



# SPEC CPU®2026 Integer Rate Result

Copyright 2026 Standard Performance Evaluation Corporation

Maginfra Co., Ltd.  
QR8218-D3 (AMD EPYC 9535)

SPECrate®2026\_int\_base = 673

SPECrate®2026\_int\_peak = 677

CPU2026 License: 9087

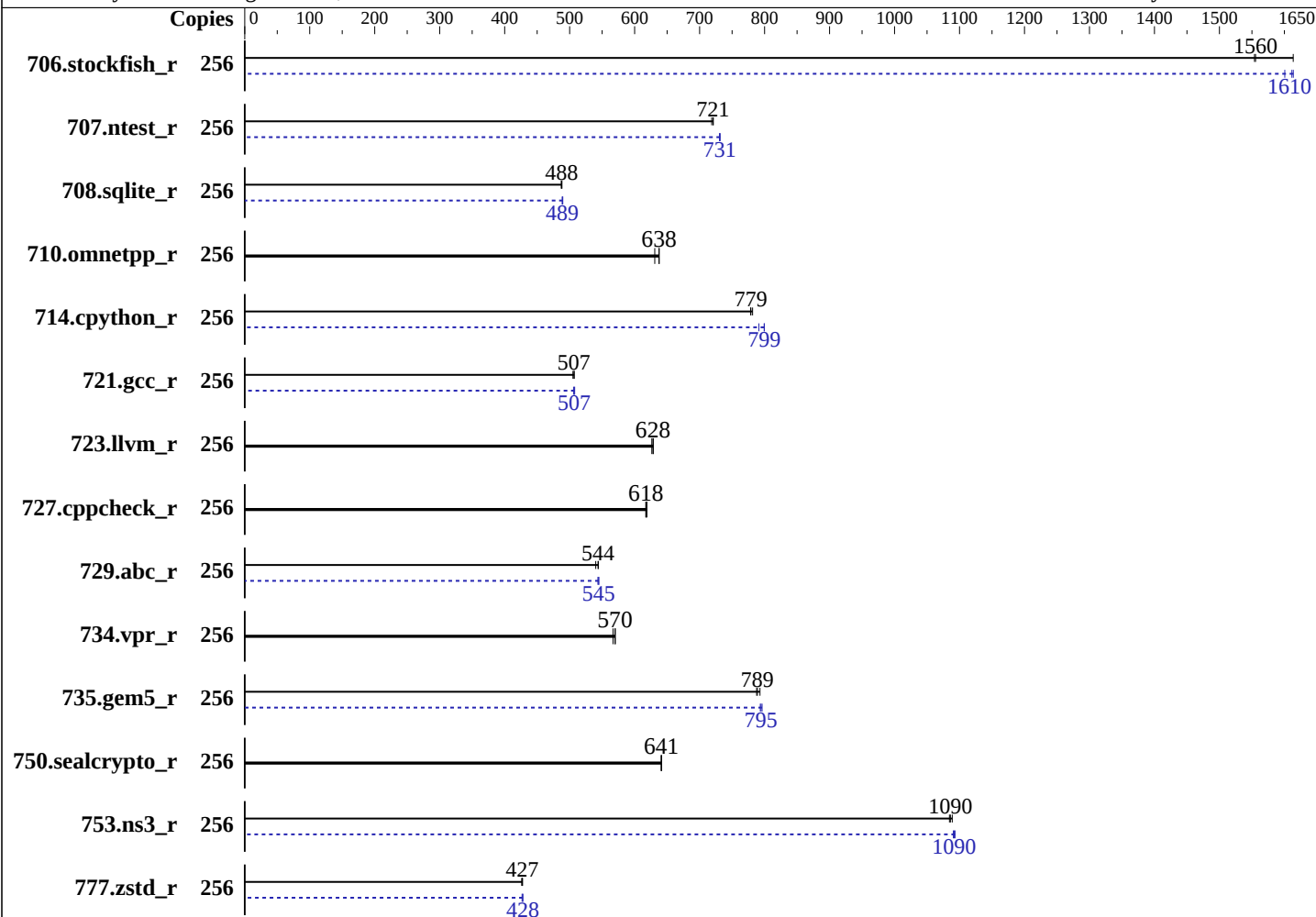
Test Sponsor: Maginfra Co., Ltd.

Tested by: Maginfra Co., Ltd.

Test Date: Jul-2026

Hardware Availability: Dec-2025

Software Availability: Jan-2026



## Hardware

CPU Name: AMD EPYC 9535  
Max MHz: 4300  
Nominal: 2400  
Enabled: 128 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: 256 MB I+D on chip per chip, 16 MB shared / 4 cores  
Other: None  
Memory: 1536 GB (24 x 64 GB 2Rx4 PC5-6400B-R)  
Storage: 1 x 4 TB NVME SSD  
Cooling: Air  
Other: None

## Software

OS: SUSE Linux Enterprise Server 15 SP7 6.4.0-150700.51-default  
Compiler: C/C++/Fortran: Version 5.1.0 of AOCC  
Compiler Category: Vendor  
Firmware: Version 01.14.00 released Dec-2025  
File System: xfs  
System State: Run level 3 (multi-user)  
Base Pointers: 64-bit  
Peak Pointers: 64-bit  
Other: None  
Power Management: BIOS and OS set to prefer performance at the cost of additional power usage.



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## Results Table

| Benchmark        | Base   |                   |                    |                   |                    |                   |                   | Peak   |                   |                    |                   |                   |                   |                    |
|------------------|--------|-------------------|--------------------|-------------------|--------------------|-------------------|-------------------|--------|-------------------|--------------------|-------------------|-------------------|-------------------|--------------------|
|                  | Copies | Seconds           | Ratio              | Seconds           | Ratio              | Seconds           | Ratio             | Copies | Seconds           | Ratio              | Seconds           | Ratio             | Seconds           | Ratio              |
| 706.stockfish_r  | 256    | 200               | 1610               | <b><u>207</u></b> | <b><u>1560</u></b> | 208               | 1550              | 256    | 200               | 1610               | 202               | 1600              | <b><u>200</u></b> | <b><u>1610</u></b> |
| 707.ntest_r      | 256    | 210               | 721                | <b><u>210</u></b> | <b><u>721</u></b>  | 211               | 719               | 256    | 207               | 732                | 207               | 731               | <b><u>207</u></b> | <b><u>731</u></b>  |
| 708.sqlite_r     | 256    | <b><u>277</u></b> | <b><u>488</u></b>  | 278               | 487                | 277               | 488               | 256    | <b><u>276</u></b> | <b><u>489</u></b>  | 276               | 489               | 277               | 489                |
| 710.omnetpp_r    | 256    | 197               | 631                | <b><u>195</u></b> | <b><u>638</u></b>  | 195               | 638               | 256    | 197               | 631                | <b><u>195</u></b> | <b><u>638</u></b> | 195               | 638                |
| 714.cpython_r    | 256    | 158               | 778                | 157               | 782                | <b><u>157</u></b> | <b><u>779</u></b> | 256    | 155               | 791                | 153               | 800               | <b><u>153</u></b> | <b><u>799</u></b>  |
| 721.gcc_r        | 256    | <b><u>347</u></b> | <b><u>507</u></b>  | 348               | 505                | 346               | 507               | 256    | 347               | 506                | <b><u>346</u></b> | <b><u>507</u></b> | 346               | 508                |
| 723.llvm_r       | 256    | 206               | 629                | <b><u>207</u></b> | <b><u>628</u></b>  | 207               | 626               | 256    | 206               | 629                | <b><u>207</u></b> | <b><u>628</u></b> | 207               | 626                |
| 727.cppcheck_r   | 256    | 148               | 619                | <b><u>149</u></b> | <b><u>618</u></b>  | 149               | 617               | 256    | 148               | 619                | <b><u>149</u></b> | <b><u>618</u></b> | 149               | 617                |
| 729.abc_r        | 256    | 218               | 540                | 216               | 544                | <b><u>216</u></b> | <b><u>544</u></b> | 256    | 216               | 543                | 216               | 545               | <b><u>216</u></b> | <b><u>545</u></b>  |
| 734.vpr_r        | 256    | <b><u>207</u></b> | <b><u>570</u></b>  | 208               | 567                | 207               | 570               | 256    | <b><u>207</u></b> | <b><u>570</u></b>  | 208               | 567               | 207               | 570                |
| 735.gem5_r       | 256    | 157               | 793                | <b><u>158</u></b> | <b><u>789</u></b>  | 158               | 788               | 256    | 157               | 796                | <b><u>157</u></b> | <b><u>795</u></b> | 157               | 793                |
| 750.sealcrypto_r | 256    | <b><u>214</u></b> | <b><u>641</u></b>  | 214               | 641                | 214               | 641               | 256    | <b><u>214</u></b> | <b><u>641</u></b>  | 214               | 641               | 214               | 641                |
| 753.ns3_r        | 256    | <b><u>145</u></b> | <b><u>1090</u></b> | 144               | 1090               | 145               | 1080              | 256    | <b><u>144</u></b> | <b><u>1090</u></b> | 144               | 1090              | 144               | 1090               |
| 777.zstd_r       | 256    | 387               | 426                | 386               | 427                | <b><u>386</u></b> | <b><u>427</u></b> | 256    | 385               | 428                | 386               | 427               | <b><u>385</u></b> | <b><u>428</u></b>  |

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Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

## Compiler Notes

The AMD64 AOCC Compiler Suite is available at  
<http://developer.amd.com/amd-aocc/>

## Submit Notes

The config file option 'submit' was used.  
'numactl' was used to bind copies to the cores.  
See the configuration file for details.

## Operating System Notes

'ulimit -s unlimited' was used to set environment stack size limit  
'ulimit -l 2097152' was used to set environment locked pages in memory limit

runcpu command invoked through numactl i.e.:  
numactl --interleave=all runcpu <etc>

To limit dirty cache to 8% of memory, 'sysctl -w vm.dirty\_ratio=8' run as root.  
To limit swap usage to minimum necessary, 'sysctl -w vm.swappiness=1' run as root.

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## Operating System Notes (Continued)

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.  
To enable Transparent Hugepages (THP) for all allocations,  
'echo always > /sys/kernel/mm/transparent\_hugepage/enabled' and  
'echo always > /sys/kernel/mm/transparent\_hugepage/defrag' run as root.

## Environment Variables Notes

Environment variables set by runcpu before the start of the run:  
LD\_LIBRARY\_PATH =  
"/home/CPU2026/amd\_rate\_aocc510\_znver5\_B\_lib/lib:/home/CPU2026/amd\_rate\_  
aocc510\_znver5\_B\_lib/lib32:"  
MALLOCONF = "retain:true"

## General Notes

Binaries were compiled on a system with 2x AMD EPYC Venice256 CPU + 2TiB Memory using Ubuntu 24.04

## Platform Notes

BIOS 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/CPU2026/bin/sysinfo  
Rev: 779ab21020787073335a329f3a45e2cd  
running on localhost Fri Jul 31 20:26:13 2026

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

-----  
Table of contents  
-----

1. uname -srvvm
2. w
3. Username

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## Platform Notes (Continued)

```
4. ulimit -a
5. sysinfo process ancestry
6. /proc/cpuinfo
7. lscpu
8. numactl --hardware
9. /proc/meminfo
10. who -r
11. Systemd service manager version: systemd 254 (254.24+suse.148.g83b9060b6e)
12. 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
23. BIOS
```

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

```
-----
2. w
 20:26:14 up 2 min,  1 user,  load average: 0.18, 0.14, 0.06
USER      TTY      FROM            LOGIN@   IDLE   JCPU   PCPU WHAT
root      tty1      -                20:23   12.00s  2.17s  1.08s python3 ./run_amd_rate_aocc510_znver5_B1.py
```

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

```
-----
4. ulimit -a
core file size          (blocks, -c) unlimited
data seg size           (kbytes, -d) unlimited
scheduling priority     (-e) 0
file size               (blocks, -f) unlimited
pending signals         (-i) 6190083
max locked memory       (kbytes, -l) 2048
max memory size         (kbytes, -m) unlimited
open files              (-n) 1024
pipe size               (512 bytes, -p) 8
```

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## Platform Notes (Continued)

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) 6190083  
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_aocc510_znver5_B1.py
runcpu --config amd_rate_aocc510_znver5_B1.cfg --tune all --reportable --iterations 3 intrate
runcpu --configfile amd_rate_aocc510_znver5_B1.cfg --tune all --reportable --iterations 3 --nopower
--runmode rate --tune base:peak --size test:train:refrate intrate --nopreenv --note-preenv --logfile
$SPEC/tmp/CPU2026.038/temlogs/preenv.intrate.038.0.log --lognum 038.0 --from_runcpu 2
specperl $SPEC/bin/sysinfo
$SPEC = /home/CPU2026
```

### 6. /proc/cpuinfo

```
model name      : AMD EPYC 9535 64-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 srs
TLB size        : 192 4K pages
cpu cores       : 64
siblings        : 128
2 physical ids (chips)
256 processors (hardware threads)
physical id 0: core ids
0-3,8-11,16-19,24-27,32-35,40-43,48-51,56-59,64-67,72-75,80-83,88-91,96-99,104-107,112-115,120-123
physical id 1: core ids
0-3,8-11,16-19,24-27,32-35,40-43,48-51,56-59,64-67,72-75,80-83,88-91,96-99,104-107,112-115,120-123
physical id 0: apicids
0-7,16-23,32-39,48-55,64-71,80-87,96-103,112-119,128-135,144-151,160-167,176-183,192-199,208-215,224-231,
240-247
physical id 1: apicids
256-263,272-279,288-295,304-311,320-327,336-343,352-359,368-375,384-391,400-407,416-423,432-439,448-455,4
64-471,480-487,496-503
```

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

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## Platform Notes (Continued)

### 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): 256  
On-line CPU(s) list: 0-255  
Vendor ID: AuthenticAMD  
Model name: AMD EPYC 9535 64-Core Processor  
CPU family: 26  
Model: 2  
Thread(s) per core: 2  
Core(s) per socket: 64  
Socket(s): 2  
Stepping: 1  
Frequency boost: enabled  
CPU(s) scaling MHz: 104%  
CPU max MHz: 2400.0000  
CPU min MHz: 1500.0000  
BogoMIPS: 4792.49

Flags:

fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov pat  
pse36 clflush mmx fxsr sse sse2 ht syscall nx mmxext fxsr\_opt pdpe1gb  
rdtscp lm constant\_tsc rep\_good amd\_lbr\_v2 nopl nonstop\_tsc cpuid  
extd\_apicid aperfmperf rapl pni pclmulqdq monitor ssse3 fma cx16 pcid  
sse4\_1 sse4\_2 x2apic movbe popcnt aes xsave avx f16c rdrand lahf\_lm  
cmp\_legacy 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 hw\_pstate ssbd mba perfmon\_v2  
ibrs ibpb stibp ibrs\_enhanced vmmcall fsgsbase tsc\_adjust bmi1 avx2  
smep bmi2 erms invpcid cqm rdt\_a avx512f avx512dq rdseed adx smap  
avx512ifma clflushopt clwb avx512cd sha\_ni avx512bw avx512vl xsaveopt  
xsavec xgetbv1 xsaves cqm\_llc cqm\_occup\_llc cqm\_mbm\_total  
cqm\_mbm\_local user\_shstk avx\_vnni avx512\_bf16 clzero irperf  
xsaveerptr rdpru wbnoinvd amd\_ppin cppc amd\_ibpb\_ret arat npt lbrv  
svm\_lock nrrip\_save tsc\_scale vmcb\_clean flushbyasid decodeassists  
pausefilter pfthreshold avic v\_vmsave\_vmload vgif x2avic v\_spec\_ctrl  
vnm1 avx512vbmi umip pku ospke avx512\_vbmi2 gfni vaes vpclmulqdq  
avx512\_vnni avx512\_bitalg avx512\_vpopcntdq la57 rdpid bus\_lock\_detect  
movdiri movdir64b overflow\_recov succor smca fsrm avx512\_vp2intersect  
flush\_l1d debug\_swap hv\_inuse\_wr\_allowed srso\_user\_kernel\_no  
amd\_lbr\_pmc\_freeze

Virtualization:

AMD-V

L1d cache:

6 MiB (128 instances)

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## Platform Notes (Continued)

L1i cache: 4 MiB (128 instances)  
L2 cache: 128 MiB (128 instances)  
L3 cache: 512 MiB (32 instances)  
NUMA node(s): 8  
NUMA node0 CPU(s): 0-15,128-143  
NUMA node1 CPU(s): 16-31,144-159  
NUMA node2 CPU(s): 32-47,160-175  
NUMA node3 CPU(s): 48-63,176-191  
NUMA node4 CPU(s): 64-79,192-207  
NUMA node5 CPU(s): 80-95,208-223  
NUMA node6 CPU(s): 96-111,224-239  
NUMA node7 CPU(s): 112-127,240-255  
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; 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      | 6M       | 12   | Data        | 1     | 64    | 1        | 64             |
| L1i  | 32K      | 4M       | 8    | Instruction | 1     | 64    | 1        | 64             |
| L2   | 1M       | 128M     | 16   | Unified     | 2     | 1024  | 1        | 64             |
| L3   | 16M      | 512M     | 16   | Unified     | 3     | 16384 | 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: 0-15,128-143  
node 0 size: 193010 MB  
node 0 free: 192562 MB  
node 1 cpus: 16-31,144-159  
node 1 size: 193527 MB  
node 1 free: 193093 MB  
node 2 cpus: 32-47,160-175  
node 2 size: 193527 MB

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## Platform Notes (Continued)

```
node 2 free: 193061 MB
node 3 cpus: 48-63,176-191
node 3 size: 193527 MB
node 3 free: 193110 MB
node 4 cpus: 64-79,192-207
node 4 size: 193527 MB
node 4 free: 193124 MB
node 5 cpus: 80-95,208-223
node 5 size: 193527 MB
node 5 free: 193093 MB
node 6 cpus: 96-111,224-239
node 6 size: 193527 MB
node 6 free: 193113 MB
node 7 cpus: 112-127,240-255
node 7 size: 193373 MB
node 7 free: 192921 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: 1584689068 kB

-----  
10. who -r

run-level 3 Jul 31 20:23

-----  
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<br>issue-generator kbdsettings klog lvm2-monitor nsd nvme-fc-boot-connections<br>nvme-fc-autoconnect postfix purge-kernels rollback rsyslog smartd systemd-pstore |
| enabled-runtime | systemd-remount-fs                                                                                                                                                                                                                                          |

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## Platform Notes (Continued)

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  
                 firewallld fsidd gpm grub2-once haveged hwloc-dump-hwdata ipmi ipmievdt 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-sysexit 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-b781-36d0bcedf18d
splash=silent
mitigations=auto
quiet
security=apparmor
```

### 14. cpupower frequency-info

```
analyzing CPU 202:
  current policy: frequency should be within 1.50 GHz and 2.40 GHz.
                  The governor "performance" may decide which speed to use
                  within this range.

  boost state support:
    Supported: yes
    Active: yes
```

### 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
```

(Continued on next page)



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SPECrate®2026\_int\_base = 673

QR8218-D3 (AMD EPYC 9535)

SPECrate®2026\_int\_peak = 677

CPU2026 License: 9087

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Test Date: Jul-2026

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## Platform Notes (Continued)

|                            |       |
|----------------------------|-------|
| 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/CPU2026

| Filesystem     | Type | Size | Used | Avail | Use% | Mounted on |
|----------------|------|------|------|-------|------|------------|
| /dev/nvme0n1p2 | xfs  | 929G | 74G  | 856G  | 8%   | /          |

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

|                 |               |
|-----------------|---------------|
| Vendor:         | Maginfra      |
| Product:        | QR8218-D3     |
| Product Family: | Not specified |
| Serial:         | 00000000      |

### 22. dmidecode

Additional information from dmidecode 3.6 follows. WARNING: Use caution when you interpret this section.

(Continued on next page)



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## Platform Notes (Continued)

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      | 708.sqlite_r(base, peak) 714.cpython_r(base, peak) 777.zstd_r(base,
      | peak)
```

AMD clang version 17.0.6 (CLANG: AOCC\_5.1.0-Build#1994 2025\_12\_23)

Target: x86\_64-unknown-linux-gnu

Thread model: posix

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

```
C++    | 706.stockfish_r(base, peak) 707.ntest_r(base, peak)
      | 727.cppcheck_r(base, peak) 753.ns3_r(base, peak)
```

AMD clang version 17.0.6 (CLANG: AOCC\_5.1.0-Build#1994 2025\_12\_23)

Target: x86\_64-unknown-linux-gnu

Thread model: posix

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

```
C++, C | 710.omnetpp_r(base, peak) 721.gcc_r(base, peak) 723.llvm_r(base,
      | peak) 729.abc_r(base, peak) 734.vpr_r(base, peak) 735.gem5_r(base,
      | peak) 750.sealcrypto_r(base, peak)
```

AMD clang version 17.0.6 (CLANG: AOCC\_5.1.0-Build#1994 2025\_12\_23)

Target: x86\_64-unknown-linux-gnu

Thread model: posix

(Continued on next page)



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## Compiler Version Notes (Continued)

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

## Base Compiler Invocation

C benchmarks:

clang

C++ benchmarks:

clang++

Benchmarks using both C and C++:

clang++ clang

## Base Optimization Flags

C benchmarks:

-m64 -std=c18 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6  
-Wl,-mllvm -Wl,-reduce-array-computations=3  
-Wl,-mllvm -Wl,-ldist-scalar-expand -fenable-aggressive-gather  
-Wl,-mllvm -Wl,-extra-inliner -O3 -march=znver5 -fveclib=AMDLIBM  
-fno-PIE -no-pie -flto -fstruct-layout=7 -mllvm -unroll-threshold=50  
-mllvm -inline-threshold=1000 -fremap-arrays -fstrip-mining  
-mllvm -reduce-array-computations=3 -zopt -lamdlibm -lflang  
-lamdalloc

C++ benchmarks:

-m64 -std=c++17 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6  
-Wl,-mllvm -Wl,-reduce-array-computations=3 -O3 -march=znver5  
-fveclib=AMDLIBM -flto -mllvm -unroll-threshold=100  
-mllvm -loop-unswitch-threshold=200000  
-mllvm -reduce-array-computations=3 -zopt -fno-PIE -no-pie  
-fvirtual-function-elimination -fvisibility=hidden -lamdlibm -lflang  
-lamdalloc

Benchmarks using both C and C++:

-m64 -std=c++17 -std=c18 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6  
-Wl,-mllvm -Wl,-reduce-array-computations=3 -O3 -march=znver5  
-fveclib=AMDLIBM -fno-PIE -no-pie -flto -fstruct-layout=7  
-mllvm -unroll-threshold=50 -mllvm -inline-threshold=1000  
-fremap-arrays -fstrip-mining -mllvm -reduce-array-computations=3  
-zopt -mllvm -unroll-threshold=100  
-mllvm -loop-unswitch-threshold=200000 -fvirtual-function-elimination  
-fvisibility=hidden -lamdlibm -lflang -lamdalloc



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## Peak Compiler Invocation

C benchmarks:

clang

C++ benchmarks:

clang++

Benchmarks using both C and C++:

clang++ clang

## Peak Optimization Flags

C benchmarks:

```
-m64 -std=c18 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3
-Wl,-mllvm -Wl,-ldist-scalar-expand -fenable-aggressive-gather
-Wl,-mllvm -Wl,-extra-inliner -O3 -march=znver5 -fveclib=AMDLIBM
-fno-PIE -no-pie -flto -fstruct-layout=7 -mllvm -unroll-threshold=50
-mllvm -inline-threshold=1000 -fremap-arrays -fstrip-mining
-mllvm -reduce-array-computations=3 -zopt -lamdlibm -lamdalloc
-lflang
```

C++ benchmarks:

```
706.stockfish_r: -m64 -std=c++17
-Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3 -Ofast
-march=znver5 -fveclib=AMDLIBM -flto
-mllvm -unroll-threshold=100
-mllvm -reduce-array-computations=3 -zopt -fno-PIE
-no-pie -fvirtual-function-elimination
-fvisibility=hidden -lamdlibm -lflang -lamdalloc
```

707.ntest\_r: Same as 706.stockfish\_r

727.cppcheck\_r: basepeak = yes

```
753.ns3_r: -m64 -std=c++17
-Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3 -O3
-march=znver5 -fveclib=AMDLIBM -flto
-mllvm -unroll-threshold=100
-mllvm -loop-unswitch-threshold=2000000
-mllvm -reduce-array-computations=3 -zopt -fno-PIE
-no-pie -fvirtual-function-elimination
```

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## Peak Optimization Flags (Continued)

753.ns3\_r (continued):

-fvisibility=hidden -lamdlibm -lamdalloc -lflang

Benchmarks using both C and C++:

710.omnetpp\_r: basepeak = yes

721.gcc\_r: -m64 -std=c++17 -std=c18

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

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

-march=znver5 -fveclib=AMDLIBM -flto -fstruct-layout=7

-mllvm -unroll-threshold=50 -fremap-arrays -fstrip-mining

-mllvm -inline-threshold=1000

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

-mllvm -unroll-threshold=100 -fno-PIE -no-pie

-fvirtual-function-elimination -fvisibility=hidden

-lamdlibm -lflang -lamdalloc

723.llvm\_r: basepeak = yes

729.abc\_r: Same as 721.gcc\_r

734.vpr\_r: basepeak = yes

735.gem5\_r: -m64 -std=c++17 -std=c18

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

-Wl,-mllvm -Wl,-reduce-array-computations=3 -O3

-march=znver5 -fveclib=AMDLIBM -fno-PIE -no-pie -flto

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

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

-fstrip-mining -mllvm -reduce-array-computations=3 -zopt

-mllvm -unroll-threshold=100

-mllvm -loop-unswitch-threshold=200000

-fvirtual-function-elimination -fvisibility=hidden

-lamdlibm -lamdalloc -lflang

750.sealcrypto\_r: basepeak = yes

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

<http://www.spec.org/cpu2026/results/flags/aocc-flags.2026-05-04.00.html>

<http://www.spec.org/cpu2026/results/flags/Maginfra-Platform-Settings-amd-V1.1.html>

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

<http://www.spec.org/cpu2026/results/flags/aocc-flags.2026-05-04.00.xml>

<http://www.spec.org/cpu2026/results/flags/Maginfra-Platform-Settings-amd-V1.1.xml>



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