



SPEC CPU®2026 Integer Rate Result

Copyright 2026 Standard Performance Evaluation Corporation

Maginfra Co., Ltd.
QR8228-D3 (AMD EPYC 9755)

SPECrate®2026_int_base = 1140

SPECrate®2026_int_peak = 1140

CPU2026 License: 9087

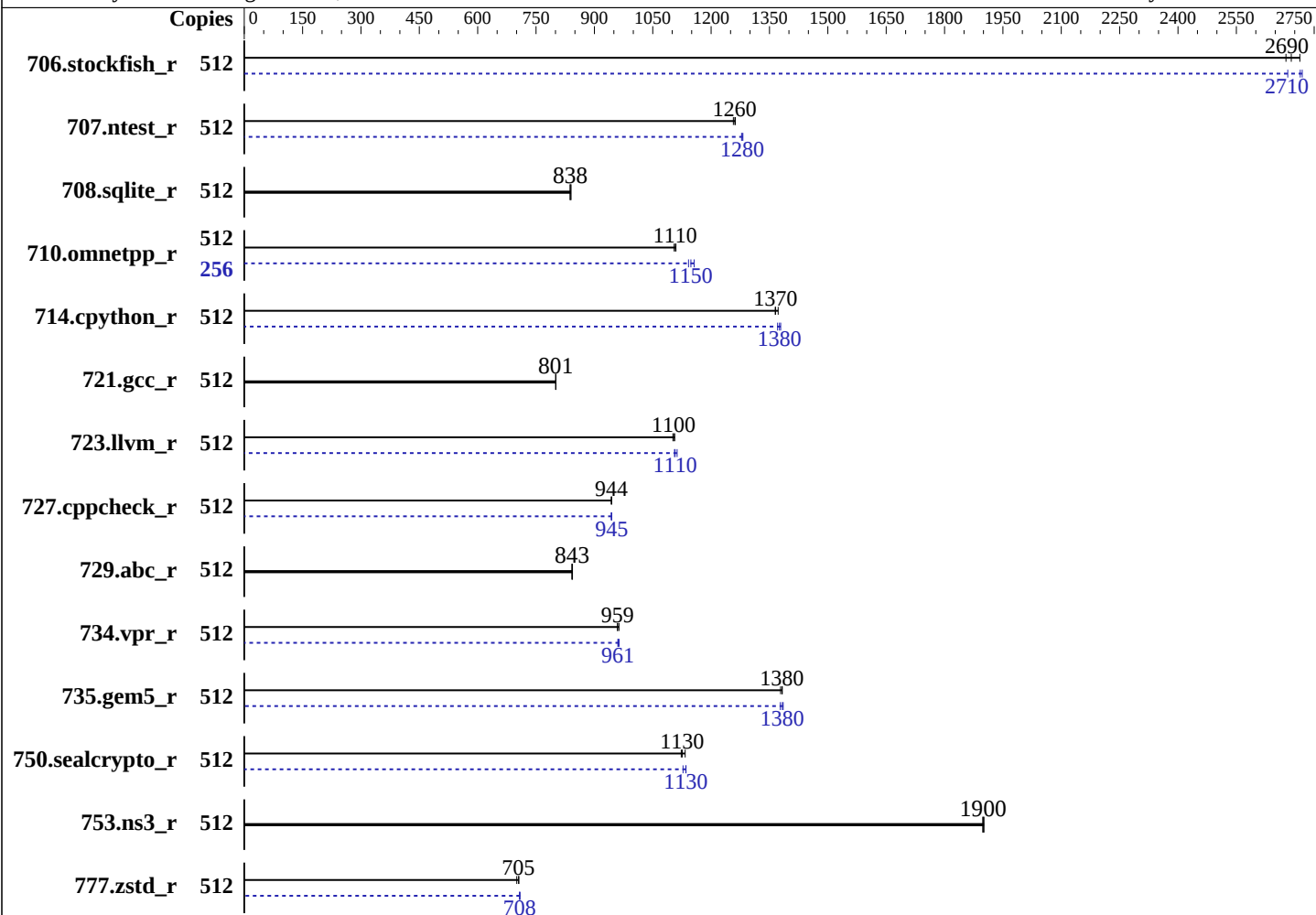
Test Sponsor: Maginfra Co., Ltd.

Tested by: Maginfra Co., Ltd.

Test Date: Jul-2026

Hardware Availability: Dec-2025

Software Availability: Jan-2026



Hardware

CPU Name: AMD EPYC 9755
Max MHz: 4100
Nominal: 2700
Enabled: 256 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: 512 MB I+D on chip per chip, 32 MB shared / 8 cores
Other: None
Memory: 1536 GB (24 x 64 GB 2Rx4 PC5-6400B-R)
Storage: 1 x 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.



SPEC CPU®2026 Integer Rate Result

Copyright 2026 Standard Performance Evaluation Corporation

Maginfra Co., Ltd.

QR8228-D3 (AMD EPYC 9755)

SPECrate®2026_int_base = 1140

SPECrate®2026_int_peak = 1140

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

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
706.stockfish_r	512	<u>240</u>	<u>2690</u>	238	2710	241	2680	512	<u>238</u>	<u>2710</u>	237	2720	241	2680
707.ntest_r	512	240	1260	<u>240</u>	<u>1260</u>	241	1260	512	<u>237</u>	<u>1280</u>	237	1280	236	1280
708.sqlite_r	512	322	840	323	837	<u>322</u>	<u>838</u>	512	322	840	323	837	<u>322</u>	<u>838</u>
710.omnetpp_r	512	224	1110	225	1110	<u>225</u>	<u>1110</u>	256	109	1140	<u>108</u>	<u>1150</u>	108	1160
714.cpython_r	512	179	1370	<u>180</u>	<u>1370</u>	180	1360	512	178	1380	<u>178</u>	<u>1380</u>	179	1370
721.gcc_r	512	438	801	<u>439</u>	<u>801</u>	439	801	512	438	801	<u>439</u>	<u>801</u>	439	801
723.llvm_r	512	235	1110	236	1100	<u>235</u>	<u>1100</u>	512	233	1110	235	1110	<u>234</u>	<u>1110</u>
727.cppcheck_r	512	195	944	195	944	<u>195</u>	<u>944</u>	512	195	943	<u>195</u>	<u>945</u>	195	945
729.abc_r	512	279	844	<u>279</u>	<u>843</u>	279	842	512	279	844	<u>279</u>	<u>843</u>	279	842
734.vpr_r	512	246	959	245	963	<u>246</u>	<u>959</u>	512	<u>246</u>	<u>961</u>	245	964	246	961
735.gem5_r	512	180	1380	<u>180</u>	<u>1380</u>	181	1380	512	<u>180</u>	<u>1380</u>	180	1390	181	1380
750.sealcrypto_r	512	244	1120	242	1130	<u>244</u>	<u>1130</u>	512	242	1140	243	1130	<u>242</u>	<u>1130</u>
753.ns3_r	512	<u>165</u>	<u>1900</u>	165	1900	165	1900	512	<u>165</u>	<u>1900</u>	165	1900	165	1900
777.zstd_r	512	467	706	<u>468</u>	<u>705</u>	471	700	512	466	708	<u>466</u>	<u>708</u>	465	709

SPECrate®2026_int_base = 1140

SPECrate®2026_int_peak = 1140

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.

(Continued on next page)



SPEC CPU®2026 Integer Rate Result

Copyright 2026 Standard Performance Evaluation Corporation

Maginfra Co., Ltd.

SPECrate®2026_int_base = 1140

QR8228-D3 (AMD EPYC 9755)

SPECrate®2026_int_peak = 1140

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

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 Sun Jul 19 15:28:57 2026

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

Table of contents

1. uname -srvvm
2. w
3. Username

(Continued on next page)



SPEC CPU®2026 Integer Rate Result

Copyright 2026 Standard Performance Evaluation Corporation

Maginfra Co., Ltd.

QR8228-D3 (AMD EPYC 9755)

SPECrate®2026_int_base = 1140

SPECrate®2026_int_peak = 1140

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

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
15:28:57 up 2 min, 1 user, load average: 0.54, 0.30, 0.12
USER      TTY      FROM          LOGIN@   IDLE   JCPU   PCPU WHAT
root      tty1    -              15:26   33.00s 11.98s 10.87s 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) 6189251
max locked memory       (kbytes, -l) 2048
max memory size         (kbytes, -m) unlimited
open files              (-n) 1024
pipe size               (512 bytes, -p) 8
```

(Continued on next page)



SPEC CPU®2026 Integer Rate Result

Copyright 2026 Standard Performance Evaluation Corporation

Maginfra Co., Ltd.

SPECrate®2026_int_base = 1140

QR8228-D3 (AMD EPYC 9755)

SPECrate®2026_int_peak = 1140

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

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) 6189251
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/CPU2026.020/temlogs/preenv.intrate.020.0.log --lognum 020.0 --from_runcpu 2
specperl $SPEC/bin/sysinfo
$SPEC = /home/CPU2026
```

6. /proc/cpuinfo

```
model name      : AMD EPYC 9755 128-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       : 128
siblings        : 256
2 physical ids (chips)
512 processors (hardware threads)
physical id 0:  core ids 0-127
physical id 1:  core ids 0-127
physical id 0:  apicids 0-255
physical id 1:  apicids 256-511
```

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

7. lscpu

From lscpu from util-linux 2.40.4:

Architecture: x86_64

(Continued on next page)



SPEC CPU®2026 Integer Rate Result

Copyright 2026 Standard Performance Evaluation Corporation

Maginfra Co., Ltd.

SPECrate®2026_int_base = 1140

QR8228-D3 (AMD EPYC 9755)

SPECrate®2026_int_peak = 1140

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

Platform Notes (Continued)

CPU op-mode(s): 32-bit, 64-bit
Address sizes: 52 bits physical, 57 bits virtual
Byte Order: Little Endian
CPU(s): 512
On-line CPU(s) list: 0-511
Vendor ID: AuthenticAMD
Model name: AMD EPYC 9755 128-Core Processor
CPU family: 26
Model: 2
Thread(s) per core: 2
Core(s) per socket: 128
Socket(s): 2
Stepping: 1
Frequency boost: enabled
CPU(s) scaling MHz: 101%
CPU max MHz: 2700.0000
CPU min MHz: 1500.0000
BogoMIPS: 5392.00
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 nrip_save tsc_scale vmcb_clean flushbyasid decodeassists pausefilter pfthreshold avic v_vmsave_vmload vgif x2avic v_spec_ctrl vnmi avx512vbmi umip pku ospke avx512_vbmi2 gfni vaes vpclmulqdq avx512_vnni avx512_bitalg avx512_vpopcntdq la57 rdpid bus_lock_detect movdiri movdir64b overflow_recov succor smca fsrm avx512_vp2intersect flush_l1d debug_swap hv_inuse_wr_allowed srso_user_kernel_no amd_lbr_pmc_freeze
Virtualization: AMD-V
L1d cache: 12 MiB (256 instances)
L1i cache: 8 MiB (256 instances)
L2 cache: 256 MiB (256 instances)
L3 cache: 1 GiB (32 instances)
NUMA node(s): 8
NUMA node0 CPU(s): 0-31, 256-287
NUMA node1 CPU(s): 32-63, 288-319

(Continued on next page)



SPEC CPU®2026 Integer Rate Result

Copyright 2026 Standard Performance Evaluation Corporation

Maginfra Co., Ltd.

SPECrate®2026_int_base = 1140

QR8228-D3 (AMD EPYC 9755)

SPECrate®2026_int_peak = 1140

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

Platform Notes (Continued)

NUMA node2 CPU(s): 64-95,320-351
NUMA node3 CPU(s): 96-127,352-383
NUMA node4 CPU(s): 128-159,384-415
NUMA node5 CPU(s): 160-191,416-447
NUMA node6 CPU(s): 192-223,448-479
NUMA node7 CPU(s): 224-255,480-511
Vulnerability Gather data sampling: Not affected
Vulnerability Itlb multihit: Not affected
Vulnerability L1tf: Not affected
Vulnerability Mds: Not affected
Vulnerability Meltdown: Not affected
Vulnerability Mmio stale data: Not affected
Vulnerability Reg file data sampling: Not affected
Vulnerability Retbleed: Not affected
Vulnerability Spec rstack overflow: Mitigation; IBPB on VMEXIT only
Vulnerability Spec store bypass: Mitigation; Speculative Store Bypass disabled via prctl
Vulnerability Spectre v1: Mitigation; usercopy/swaps barriers and __user pointer sanitization
Vulnerability Spectre v2: Mitigation; Enhanced / Automatic IBRS; IBPB conditional; STIBP
always-on; RSB filling; 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	12M	12	Data	1	64	1	64
L1i	32K	8M	8	Instruction	1	64	1	64
L2	1M	256M	16	Unified	2	1024	1	64
L3	32M	1G	16	Unified	3	32768	1	64

8. numactl --hardware

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

available: 8 nodes (0-7)
node 0 cpus: 0-31,256-287
node 0 size: 192974 MB
node 0 free: 192289 MB
node 1 cpus: 32-63,288-319
node 1 size: 193518 MB
node 1 free: 192985 MB
node 2 cpus: 64-95,320-351
node 2 size: 193518 MB
node 2 free: 192977 MB
node 3 cpus: 96-127,352-383
node 3 size: 193518 MB
node 3 free: 193048 MB
node 4 cpus: 128-159,384-415
node 4 size: 193518 MB

(Continued on next page)



SPEC CPU®2026 Integer Rate Result

Copyright 2026 Standard Performance Evaluation Corporation

Maginfra Co., Ltd.

QR8228-D3 (AMD EPYC 9755)

SPECrate®2026_int_base = 1140

SPECrate®2026_int_peak = 1140

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

Platform Notes (Continued)

```
node 4 free: 193023 MB
node 5 cpus: 160-191,416-447
node 5 size: 193518 MB
node 5 free: 192921 MB
node 6 cpus: 192-223,448-479
node 6 size: 193480 MB
node 6 free: 192975 MB
node 7 cpus: 224-255,480-511
node 7 size: 193290 MB
node 7 free: 192774 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: 1584476080 kB

10. who -r

run-level 3 Jul 19 15:26

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-kernel 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
              firewallld 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-sysexit systemd-time-wait-sync
```

(Continued on next page)



SPEC CPU®2026 Integer Rate Result

Copyright 2026 Standard Performance Evaluation Corporation

Maginfra Co., Ltd.

QR8228-D3 (AMD EPYC 9755)

SPECrate®2026_int_base = 1140

SPECrate®2026_int_peak = 1140

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

Platform Notes (Continued)

indirect systemd-timesyncd tuned udisks2 vncserver@ wicked wickedd-auto4 wickedd-dhcp4
 wickedd-dhcp6 wickedd-nanny
 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 32:
 current policy: frequency should be within 1.50 GHz and 2.70 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
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

(Continued on next page)



SPEC CPU®2026 Integer Rate Result

Copyright 2026 Standard Performance Evaluation Corporation

Maginfra Co., Ltd.

SPECrate®2026_int_base = 1140

QR8228-D3 (AMD EPYC 9755)

SPECrate®2026_int_peak = 1140

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

Platform Notes (Continued)

vm.watermark_scale_factor 10
vm.zone_reclaim_mode 1

17. /sys/kernel/mm/transparent_hugepage
defrag [always] defer defer+madvice madvice never
enabled [always] madvice 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 73G 856G 8% /

21. /sys/devices/virtual/dmi/id
Vendor: Maginfra
Product: QR8228-D3
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

(Continued on next page)



SPEC CPU®2026 Integer Rate Result

Copyright 2026 Standard Performance Evaluation Corporation

Maginfra Co., Ltd.

QR8228-D3 (AMD EPYC 9755)

SPECrate®2026_int_base = 1140

SPECrate®2026_int_peak = 1140

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

Platform Notes (Continued)

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

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



SPEC CPU®2026 Integer Rate Result

Copyright 2026 Standard Performance Evaluation Corporation

Maginfra Co., Ltd.

SPECrate®2026_int_base = 1140

QR8228-D3 (AMD EPYC 9755)

SPECrate®2026_int_peak = 1140

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

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
```



SPEC CPU®2026 Integer Rate Result

Copyright 2026 Standard Performance Evaluation Corporation

Maginfra Co., Ltd.

SPECrate®2026_int_base = 1140

QR8228-D3 (AMD EPYC 9755)

SPECrate®2026_int_peak = 1140

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

Peak Compiler Invocation

C benchmarks:

clang

C++ benchmarks:

clang++

Benchmarks using both C and C++:

clang++ clang

Peak Optimization Flags

C benchmarks:

708.sqlite_r: basepeak = yes

714.cpython_r: -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=AMDLIB -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

777.zstd_r: Same as 714.cpython_r

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=AMDLIB -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: -m64 -std=c++17

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

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

(Continued on next page)



SPEC CPU®2026 Integer Rate Result

Copyright 2026 Standard Performance Evaluation Corporation

Maginfra Co., Ltd.

SPECrate®2026_int_base = 1140

QR8228-D3 (AMD EPYC 9755)

SPECrate®2026_int_peak = 1140

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

Peak Optimization Flags (Continued)

727.cppcheck_r (continued):

-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 -lamdalloc -lflang

753.ns3_r: basepeak = yes

Benchmarks using both C and C++:

710.omnetpp_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

721.gcc_r: basepeak = yes

723.llvm_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

729.abc_r: basepeak = yes

734.vpr_r: Same as 710.omnetpp_r

735.gem5_r: Same as 710.omnetpp_r

750.sealcrypto_r: Same as 723.llvm_r



SPEC CPU®2026 Integer Rate Result

Copyright 2026 Standard Performance Evaluation Corporation

Maginfra Co., Ltd.

QR8228-D3 (AMD EPYC 9755)

SPECrate®2026_int_base = 1140

SPECrate®2026_int_peak = 1140

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

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-V1.0.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-V1.0.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.

Tested with SPEC CPU®2026 v1.0.1 on 2026-07-19 15:28:57-0400.

Report generated on 2026-08-26 13:57:07 by CPU2026 PDF formatter (unknown).

Originally published on 2026-08-25.