SPEC CPU®2026 Integer Rate Result

Hewlett Packard Enterprise

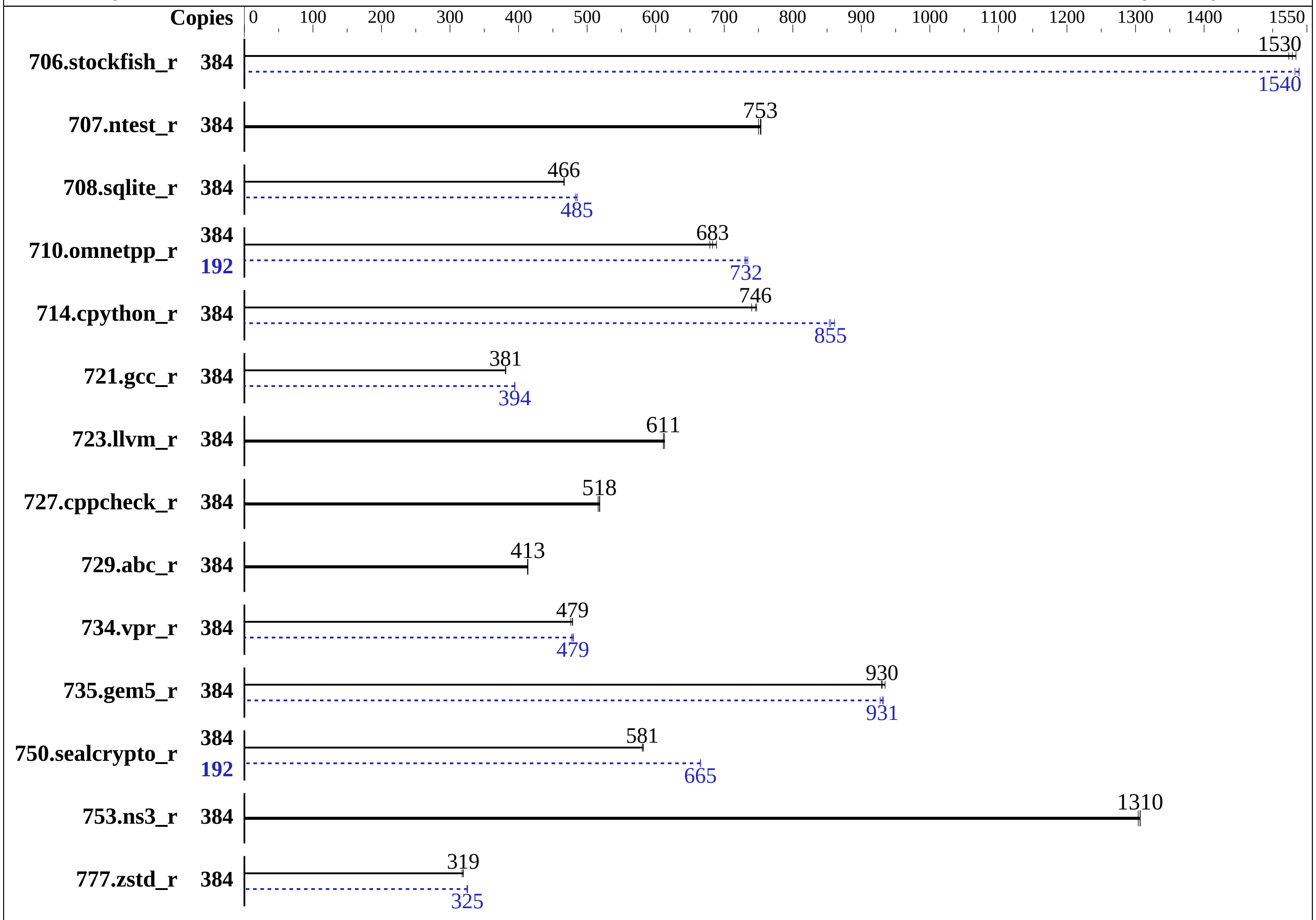
(Test Sponsor: HPE)

ProLiant Compute DL345 Gen12
(2.25 GHz, AMD EPYC 9965)

SPECrate®2026_int_base = 628

SPECrate®2026_int_peak = 648

CPU2026 License:	3	**Test Date:**	Sep-2026
Test Sponsor:	HPE	**Hardware Availability:**	Aug-2025
Tested by:	HPE	**Software Availability:**	May-2026



Hardware

CPU Name:	AMD EPYC 9965
Max MHz:	3700
Nominal:	2250
Enabled:	192 cores, 1 chip, 2 threads/core
Orderable:	1 Chip
Cache L1:	32 KB I + 48 KB D on chip per core
L2:	1 MB I+D on chip per core
L3:	384 MB I+D on chip per chip, 32 MB shared / 16 cores
Other:	None
Memory:	768 GB (12 x 64 GB 2Rx4 PC5-6400B-R, running at 5200)
Storage:	1 x 3.2 TB NVMe SSD
Cooling:	Air

(Continued on next page)

Software

OS:	SUSE Linux Enterprise Server 15 SP7 Kernel 6.4.0-150700.53.6-default
Compiler:	C/C++/Fortran: Version 5.2.0 of AOCC
Compiler Category:	Vendor
Firmware:	HPE BIOS Version v1.60 07/27/2026 released Jul-2026
File System:	btrfs
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

Hardware (Continued)

Other: None

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
706.stockfish_r	384	315	1530	**317**	**1530**	318	1520	384	314	1540	**315**	**1540**	316	1530
707.ntest_r	384	302	754	303	750	**302**	**753**	384	302	754	303	750	**302**	**753**
708.sqlite_r	384	**435**	**466**	435	466	434	467	384	420	483	**418**	**485**	418	485
710.omnetpp_r	384	271	689	275	679	**273**	**683**	192	127	734	**127**	**732**	128	730
714.cpython_r	384	249	740	**247**	**746**	246	747	384	214	861	216	853	**215**	**855**
721.gcc_r	384	**691**	**381**	691	381	692	381	384	668	394	**668**	**394**	667	395
723.llvm_r	384	**319**	**611**	319	611	318	613	384	**319**	**611**	319	611	318	613
727.cppcheck_r	384	267	516	266	519	**266**	**518**	384	267	516	266	519	**266**	**518**
729.abc_r	384	427	413	426	414	**426**	**413**	384	427	413	426	414	**426**	**413**
734.vpr_r	384	370	479	**370**	**479**	372	476	384	371	477	**369**	**479**	369	480
735.gem5_r	384	200	935	**201**	**930**	201	929	384	**201**	**931**	202	927	201	932
750.sealcrypto_r	384	**354**	**581**	355	580	354	582	192	**155**	**665**	155	666	155	665
753.ns3_r	384	180	1310	**180**	**1310**	181	1300	384	180	1310	**180**	**1310**	181	1300
777.zstd_r	384	779	318	**774**	**319**	774	319	384	760	326	**760**	**325**	762	325

SPECrate®2026_int_base = 628

SPECrate®2026_int_peak = 648

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>
```

(Continued on next page)

Operating System Notes (Continued)

```
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.

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' and
'echo always > /sys/kernel/mm/transparent_hugepage/shmem_enabled' run as root.
tuned-adm profile was set to balanced using 'tuned-adm profile balanced'
```

Environment Variables Notes

```
Environment variables set by runcpu before the start of the run:
LD_LIBRARY_PATH =
     "/home/cpu2026_1/amd_rate_aocc520_znver5_A_lib/lib:/home/cpu2026_1/amd_r
     ate_aocc520_znver5_A_lib/lib32:/usr/local/python3.12/lib:"
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 High Performance Compute (HPC)
Determinism Control set to Manual
Performance Determinism set to Power Deterministic
NUMA memory domains per socket set to Four memory domains per socket
Thermal Configuration set to Maximum Cooling
Workload Profile set to Custom
```

(Continued on next page)

Platform Notes (Continued)

```
L1 HW Prefetcher set to Disabled
Power Regulator set to OS Control Mode

Sysinfo program /home/cpu2026_1/bin/sysinfo
Rev: 779ab21020787073335a329f3a45e2cd
running on localhost Wed Sep 16 02:15:22 2026

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

------------------------------------------------------------
Table of contents
------------------------------------------------------------
 1. uname -srvm
 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 (254.27+suse.167.g130293e510)
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 6.4.0-150700.53.6-default #1 SMP PREEMPT_DYNAMIC Tue Jul  1 14:54:47 UTC 2025 (8ab7501) x86_64

------------------------------------------------------------
2. w
   02:15:22 up 11 min,  2 users,  load average: 0.55, 0.22, 0.09
  USER     TTY      FROM             LOGIN@   IDLE   JCPU   PCPU WHAT
  root     pts/0    172.16.0.100     02:05    1:20  20.12s 18.96s python3 ./run_intrate.py
```

(Continued on next page)

Platform Notes (Continued)

```
------------------------------------------------------------
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) 3093799
  max locked memory       (kbytes, -l) 2048
  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) 3093799
  virtual memory          (kbytes, -v) unlimited
  file locks                      (-x) unlimited

------------------------------------------------------------
5. sysinfo process ancestry
 /usr/lib/systemd/systemd --switched-root --system --deserialize=42
 sshd: /usr/sbin/sshd -D [listener] 0 of 10-100 startups
 sshd: root [priv]
 sshd: root@pts/0
 -bash
 python3 ./run_intrate.py
 runcpu --config amd_rate_aocc520_znver5_A1.cfg --tune all --reportable --iterations 3 intrate
 runcpu --configfile amd_rate_aocc520_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/CPU2026.002/templogs/preenv.intrate.002.0.log --lognum 002.0 --from_runcpu 2
 specperl $SPEC/bin/sysinfo
$SPEC = /home/cpu2026_1

------------------------------------------------------------
6. /proc/cpuinfo
    model name      : AMD EPYC 9965 192-Core Processor
    vendor_id       : AuthenticAMD
    cpu family      : 26
    model           : 17
    stepping        : 0
    microcode       : 0xb101066
    bugs            : sysret_ss_attrs spectre_v1 spectre_v2 spec_store_bypass srso
```

(Continued on next page)

Platform Notes (Continued)

```
    TLB size        : 192 4K pages
    cpu cores       : 192
    siblings        : 384
    1 physical ids (chips)
    384 processors (hardware threads)
    physical id 0: core ids 0-191
    physical id 0: apicids 0-383
  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):                               384
  On-line CPU(s) list:                  0-383
  Vendor ID:                            AuthenticAMD
  Model name:                           AMD EPYC 9965 192-Core Processor
  CPU family:                           26
  Model:                                17
  Thread(s) per core:                   2
  Core(s) per socket:                   192
  Socket(s):                            1
  Stepping:                             0
  Frequency boost:                      enabled
  CPU(s) scaling MHz:                   75%
  CPU max MHz:                          2250.0000
  CPU min MHz:                          1500.0000
  BogoMIPS:                             4493.59
  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
```

(Continued on next page)

Platform Notes (Continued)

```
                                              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:                                  9 MiB (192 instances)
  L1i cache:                                  6 MiB (192 instances)
  L2 cache:                                   192 MiB (192 instances)
  L3 cache:                                   384 MiB (12 instances)
  NUMA node(s):                               4
  NUMA node0 CPU(s):                          0-47,192-239
  NUMA node1 CPU(s):                          48-95,240-287
  NUMA node2 CPU(s):                          96-143,288-335
  NUMA node3 CPU(s):                          144-191,336-383
  Vulnerability Gather data sampling:         Not affected
  Vulnerability Indirect target selection:    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; PBRSB-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       9M   12 Data            1    64        1             64
     L1i       32K       6M    8 Instruction     1    64        1             64
     L2         1M     192M   16 Unified         2  1024        1             64
     L3        32M     384M   16 Unified         3 32768        1             64

------------------------------------------------------------
8. numactl --hardware
NOTE: a numactl 'node' might or might not correspond to a physical chip.
  available: 4 nodes (0-3)
```

(Continued on next page)

Platform Notes (Continued)

```
    node 0 cpus: 0-47,192-239
    node 0 size: 193131 MB
    node 0 free: 192470 MB
    node 1 cpus: 48-95,240-287
    node 1 size: 193472 MB
    node 1 free: 192663 MB
    node 2 cpus: 96-143,288-335
    node 2 size: 193510 MB
    node 2 free: 192348 MB
    node 3 cpus: 144-191,336-383
    node 3 size: 193365 MB
    node 3 free: 191397 MB
    node distances:
    node   0   1   2   3
      0:  10  12  12  12
      1:  12  10  12  12
      2:  12  12  10  12
      3:  12  12  12  10

  ------------------------------------------------------------
  9. /proc/meminfo
     MemTotal:       792042988 kB

  ------------------------------------------------------------
  10. who -r
    run-level 3 Sep 16 02:11

  ------------------------------------------------------------
  11. Systemd service manager version: systemd 254 (254.27+suse.167.g130293e510)
    Default Target  Status
    multi-user      running

  ------------------------------------------------------------
  12. Services, from systemctl list-unit-files
    STATE            UNIT FILES
    enabled          ModemManager YaST2-Firstboot YaST2-Second-Stage ahslog amsd apparmor appstream-sync-cache
                     auditd bluetooth cpqFca cpqIde cpqScsi cron display-manager getty@ irqbalance
                     issue-generator kbdsettings klog lvm2-monitor mr_cpqScsi nscd nvmefc-boot-connections
                     nvmf-autoconnect postfix purge-kernels rollback rsyslog smad smartd sshd sut
                     systemd-pstore wicked wickedd-auto4 wickedd-dhcp4 wickedd-dhcp6 wickedd-nanny
                     wpa_supplicant
    enabled-runtime  systemd-remount-fs
    disabled         NetworkManager NetworkManager-dispatcher NetworkManager-wait-online accounts-daemon
                     amsd_rev autofs autoyast-initscripts blk-availability bluetooth-mesh boot-sysctl
                     ca-certificates chrony-wait chronyd console-getty cpqFca_rev cpqIde_rev cpqScsi_rev
                     cpqiScsi cups cups-browsed debug-shell dnsmasq ebtables exchange-bmc-os-info firewalld
                     fsidd gnome-remote-desktop gpm grub2-once haveged hwloc-dump-hwdata ipmi ipmievd
```

(Continued on next page)

Platform Notes (Continued)

```
                 issue-add-ssh-keys kexec-load lunmask man-db-create mr_cpqScsi_rev multipathd nfs
                 nfs-blkmap nmb openvpn@ ostree-remount ostree-state-overlay@ rpcbind rpmconfigcheck rsyncd
                 rtkit-daemon samba-bgqd serial-getty@ smad_rev smartd_generate_opts smb snmpd snmptrapd
                 speech-dispatcherd systemd-boot-check-no-failures systemd-confext
                 systemd-network-generator systemd-sysext systemd-time-wait-sync systemd-timesyncd tuned
                 udisks2 update-system-flatpaks upower vncserver@ wpa_supplicant@
  indirect       pcscd saned@ systemd-userdbd wickedd

------------------------------------------------------------
13. Linux kernel boot-time arguments, from /proc/cmdline
  BOOT_IMAGE=/boot/vmlinuz-6.4.0-150700.53.6-default
  root=UUID=de91d38d-7b1b-4bc1-b4ce-f57bbe3b30b4
  splash=silent
  mitigations=auto
  quiet
  security=apparmor

------------------------------------------------------------
14. cpupower frequency-info
  analyzing CPU 252:
    current policy: frequency should be within 1.50 GHz and 2.25 GHz.
                    The governor "schedutil" may decide which speed to use
                    within this range.
    boost state support:
      Supported: yes
      Active: yes

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

------------------------------------------------------------
16. sysctl
  kernel.numa_balancing                0
  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
```

(Continued on next page)

Platform Notes (Continued)

```
    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_1
    Filesystem     Type   Size  Used Avail Use% Mounted on
    /dev/nvme0n1p2 btrfs  3.0T   60G  2.9T   2% /home

  ------------------------------------------------------------
  21. /sys/devices/virtual/dmi/id
      Vendor:         HPE
      Product:        HPE ProLiant Compute DL345 Gen12
      Product Family: ProLiant
      Serial:         I2DZ4HNF1Y

  ------------------------------------------------------------
  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.
```

(Continued on next page)

Platform Notes (Continued)

```
   Memory:
     12x Hynix HMCG94AHBRA480N 64 GB 2 rank 6400, configured at 5200


 ------------------------------------------------------------
 23. BIOS
 (This section combines info from /sys/devices and dmidecode.)
    BIOS Vendor:       HPE
    BIOS Version:      1.60
    BIOS Date:         07/27/2026
    BIOS Revision:     1.60
    Firmware Revision: 1.22
```

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_5.2.0-Build#2035 2026_04_10)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /opt/AMD/aocc/aocc-compiler-rel-5.2.0-4925-2035/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_5.2.0-Build#2035 2026_04_10)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /opt/AMD/aocc/aocc-compiler-rel-5.2.0-4925-2035/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_5.2.0-Build#2035 2026_04_10)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /opt/AMD/aocc/aocc-compiler-rel-5.2.0-4925-2035/bin
------------------------------------------------------------------------------
```

Base Compiler Invocation

C benchmarks:
`clang`

C++ benchmarks:
`clang++`

Benchmarks using both C and C++:
`clang++ clang`

Base Optimization Flags

C benchmarks:
`-std=c18 -no-pie -Wl,-mllvm -Wl,-inline-threshold=1500 -fstrip-mining -O3 -march=znver5 -fveclib=AMDLIBM -flto -fno-PIE -fno-plt -fremap-arrays -mllvm -inline-threshold=1500 -lamdalloc -lamdlibm`

C++ benchmarks:
`-std=c++17 -no-pie -Wl,-mllvm -Wl,-inline-threshold=1500 -O3 -march=znver5 -fveclib=AMDLIBM -flto -fno-PIE -fno-plt -fvirtual-function-elimination -fvisibility=hidden -mllvm -inline-threshold=1500 -stdlib=libc++ -lamdalloc -lamdlibm`

Benchmarks using both C and C++:
`-std=c++17 -std=c18 -no-pie -Wl,-mllvm -Wl,-inline-threshold=1500 -O3 -march=znver5 -fveclib=AMDLIBM -flto -fno-PIE -fno-plt -fremap-arrays -mllvm -inline-threshold=1500 -fvirtual-function-elimination -fvisibility=hidden -stdlib=libc++ -lamdalloc -lamdlibm`

Base Other Flags

C benchmarks:
`-L/work/cpu2026/v101/aocc52/rate/amd_rate_aocc520_znver5_A_lib/lib`

C++ benchmarks:
`-L/work/cpu2026/v101/aocc52/rate/amd_rate_aocc520_znver5_A_lib/lib`

Benchmarks using both C and C++:
`-L/work/cpu2026/v101/aocc52/rate/amd_rate_aocc520_znver5_A_lib/lib`

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: -std=c18 -no-pie -Wl,-mllvm -Wl,-inline-threshold=1500
-fstrip-mining -fprofile-instr-generate(pass 1)
-fprofile-instr-use(pass 2) -O3 -march=znver5
-fveclib=AMDLIBM -flto -fno-PIE -fno-plt -fremap-arrays
-mllvm -inline-threshold=1500 -lamdalloc -lamdlibm

714.cpython_r: -std=c18 -no-pie -fprofile-instr-generate(pass 1)
-fprofile-instr-use(pass 2) -O3 -march=znver5
-fveclib=AMDLIBM -flto -fno-PIE -fno-plt -fremap-arrays
-mllvm -inline-threshold=1500 -mllvm -unroll-threshold=50
-lamdalloc -lamdlibm

777.zstd_r: -std=c18 -no-pie -Wl,-mllvm -Wl,-inline-threshold=1500
-fstrip-mining -O3 -march=znver5 -fveclib=AMDLIBM -flto
-fno-PIE -fno-plt -fremap-arrays
-mllvm -inline-threshold=1500
-mllvm -inline-threshold=3000 -lamdalloc -lamdlibm

C++ benchmarks:

706.stockfish_r: -std=c++17 -no-pie -Wl,-mllvm -Wl,-inline-threshold=1500
-O3 -march=znver5 -fveclib=AMDLIBM -flto -fno-PIE
-fno-plt -fvirtual-function-elimination
-fvisibility=hidden -mllvm -inline-threshold=1500
-stdlib=libc++ -lamdalloc -lamdlibm

707.ntest_r: basepeak = yes

727.cppcheck_r: basepeak = yes

(Continued on next page)

Peak Optimization Flags (Continued)

753.ns3_r: `basepeak = yes`

Benchmarks using both C and C++:

710.omnetpp_r: `-std=c++17 -std=c18 -no-pie -Wl,-mllvm -Wl,-inline-threshold=1500 -O3 -march=znver5 -fveclib=AMDLIBM -flto -fno-PIE -fno-plt -fremap-arrays -mllvm -inline-threshold=1500 -fvirtual-function-elimination -fvisibility=hidden -stdlib=libc++ -lamdalloc -lamdlibm`

721.gcc_r: `-std=c++17 -std=c18 -no-pie -Wl,-mllvm -Wl,-inline-threshold=1500 -fprofile-instr-generate`(pass 1) `-fprofile-instr-use`(pass 2) `-O3 -march=znver5 -fveclib=AMDLIBM -flto -fno-PIE -fno-plt -fremap-arrays -mllvm -inline-threshold=1500 -fvirtual-function-elimination -fvisibility=hidden -stdlib=libc++ -lamdalloc -lamdlibm`

723.llvm_r: `basepeak = yes`

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 710.omnetpp_r`

Peak Other Flags

C benchmarks:
`-L/work/cpu2026/v101/aocc52/rate/amd_rate_aocc520_znver5_A_lib/lib`

C++ benchmarks:
`-L/work/cpu2026/v101/aocc52/rate/amd_rate_aocc520_znver5_A_lib/lib`

Benchmarks using both C and C++:
`-L/work/cpu2026/v101/aocc52/rate/amd_rate_aocc520_znver5_A_lib/lib`

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2026/results/flags/aocc-flags.2026-10-07.00.html
http://www.spec.org/cpu2026/results/flags/HPE-Platform-Flags-AMD-Turin-rev1.12.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2026/results/flags/aocc-flags.2026-10-07.00.xml
http://www.spec.org/cpu2026/results/flags/HPE-Platform-Flags-AMD-Turin-rev1.12.xml

Tested with SPEC CPU®2026 v1.0.1 on 2026-09-15 16:45:21-0400.
Report generated on 2026-10-07 10:42:16 by CPU2026 PS formatter (86729d3b).
Originally published on 2026-10-06.