



SPEC CPU®2026 Integer Rate Result

Copyright 2026 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant DL325 Gen11

(2.25 GHz, AMD EPYC 9754)

SPECrate®2026_int_base = 386

SPECrate®2026_int_peak = 386

CPU2026 License: 3

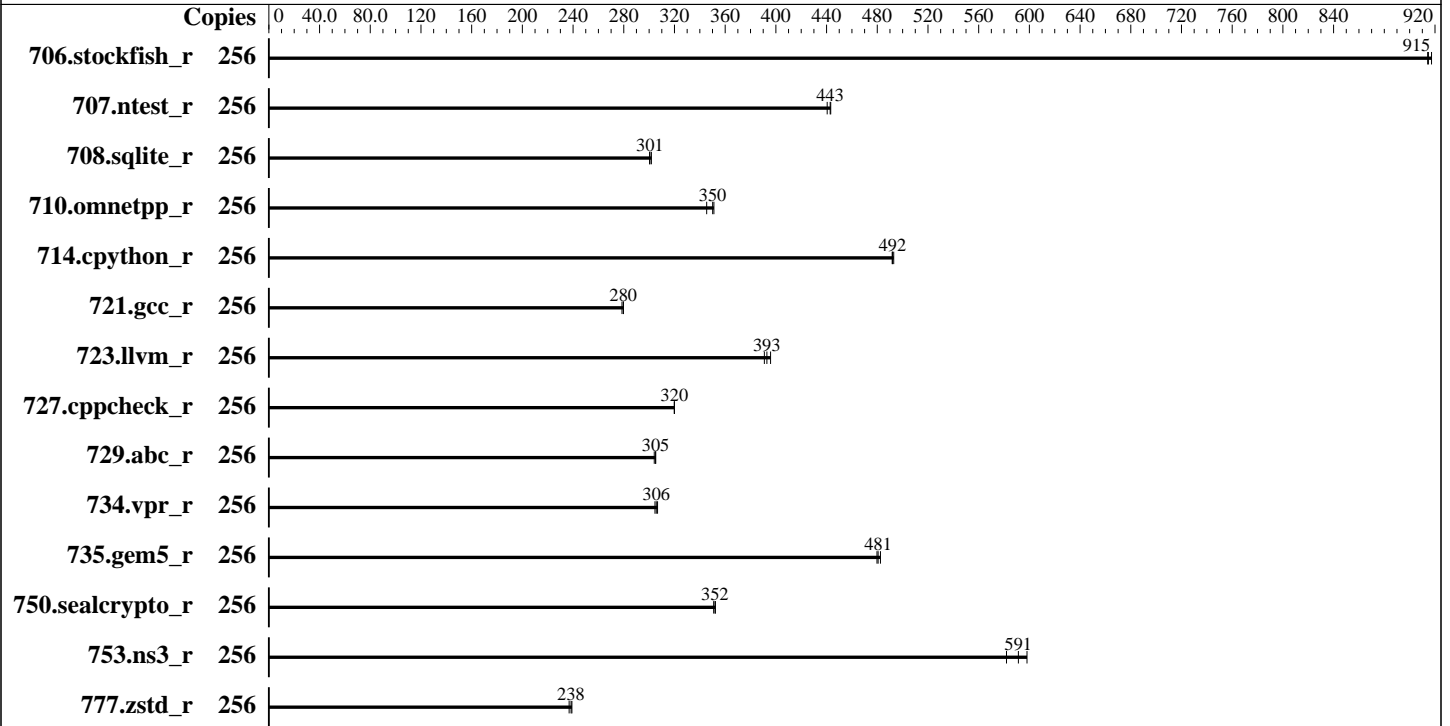
Test Sponsor: HPE

Tested by: HPE

Test Date: Feb-2026

Hardware Availability: Aug-2023

Software Availability: Jan-2026



Hardware

CPU Name: AMD EPYC 9754
 Max MHz: 3100
 Nominal: 2250
 Enabled: 128 cores, 1 chip, 2 threads/core
 Orderable: 1 Chip
 Cache L1: 32 KB I + 32 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 / 8 cores
 Other: None
 Memory: 768 GB (12 x 64 GB 2Rx4 PC5-4800B-R)
 Storage: 1 x 480 GB NVMe SSD
 Cooling: CLC
 Other: None

Software

OS: Ubuntu 24.04.3 LTS
 Kernel 6.8.0-90-generic
 Compiler: C/C++/Fortran: Version 5.1.0 of AOCC
 Compiler Category: Vendor
 Firmware: HPE BIOS Version v2.90
 released Jan-2026
 File System: ext4
 System State: Run level 5 (multi-user)
 Base Pointers: 64-bit
 Peak Pointers: 64-bit
 Other: None
 Power Management: BIOS and OS is 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	353	915	353	914	352	917	256	353	915	353	914	352	917
707.ntest_r	256	342	443	342	443	344	440	256	342	443	342	443	344	440
708.sqlite_r	256	448	302	450	300	450	301	256	448	302	450	300	450	301
710.omnetpp_r	256	360	345	355	350	354	351	256	360	345	355	350	354	351
714.cpython_r	256	249	492	249	493	249	492	256	249	492	249	493	249	492
721.gcc_r	256	628	280	630	279	628	280	256	628	280	630	279	628	280
723.llvm_r	256	330	393	328	396	332	391	256	330	393	328	396	332	391
727.cppcheck_r	256	287	320	287	320	287	320	256	287	320	287	320	287	320
729.abc_r	256	385	305	385	305	386	304	256	385	305	385	305	386	304
734.vpr_r	256	387	305	385	307	386	306	256	387	305	385	307	386	306
735.gem5_r	256	259	481	258	483	260	480	256	259	481	258	483	260	480
750.sealcrypto_r	256	391	351	390	352	390	352	256	391	351	390	352	390	352
753.ns3_r	256	270	582	265	591	262	598	256	270	582	265	591	262	598
777.zstd_r	256	690	239	692	238	696	237	256	690	239	692	238	696	237

SPECrate®2026_int_base = **386**SPECrate®2026_int_peak = **386**

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_A_lib/lib:/home/cpu2026/amd_rate_
 aocc510_znver5_A_lib/lib32:"
 MALLOC_CONF = "retain:true"

General Notes

Binaries were compiled on a system with 2x AMD EPYC Venice256 CPU + 2TiB
 Memory using Ubuntu 24.04
 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 Configurations : Parameters are selected in the order shown below
 Workload Profile set to General Throughput Compute
 Determinism Control set to Manual
 Performance Determinism set to Power Deterministic
 Last-Level Cache (LLC) as NUMA Node set to Enabled
 NUMA memory domains per socket set to Four memory domains per socket
 ACPI CST C2 Latency set to 18 microseconds
 Memory Patrol Scrubbing set to Disabled
 Thermal Configuration set to Maximum Cooling
 Workload Profile set to Custom
 Power Regulator set to OS Control Mode

 Sysinfo program /home/cpu2026/bin/sysinfo

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Platform Notes (Continued)

Rev: 069f95da7e7f5d81b2ce48a82150e54f
running on admin1 Tue Feb 3 21:46:35 2026

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

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- 1. uname -srvm
- 2. w
- 3. Username
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- 5. sysinfo process ancestry
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- 7. lscpu
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- 9. /proc/meminfo
- 10. who -r
- 11. Systemd service manager version: systemd 255 (255.4-lubuntu8.12)
- 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 -srvm
Linux 6.8.0-90-generic #91-Ubuntu SMP PREEMPT_DYNAMIC Tue Nov 18 14:14:30 UTC 2025 x86_64

2. w
21:46:35 up 14 min, 1 user, load average: 0.15, 0.03, 0.01
USER TTY FROM LOGIN@ IDLE JCPU PCPU WHAT
admin1 172.16.0.100 21:44 14:23 0.00s 0.04s sshd: admin1 [priv]

3. Username
From environment variable \$USER: root
From the command 'logname': admin1

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Platform Notes (Continued)

4. ulimit -a

```

time(seconds)          unlimited
file(blocks)           unlimited
data(kbytes)           unlimited
stack(kbytes)          unlimited
coredump(blocks)      0
memory(kbytes)         unlimited
locked memory(kbytes) 2097152
process                3094243
nofiles                1024
vmemory(kbytes)        unlimited
locks                  unlimited
rtprio                 0

```

5. sysinfo process ancestry

```

/sbin/init
sshd: /usr/sbin/sshd -D [listener] 0 of 10-100 startups
sshd: admin1 [priv]
sshd: admin1@pts/0
-bash
sudo ./run_intrrate_sh.sh
sudo ./run_intrrate_sh.sh
/bin/bash ./run_intrrate_sh.sh
sudo ./run_intrrate.py
sudo ./run_intrrate.py
python3 ./run_intrrate.py
/bin/bash ./amd_rate_aocc510_znver5_A1.sh
runcpu --config amd_rate_aocc510_znver5_A1.cfg --tune base --reportable --iterations 3 intrate
runcpu --configfile amd_rate_aocc510_znver5_A1.cfg --tune base --reportable --iterations 3 --nopower
--runmode rate --tune base --size test:train:refrate intrate --nopreenv --note-preenv --logfile
$SPEC/tmp/CPU2026.001/temlogs/preenv.intrate.001.0.log --lognum 001.0 --from_runcpu 2
specperl $SPEC/bin/sysinfo
$SPEC = /home/cpu2026

```

6. /proc/cpuinfo

```

model name      : AMD EPYC 9754 128-Core Processor
vendor_id      : AuthenticAMD
cpu family     : 25
model          : 160
stepping       : 1
microcode      : 0xaa00116
bugs            : sysret_ss_attrs spectre_v1 spectre_v2 spec_store_bypass srso vmscape
TLB size       : 3584 4K pages

```

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Platform Notes (Continued)

```

cpu cores      : 128
siblings      : 256
1 physical ids (chips)
256 processors (hardware threads)
physical id 0: core ids 0-127
physical id 0: apicids 0-255

```

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 2.39.3:

```

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
BIOS Vendor ID:              Advanced Micro Devices, Inc.
Model name:                   AMD EPYC 9754 128-Core Processor
BIOS Model name:             AMD EPYC 9754 128-Core Processor      CPU @ 2.2GHz
BIOS CPU family:             107
CPU family:                   25
Model:                        160
Thread(s) per core:          2
Core(s) per socket:          128
Socket(s):                    1
Stepping:                     1
Frequency boost:              enabled
CPU(s) scaling MHz:          101%
CPU max MHz:                  2250.0000
CPU min MHz:                  1500.0000
BogoMIPS:                     4492.91

```

```

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 aperfmpperf 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 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

```

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Platform Notes (Continued)

```

user_shstk 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 overflow_recov succor smca fsrm flush_l1d
debug_swap ibpb_exit_to_user

```

```

Virtualization: AMD-V
L1d cache: 4 MiB (128 instances)
L1i cache: 4 MiB (128 instances)
L2 cache: 128 MiB (128 instances)
L3 cache: 256 MiB (16 instances)
NUMA node(s): 16
NUMA node0 CPU(s): 0-7,128-135
NUMA node1 CPU(s): 8-15,136-143
NUMA node2 CPU(s): 16-23,144-151
NUMA node3 CPU(s): 24-31,152-159
NUMA node4 CPU(s): 32-39,160-167
NUMA node5 CPU(s): 40-47,168-175
NUMA node6 CPU(s): 48-55,176-183
NUMA node7 CPU(s): 56-63,184-191
NUMA node8 CPU(s): 64-71,192-199
NUMA node9 CPU(s): 72-79,200-207
NUMA node10 CPU(s): 80-87,208-215
NUMA node11 CPU(s): 88-95,216-223
NUMA node12 CPU(s): 96-103,224-231
NUMA node13 CPU(s): 104-111,232-239
NUMA node14 CPU(s): 112-119,240-247
NUMA node15 CPU(s): 120-127,248-255
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; Safe RET
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; PRSB-eIBRS Not affected; BHI Not affected
Vulnerability Srbds: Not affected
Vulnerability Tsx async abort: Not affected
Vulnerability Vmscape: Mitigation; IBPB before exit to userspace

```

From lscpu --cache:

(Continued on next page)



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Platform Notes (Continued)

NAME	ONE-SIZE	ALL-SIZE	WAYS	TYPE	LEVEL	SETS	PHY-LINE	COHERENCY-SIZE
Lld	32K	4M	8	Data	1	64	1	64
Lli	32K	4M	8	Instruction	1	64	1	64
L2	1M	128M	8	Unified	2	2048	1	64
L3	16M	256M	16	Unified	3	16384	1	64

8. numactl --hardware

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

```

available: 16 nodes (0-15)
node 0 cpus: 0-7,128-135
node 0 size: 48063 MB
node 0 free: 47076 MB
node 1 cpus: 8-15,136-143
node 1 size: 48378 MB
node 1 free: 48156 MB
node 2 cpus: 16-23,144-151
node 2 size: 48378 MB
node 2 free: 48192 MB
node 3 cpus: 24-31,152-159
node 3 size: 48378 MB
node 3 free: 48157 MB
node 4 cpus: 32-39,160-167
node 4 size: 48378 MB
node 4 free: 48177 MB
node 5 cpus: 40-47,168-175
node 5 size: 48378 MB
node 5 free: 48187 MB
node 6 cpus: 48-55,176-183
node 6 size: 48378 MB
node 6 free: 48182 MB
node 7 cpus: 56-63,184-191
node 7 size: 48378 MB
node 7 free: 48207 MB
node 8 cpus: 64-71,192-199
node 8 size: 48378 MB
node 8 free: 48191 MB
node 9 cpus: 72-79,200-207
node 9 size: 48378 MB
node 9 free: 48201 MB
node 10 cpus: 80-87,208-215
node 10 size: 48378 MB
node 10 free: 48199 MB
node 11 cpus: 88-95,216-223
node 11 size: 48335 MB
node 11 free: 48151 MB
node 12 cpus: 96-103,224-231

```

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```

node 12 size: 48378 MB
node 12 free: 48169 MB
node 13 cpus: 104-111,232-239
node 13 size: 48378 MB
node 13 free: 48097 MB
node 14 cpus: 112-119,240-247
node 14 size: 48378 MB
node 14 free: 48176 MB
node 15 cpus: 120-127,248-255
node 15 size: 48322 MB
node 15 free: 48121 MB
node distances:
node  0  1  2  3  4  5  6  7  8  9 10 11 12 13 14 15
 0:  10 11 11 11 12 12 12 12 12 12 12 12 12 12 12 12
 1:  11 10 11 11 12 12 12 12 12 12 12 12 12 12 12 12
 2:  11 11 10 11 12 12 12 12 12 12 12 12 12 12 12 12
 3:  11 11 11 10 12 12 12 12 12 12 12 12 12 12 12 12
 4:  12 12 12 12 10 11 11 11 12 12 12 12 12 12 12 12
 5:  12 12 12 12 12 11 10 11 11 12 12 12 12 12 12 12
 6:  12 12 12 12 12 11 11 10 11 12 12 12 12 12 12 12
 7:  12 12 12 12 12 11 11 11 10 12 12 12 12 12 12 12
 8:  12 12 12 12 12 12 12 12 12 10 11 11 11 12 12 12
 9:  12 12 12 12 12 12 12 12 12 11 10 11 11 12 12 12
10:  12 12 12 12 12 12 12 12 12 11 11 10 11 12 12 12
11:  12 12 12 12 12 12 12 12 12 11 11 11 10 12 12 12
12:  12 12 12 12 12 12 12 12 12 12 12 12 12 10 11 11
13:  12 12 12 12 12 12 12 12 12 12 12 12 12 11 10 11
14:  12 12 12 12 12 12 12 12 12 12 12 12 12 11 11 10
15:  12 12 12 12 12 12 12 12 12 12 12 12 12 11 11 10

```

```

-----
9. /proc/meminfo
   MemTotal:          792208220 kB

```

```

-----
10. who -r
    run-level 5 Feb 3 21:32

```

```

-----
11. Systemd service manager version: systemd 255 (255.4-lubuntu8.12)
    Default Target  Status
    graphical      running

```

```

-----
12. Services, from systemctl list-unit-files
    STATE          UNIT FILES
    enabled        ModemManager apparmor apport blk-availability cloud-config cloud-final cloud-init

```

(Continued on next page)



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Platform Notes (Continued)

```

cloud-init-local console-setup cron dmesg e2scrub_reap finalrd getty@ gpu-manager
grub-common grub-initrd-fallback keyboard-setup lvm2-monitor multipathd
networkd-dispatcher open-iscsi open-vm-tools pollinate rsyslog secureboot-db setvtrgb
snapd sysstat systemd-networkd systemd-networkd-wait-online systemd-pstore
systemd-resolved thermald tuned ua-reboot-cmds ubuntu-advantage udisks2 ufw
unattended-upgrades vgauth
enabled-runtime netplan-ovs-cleanup systemd-fsck-root systemd-remount-fs
disabled console-getty debug-shell iscsid nftables rsync serial-getty@ ssh
systemd-boot-check-no-failures systemd-confext systemd-network-generator
systemd-networkd-wait-online@ systemd-pcrlock-file-system systemd-pcrlock-firmware-code
systemd-pcrlock-firmware-config systemd-pcrlock-machine-id systemd-pcrlock-make-policy
systemd-pcrlock-secureboot-authority systemd-pcrlock-secureboot-policy systemd-sysex
systemd-time-wait-sync systemd-timesyncd upower
indirect systemd-sysupdate systemd-sysupdate-reboot uuid
masked cryptdisks cryptdisks-early hwclock multipath-tools-boot screen-cleanup sudo x11-common

```

```

-----
13. Linux kernel boot-time arguments, from /proc/cmdline
BOOT_IMAGE=/boot/vmlinuz-6.8.0-90-generic
root=UUID=c8895b10-3344-47fb-81a4-2b6fb85bbd20
ro

```

```

-----
14. cpupower frequency-info
analyzing CPU 249:
  current policy: frequency should be within 1.50 GHz and 2.25 GHz.
                  The governor "performance" may decide which speed to use
                  within this range.

  boost state support:
    Supported: yes
    Active: yes
    Boost States: 0
    Total States: 3
    Pstate-P0: 2250MHz

```

```

-----
15. tuned-adm active
  Current active profile: balanced

```

```

-----
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

```

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Platform Notes (Continued)

```

vm.dirty_expire_centisecs      3000
vm.dirty_ratio                  8
vm.dirty_writeback_centisecs   500
vm.dirtytime_expire_seconds    43200
vm.extfrag_threshold           500
vm.min_unmapped_ratio          1
vm.nr_hugepages                 0
vm.nr_hugepages_mempolicy      0
vm.nr_overcommit_hugepages     0
vm.swappiness                    1
vm.watermark_boost_factor      15000
vm.watermark_scale_factor      10
vm.zone_reclaim_mode           1

```

```

-----
17. /sys/kernel/mm/transparent_hugepage
defrag      [always] defer defer+madvise madvise never
enabled     [always] madvise never
hpage_pmd_size  2097152
shmem_enabled  always within_size advise [never] deny force

```

```

-----
18. /sys/kernel/mm/transparent_hugepage/khugepaged
alloc_sleep_millisecs  60000
defrag                  1
max_ptes_none          511
max_ptes_shared        256
max_ptes_swap          64
pages_to_scan          4096
scan_sleep_millisecs   10000

```

```

-----
19. OS release
From /etc/*-release /etc/*-version
os-release Ubuntu 24.04.3 LTS

```

```

-----
20. Disk information
SPEC is set to: /home/cpu2026
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/nvme0n1p2 ext4  438G   93G  324G  23% /

```

```

-----
21. /sys/devices/virtual/dmi/id
Vendor:          HPE
Product:         ProLiant DL325 Gen11
Product Family: ProLiant

```

(Continued on next page)



SPEC CPU®2026 Integer Rate Result

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(Test Sponsor: HPE)

ProLiant DL325 Gen11

(2.25 GHz, AMD EPYC 9754)

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SPECrate®2026_int_peak = 386

CPU2026 License: 3

Test Sponsor: HPE

Tested by: HPE

Test Date: Feb-2026

Hardware Availability: Aug-2023

Software Availability: Jan-2026

Platform Notes (Continued)

Serial: DL325G11-008

22. dmidecode

Additional information from dmidecode 3.5 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:

3x Hynix HMC94AEBRA103N 64 GB 2 rank 4800

1x Hynix HMC94AEBRA123N 64 GB 2 rank 4800

8x Hynix HMC94MEBRA121N 64 GB 2 rank 4800

23. BIOS

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

BIOS Vendor: HPE

BIOS Version: 2.90

BIOS Date: 01/09/2026

BIOS Revision: 2.90

Firmware Revision: 1.70

Compiler Version Notes

C | 708.sqlite_r(base) 714.cpython_r(base) 777.zstd_r(base)

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) 707.ntest_r(base) 727.cppcheck_r(base)
| 753.ns3_r(base)

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) 721.gcc_r(base) 723.llvm_r(base) 729.abc_r(base)

(Continued on next page)



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Test Sponsor: HPE

Tested by: HPE

Test Date: Feb-2026

Hardware Availability: Aug-2023

Software Availability: Jan-2026

Compiler Version Notes (Continued)

| 734.vpr_r(base) 735.gem5_r(base) 750.sealcrypto_r(base)

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

Base Compiler Invocation

C benchmarks:

clang

C++ benchmarks:

clang++

Benchmarks using both C and C++:

clang++ clang

Base Portability Flags

706.stockfish_r: -DSPEC_LP64

707.ntest_r: -DSPEC_LP64

708.sqlite_r: -DSPEC_LP64

710.omnetpp_r: -DSPEC_LP64

714.cpython_r: -DSPEC_LP64

721.gcc_r: -DSPEC_LP64

723.llvm_r: -DSPEC_LP64

727.cppcheck_r: -DSPEC_LP64

729.abc_r: -DSPEC_LP64

734.vpr_r: -DSPEC_LP64

735.gem5_r: -DSPEC_LP64

750.sealcrypto_r: -DSPEC_LP64

753.ns3_r: -DSPEC_LP64

777.zstd_r: -DSPEC_LP64

Base Optimization Flags

C benchmarks:

-m64 -std=c18 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6

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

(Continued on next page)



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Base Optimization Flags (Continued)

C benchmarks (continued):

```
-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
```

Peak Optimization Flags

C benchmarks:

708.sqlite_r: basepeak = yes

714.python_r: basepeak = yes

777.zstd_r: basepeak = yes

C++ benchmarks:

706.stockfish_r: basepeak = yes

707.ntest_r: basepeak = yes

(Continued on next page)



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CPU2026 License: 3

Test Sponsor: HPE

Tested by: HPE

Test Date: Feb-2026

Hardware Availability: Aug-2023

Software Availability: Jan-2026

Peak Optimization Flags (Continued)

727.cppcheck_r: basepeak = yes

753.ns3_r: basepeak = yes

Benchmarks using both C and C++:

710.omnetpp_r: basepeak = yes

721.gcc_r: basepeak = yes

723.llvm_r: basepeak = yes

729.abc_r: basepeak = yes

734.vpr_r: basepeak = yes

735.gem5_r: basepeak = yes

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/HPE-Platform-Flags-AMD-Turin-rev1.11.html>

<http://www.spec.org/cpu2026/results/flags/aocc-flags.2026-05-04.html>

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

<http://www.spec.org/cpu2026/results/flags/HPE-Platform-Flags-AMD-Turin-rev1.11.xml>

<http://www.spec.org/cpu2026/results/flags/aocc-flags.2026-05-04.xml>

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