.148.g83b9060b6e)
  12. Services, from systemctl list-unit-files
  13. Linux kernel boot-time arguments, from /proc/cmdline
  14. cpupower frequency-info
  15. tuned-adm active
  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

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2026 Standard Performance Evaluation Corporation

Maginfraco., Ltd.  
QR8218-D3 (AMD EPYC 9255)

SPECrate®2017\_int\_base = 721

SPECrate®2017\_int\_peak = 734

CPU2017 License: 9087

Test Sponsor: Maginfraco., Ltd.

Tested by: Maginfraco., Ltd.

Test Date: Jun-2026

Hardware Availability: Dec-2025

Software Availability: Apr-2025

## Platform Notes (Continued)

### 23. BIOS

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

```
2. w
20:58:14 up 42 min, 1 user, load average: 0.00, 0.00, 0.00
USER      TTY      FROM            LOGIN@   IDLE   JCPU   PCPU WHAT
root      tty1      -              20:57    14.00s 0.87s  0.08s /bin/bash ./amd_rate_aocc500_znver5_A1.sh
```

```
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) 6190573
max locked memory        (kbytes, -l) 2097152
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) 6190573
virtual memory           (kbytes, -v) unlimited
file locks               (-x) unlimited
```

```
5. sysinfo process ancestry
/usr/lib/systemd/systemd --switched-root --system --deserialize=42
login -- root
-bash
python3 ./run_amd_rate_aocc500_znver5_A1.py
/bin/bash ./amd_rate_aocc500_znver5_A1.sh
runcpu --config amd_rate_aocc500_znver5_A1.cfg --tune all --reportable --iterations 3 intrate
runcpu --configfile amd_rate_aocc500_znver5_A1.cfg --tune all --reportable --iterations 3 --nopower
--runmode rate --tune base:peak --size test:train:refrate intrate --nopreenv --note-preenv --logfile
$SPEC/tmp/CPU2017.114/temlogs/preenv.intrate.114.0.log --lognum 114.0 --from_runcpu 2
specperl $SPEC/bin/sysinfo
$SPEC = /home/CPU2017
```

```
6. /proc/cpuinfo
model name      : AMD EPYC 9255 24-Core Processor
vendor_id       : AuthenticAMD
cpu family      : 26
model           : 2
stepping        : 1
microcode       : 0xb00215a
bugs             : sysret_ss_attrs spectre_v1 spectre_v2 spec_store_bypass srso
```

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2026 Standard Performance Evaluation Corporation

Maginfra Co., Ltd.  
QR8218-D3 (AMD EPYC 9255)

SPECrate®2017\_int\_base = 721

SPECrate®2017\_int\_peak = 734

CPU2017 License: 9087

Test Sponsor: Maginfra Co., Ltd.

Tested by: Maginfra Co., Ltd.

Test Date: Jun-2026

Hardware Availability: Dec-2025

Software Availability: Apr-2025

## Platform Notes (Continued)

TLB size : 192 4K pages  
cpu cores : 24  
siblings : 48  
2 physical ids (chips)  
96 processors (hardware threads)  
physical id 0: core ids 0-5,8-13,16-21,24-29  
physical id 1: core ids 0-5,8-13,16-21,24-29  
physical id 0: apicids 0-11,16-27,32-43,48-59  
physical id 1: apicids 64-75,80-91,96-107,112-123

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):              | 96                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| On-line CPU(s) list: | 0-95                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Vendor ID:           | AuthenticAMD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Model name:          | AMD EPYC 9255 24-Core Processor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| CPU family:          | 26                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Model:               | 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Thread(s) per core:  | 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Core(s) per socket:  | 24                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Socket(s):           | 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Stepping:            | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Frequency boost:     | enabled                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| CPU(s) scaling MHz:  | 107%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| CPU max MHz:         | 3200.0000                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| CPU min MHz:         | 1500.0000                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| BogoMIPS:            | 6390.44                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Flags:               | fpu_vme_de_pse_tsc_msr_pae_mce_cx8_apic_sep_mtrr_pge_mca_cmov_pat<br>pse36_clflush_mmx_fxsr_sse_sse2_ht_syscall_nx_mmxext_fxsr_opt_pdpe1gb<br>rdtscp_lm_constant_tsc_rep_good_amd_lbr_v2_nopl_nonstop_tsc_cpuid<br>extd_apicid_aperfmpperf_rapl_pni_pclmulqdq_monitor_ssse3_fma_cx16_pcid<br>sse4_1_sse4_2_x2apic_movbe_popcnt_aes_xsave_avx_f16c_rdrand_lahf_lm<br>cmp_legacy_svm_extapic_cr8_legacy_abm_sse4a_misalignsse_3dnowprefetch<br>osvw_ibs_skinit_wdt_tce_topoext_perfctr_core_perfctr_nb_bpext<br>perfctr_llc_mwaitx_cpb_cat_l3_cdp_l3_hw_pstate_ssbd_mba_perfmon_v2<br>ibrs_ibpb_stibp_ibrs_enhanced_vmmcall_fsgsbase_tsc_adjust_bmi1_avx2<br>smep_bmi2_erms_invpcid_cqm_rdt_a_avx512f_avx512dq_rdseed_adx_smap<br>avx512ifma_clflushopt_clwb_avx512cd_sha_ni_avx512bw_avx512vl_xsaveopt<br>xsavec_xgetbv1_xsaves_cqm_llc_cqm_occup_llc_cqm_mbm_total<br>cqm_mbm_local_user_shstk_avx_vnni_avx512_bf16_clzero_irperf<br>xsaveerptr_rdprr_wbnoinvd_amd_ppin_cppc_amd_ibpb_ret_arat_npt_lbrv<br>svm_lock_nrip_save_tsc_scale_vmc_b_clean_flushbyasid_decodeassists<br>pausefilter_pfthreshold_avic_v_vmsave_vmload_vgif_x2avic_v_spec_ctrl<br>vnm_i_avx512vbmi_umip_pku_ospke_avx512_vbmi2_gfni_vaes_vpclmulqdq<br>avx512_vnni_avx512_bitalg_avx512_vpopcndtq_la57_rdpid_bus_lock_detect<br>movdiri_movdir64b_overflow_recov_succor_smca_fsrn_avx512_vp2intersect<br>flush_l1d_debug_swap_hv_inuse_wr_allowed_srso_user_kernel_no<br>amd_lbr_pmc_freeze |
| Virtualization:      | AMD-V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| L1d cache:           | 2.3 MiB (48 instances)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| L1i cache:           | 1.5 MiB (48 instances)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| L2 cache:            | 48 MiB (48 instances)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2026 Standard Performance Evaluation Corporation

Maginfra Co., Ltd.  
QR8218-D3 (AMD EPYC 9255)

SPECrate®2017\_int\_base = 721

SPECrate®2017\_int\_peak = 734

CPU2017 License: 9087

Test Sponsor: Maginfra Co., Ltd.

Tested by: Maginfra Co., Ltd.

Test Date: Jun-2026

Hardware Availability: Dec-2025

Software Availability: Apr-2025

## Platform Notes (Continued)

L3 cache: 256 MiB (8 instances)  
NUMA node(s): 8  
NUMA node0 CPU(s): 0-5,48-53  
NUMA node1 CPU(s): 6-11,54-59  
NUMA node2 CPU(s): 12-17,60-65  
NUMA node3 CPU(s): 18-23,66-71  
NUMA node4 CPU(s): 24-29,72-77  
NUMA node5 CPU(s): 30-35,78-83  
NUMA node6 CPU(s): 36-41,84-89  
NUMA node7 CPU(s): 42-47,90-95  
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; PBRBS-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      | 2.3M     | 12   | Data        | 1     | 64    | 1        | 64             |
| L1i  | 32K      | 1.5M     | 8    | Instruction | 1     | 64    | 1        | 64             |
| L2   | 1M       | 48M      | 16   | Unified     | 2     | 1024  | 1        | 64             |
| L3   | 32M      | 256M     | 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)  
node 0 cpus: 0-5,48-53  
node 0 size: 193055 MB  
node 0 free: 192716 MB  
node 1 cpus: 6-11,54-59  
node 1 size: 193532 MB  
node 1 free: 193211 MB  
node 2 cpus: 12-17,60-65  
node 2 size: 193532 MB  
node 2 free: 193179 MB  
node 3 cpus: 18-23,66-71  
node 3 size: 193532 MB  
node 3 free: 193249 MB  
node 4 cpus: 24-29,72-77  
node 4 size: 193494 MB  
node 4 free: 193194 MB  
node 5 cpus: 30-35,78-83  
node 5 size: 193532 MB  
node 5 free: 193216 MB  
node 6 cpus: 36-41,84-89  
node 6 size: 193532 MB  
node 6 free: 193220 MB  
node 7 cpus: 42-47,90-95  
node 7 size: 193457 MB

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2026 Standard Performance Evaluation Corporation

Maginfra Co., Ltd.  
QR8218-D3 (AMD EPYC 9255)

SPECrate®2017\_int\_base = 721

SPECrate®2017\_int\_peak = 734

CPU2017 License: 9087

Test Sponsor: Maginfra Co., Ltd.

Tested by: Maginfra Co., Ltd.

Test Date: Jun-2026

Hardware Availability: Dec-2025

Software Availability: Apr-2025

## Platform Notes (Continued)

node 7 free: 193089 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: 1584814556 kB

10. who -r

run-level 3 Jun 19 20:16

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

Default Target Status

multi-user running

12. Services, from systemctl list-unit-files

STATE UNIT FILES

enabled YaST2-Firstboot YaST2-Second-Stage apparmor auditd cron display-manager getty@ irqbalance  
issue-generator kbdsettings klog lvm2-monitor nsd nvme-fc-boot-connections  
nvme-fc-autoconnect postfix purge-kernels rollback rsyslog smartd systemd-pstore

enabled-runtime systemd-remount-fs

disabled autofs autoyast-initscripts blk-availability boot-sysctl ca-certificates chrony-wait  
chronyd console-getty cups cups-browsed debug-shell ebttables exchange-bmc-os-info  
firewalld fsidd gpm grub2-once haveged hwloc-dump-hwdata ipmi ipmievdev issue-add-ssh-keys  
kexec-load lunmask man-db-create multipathd nfs nfs-blkmap rpcbind rpmconfigcheck rsyncd  
serial-getty@ smartd\_generate\_opts snmpd snmptrapd sshd systemd-boot-check-no-failures  
systemd-confext systemd-network-generator systemd-sysext systemd-time-wait-sync  
systemd-timesyncd tuned udisks2 vncserver@ wicked wickedd-auto4 wickedd-dhcp4  
wickedd-dhcp6 wickedd-nanny

indirect

systemd-userdbd wickedd

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

BOOT\_IMAGE=/boot/vmlinuz-6.4.0-150700.51-default

root=UUID=b599d87c-474e-4c72-b781-36d0bcdcf18d

splash=silent

mitigations=auto

quiet

security=apparmor

14. cpupower frequency-info

analyzing CPU 45:

current policy: frequency should be within 1.50 GHz and 3.20 GHz.

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

boost state support:

Supported: yes

Active: yes

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2026 Standard Performance Evaluation Corporation

Maginfraco., Ltd.  
QR8218-D3 (AMD EPYC 9255)

SPECrate®2017\_int\_base = 721

SPECrate®2017\_int\_peak = 734

CPU2017 License: 9087

Test Sponsor: Maginfraco., Ltd.

Tested by: Maginfraco., Ltd.

Test Date: Jun-2026

Hardware Availability: Dec-2025

Software Availability: Apr-2025

## Platform Notes (Continued)

### 15. tuned-adm active

It seems that tuned daemon is not running, preset profile is not activated.  
Preset profile: throughput-performance

### 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 SUSE Linux Enterprise Server 15 SP7

### 20. Disk information

SPEC is set to: /home/CPU2017

| Filesystem     | Type | Size | Used | Avail | Use% | Mounted on |
|----------------|------|------|------|-------|------|------------|
| /dev/nvme0n1p2 | xfs  | 929G | 40G  | 889G  | 5%   | /          |

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

|          |             |
|----------|-------------|
| Vendor:  | Maginfraco. |
| Product: | QR8218-D3   |

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2026 Standard Performance Evaluation Corporation

Maginfra Co., Ltd.  
QR8218-D3 (AMD EPYC 9255)

SPECrate®2017\_int\_base = 721

SPECrate®2017\_int\_peak = 734

CPU2017 License: 9087

Test Sponsor: Maginfra Co., Ltd.

Tested by: Maginfra Co., Ltd.

Test Date: Jun-2026

Hardware Availability: Dec-2025

Software Availability: Apr-2025

## Platform Notes (Continued)

Product Family: Not specified  
Serial: 00000000

### 22. 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:

12x Samsung M321R8GA0PB2-CCPEC 64 GB 2 rank 6400  
11x Samsung M321R8GA0PB2-CCPPC 64 GB 2 rank 6400  
1x Samsung M321R8GA0PB2-CCPWC 64 GB 2 rank 6400

### 23. BIOS

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

BIOS Vendor: American Megatrends International, LLC.  
BIOS Version: 01.14.00  
BIOS Date: 12/25/2025

## Compiler Version Notes

C | 502.gcc\_r(peak)

AMD clang version 17.0.6 (CLANG: AOCC\_5.0.0-Build#1316 2024\_09\_09)  
Target: i386-unknown-linux-gnu  
Thread model: posix  
InstalledDir: /opt/AMD/aocc/aocc-compiler-rel-5.0.0-4925-1316/bin

C | 500.perlbench\_r(base, peak) 502.gcc\_r(base) 505.mcf\_r(base, peak) 525.x264\_r(base, peak)  
| 557.xz\_r(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 | 502.gcc\_r(peak)

AMD clang version 17.0.6 (CLANG: AOCC\_5.0.0-Build#1316 2024\_09\_09)  
Target: i386-unknown-linux-gnu  
Thread model: posix  
InstalledDir: /opt/AMD/aocc/aocc-compiler-rel-5.0.0-4925-1316/bin

C | 500.perlbench\_r(base, peak) 502.gcc\_r(base) 505.mcf\_r(base, peak) 525.x264\_r(base, peak)  
| 557.xz\_r(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

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2026 Standard Performance Evaluation Corporation

Maginfra Co., Ltd.

QR8218-D3 (AMD EPYC 9255)

SPECrate®2017\_int\_base = 721

SPECrate®2017\_int\_peak = 734

CPU2017 License: 9087

Test Sponsor: Maginfra Co., Ltd.

Tested by: Maginfra Co., Ltd.

Test Date: Jun-2026

Hardware Availability: Dec-2025

Software Availability: Apr-2025

## Compiler Version Notes (Continued)

InstalledDir: /opt/AMD/aocc/aocc-compiler-rel-5.0.0-4925-1316/bin

```
=====  
C++      | 520.omnetpp_r(base, peak) 523.xalancbmk_r(base, peak) 531.deepsjeng_r(base, peak)  
          | 541.leela_r(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  | 548.exchange2_r(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  
=====
```

## Base Compiler Invocation

C benchmarks:

clang

C++ benchmarks:

clang++

Fortran benchmarks:

flang

## Base Portability Flags

```
500.perlbench_r: -DSPEC_LINUX_X64 -DSPEC_LP64  
502.gcc_r: -DSPEC_LP64  
505.mcf_r: -DSPEC_LP64  
520.omnetpp_r: -DSPEC_LP64  
523.xalancbmk_r: -DSPEC_LINUX -DSPEC_LP64  
525.x264_r: -DSPEC_LP64  
531.deepsjeng_r: -DSPEC_LP64  
541.leela_r: -DSPEC_LP64  
548.exchange2_r: -DSPEC_LP64  
557.xz_r: -DSPEC_LP64
```



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2026 Standard Performance Evaluation Corporation

Maginfra Co., Ltd.

SPECrate®2017\_int\_base = 721

QR8218-D3 (AMD EPYC 9255)

SPECrate®2017\_int\_peak = 734

CPU2017 License: 9087

Test Sponsor: Maginfra Co., Ltd.

Tested by: Maginfra Co., Ltd.

Test Date: Jun-2026

Hardware Availability: Dec-2025

Software Availability: Apr-2025

## Base Optimization Flags

C benchmarks:

```
-m64 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3
-Wl,-mllvm -Wl,-ldist-scalar-expand -fenable-aggressive-gather
-Wl,-mllvm -Wl,-extra-inliner -z muldefs -O3 -march=znver5
-fveclib=AMDLIBM -ffast-math -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 -lflang
-lamdalloc-ext -ldl
```

C++ benchmarks:

```
-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 -z muldefs -O3 -march=znver5
-fveclib=AMDLIBM -ffast-math -flto -mllvm -unroll-threshold=100
-mllvm -loop-unswitch-threshold=2000000
-mllvm -reduce-array-computations=3 -zopt -fno-PIE -no-pie
-fvirtual-function-elimination -fvisibility=hidden
-mllvm -do-block-reorder=advanced -lamdlibm -lflang -lamdalloc-ext
-ldl
```

Fortran benchmarks:

```
-m64 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3
-Wl,-mllvm -Wl,-inline-recursion=4 -Wl,-mllvm -Wl,-lsr-in-nested-loop
-Wl,-mllvm -Wl,-enable-iv-split -z muldefs -O3 -march=znver5
-fveclib=AMDLIBM -ffast-math -flto
-fepilog-vectorization-of-inductions -mllvm -optimize-strided-mem-cost
-floop-transform -mllvm -unroll-aggressive -mllvm -unroll-threshold=500
-lamdlibm -lflang -lamdalloc -ldl
```

## Base Other Flags

C benchmarks:

-Wno-unused-command-line-argument

C++ benchmarks:

-Wno-unused-command-line-argument

Fortran benchmarks:

-Wno-unused-command-line-argument



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2026 Standard Performance Evaluation Corporation

Maginfra Co., Ltd.

SPECrate®2017\_int\_base = 721

QR8218-D3 (AMD EPYC 9255)

SPECrate®2017\_int\_peak = 734

CPU2017 License: 9087

Test Sponsor: Maginfra Co., Ltd.

Tested by: Maginfra Co., Ltd.

Test Date: Jun-2026

Hardware Availability: Dec-2025

Software Availability: Apr-2025

## Peak Compiler Invocation

C benchmarks:

clang

C++ benchmarks:

clang++

Fortran benchmarks:

flang

## Peak Portability Flags

500.perlbench\_r: -DSPEC\_LINUX\_X64 -DSPEC\_LP64

502.gcc\_r: -D\_FILE\_OFFSET\_BITS=64

505.mcf\_r: -DSPEC\_LP64

520.omnetpp\_r: -DSPEC\_LP64

523.xalancbmk\_r: -DSPEC\_LINUX -DSPEC\_LP64

525.x264\_r: -DSPEC\_LP64

531.deepsjeng\_r: -DSPEC\_LP64

541.leela\_r: -DSPEC\_LP64

548.exchange2\_r: -DSPEC\_LP64

557.xz\_r: -DSPEC\_LP64

## Peak Optimization Flags

C benchmarks:

500.perlbench\_r: basepeak = yes

502.gcc\_r: -m32 -flto -Wl,-mllvm -Wl,-ldist-scalar-expand  
-fenable-aggressive-gather -Wl,-mllvm -Wl,-extra-inliner  
-z muldefs -Ofast -march=znver5 -fveclib=AMDLIBM  
-ffast-math -fstruct-layout=7 -mllvm -unroll-threshold=50  
-fremap-arrays -fstrip-mining  
-mllvm -inline-threshold=1000  
-mllvm -reduce-array-computations=3 -zopt -fgnu89-inline  
-lamdalloc

505.mcf\_r: -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 -flto -fstruct-layout=7  
-mllvm -unroll-threshold=50 -fremap-arrays -fstrip-mining

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2026 Standard Performance Evaluation Corporation

Maginfra Co., Ltd.

SPECrate®2017\_int\_base = 721

QR8218-D3 (AMD EPYC 9255)

SPECrate®2017\_int\_peak = 734

CPU2017 License: 9087

Test Sponsor: Maginfra Co., Ltd.

Tested by: Maginfra Co., Ltd.

Test Date: Jun-2026

Hardware Availability: Dec-2025

Software Availability: Apr-2025

## Peak Optimization Flags (Continued)

505.mcf\_r (continued):

```
-mllvm -inline-threshold=1000  
-mllvm -reduce-array-computations=3 -zopt -lamdlibm  
-lflang -lamdalloc-ext -ldl
```

525.x264\_r: basepeak = yes

```
557.xz_r: -m64 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6  
-Wl,-mllvm -Wl,-reduce-array-computations=3  
-Wl,-mllvm -Wl,-ldist-scalar-expand  
-fenable-aggressive-gather -Wl,-mllvm -Wl,-extra-inliner  
-Ofast -march=znver5 -fveclib=AMDLIBM -ffast-math -flto  
-fstruct-layout=7 -mllvm -unroll-threshold=50  
-fremap-arrays -fstrip-mining  
-mllvm -inline-threshold=1000  
-mllvm -reduce-array-computations=3 -zopt -lamdlibm  
-lflang -lamdalloc-ext -ldl
```

C++ benchmarks:

```
520.omnetpp_r: -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 -flto  
-mllvm -unroll-threshold=100  
-mllvm -reduce-array-computations=3 -zopt -fno-PIE  
-no-pie -fvirtual-function-elimination -fvisibility=hidden  
-mllvm -do-block-reorder=advanced -lamdlibm -lamdalloc-ext  
-ldl
```

523.xalancbmk\_r: basepeak = yes

531.deepsjeng\_r: basepeak = yes

```
541.leela_r: -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 -flto  
-mllvm -unroll-threshold=100  
-mllvm -reduce-array-computations=3 -zopt -fno-PIE  
-no-pie -fvirtual-function-elimination -fvisibility=hidden  
-mllvm -do-block-reorder=advanced -lamdlibm -lflang  
-lamdalloc-ext -ldl
```

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2026 Standard Performance Evaluation Corporation

Maginfra Co., Ltd.

QR8218-D3 (AMD EPYC 9255)

SPECrate®2017\_int\_base = 721

SPECrate®2017\_int\_peak = 734

CPU2017 License: 9087

Test Sponsor: Maginfra Co., Ltd.

Tested by: Maginfra Co., Ltd.

Test Date: Jun-2026

Hardware Availability: Dec-2025

Software Availability: Apr-2025

## Peak Optimization Flags (Continued)

Fortran benchmarks:

```
-m64 -Wl, -mllvm -Wl, -align-all-nofallthru-blocks=6  
-Wl, -mllvm -Wl, -reduce-array-computations=3  
-Wl, -mllvm -Wl, -inline-recursion=4 -Wl, -mllvm -Wl, -lsr-in-nested-loop  
-Wl, -mllvm -Wl, -enable-iv-split -O3 -march=znver5 -fvecLib=AMDLibM  
-ffast-math -flto -fepilog-vectorization-of-inductions  
-mllvm -optimize-strided-mem-cost -floop-transform  
-mllvm -unroll-aggressive -mllvm -unroll-threshold=500 -lamdlibm  
-lflang -lamdalloc -ldl
```

## Peak Other Flags

C benchmarks (except as noted below):

-Wno-unused-command-line-argument

502.gcc\_r: -L/usr/lib32 -Wno-unused-command-line-argument

-L/home/work/cpu2017/v119/aocc5/1316/amd\_rate\_aocc500\_znver5\_A\_lib/lib32

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/Maginfra-Platform-Settings-amd-V1.0.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/Maginfra-Platform-Settings-amd-V1.0.xml>

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

For questions about this result, please contact the tester. For other inquiries, please contact [info@spec.org](mailto:info@spec.org).

Tested with SPEC CPU®2017 v1.1.9 on 2026-06-19 20:58:14-0400.

Report generated on 2026-07-30 16:37:51 by CPU2017 PDF formatter v6716.

Originally published on 2026-07-30.