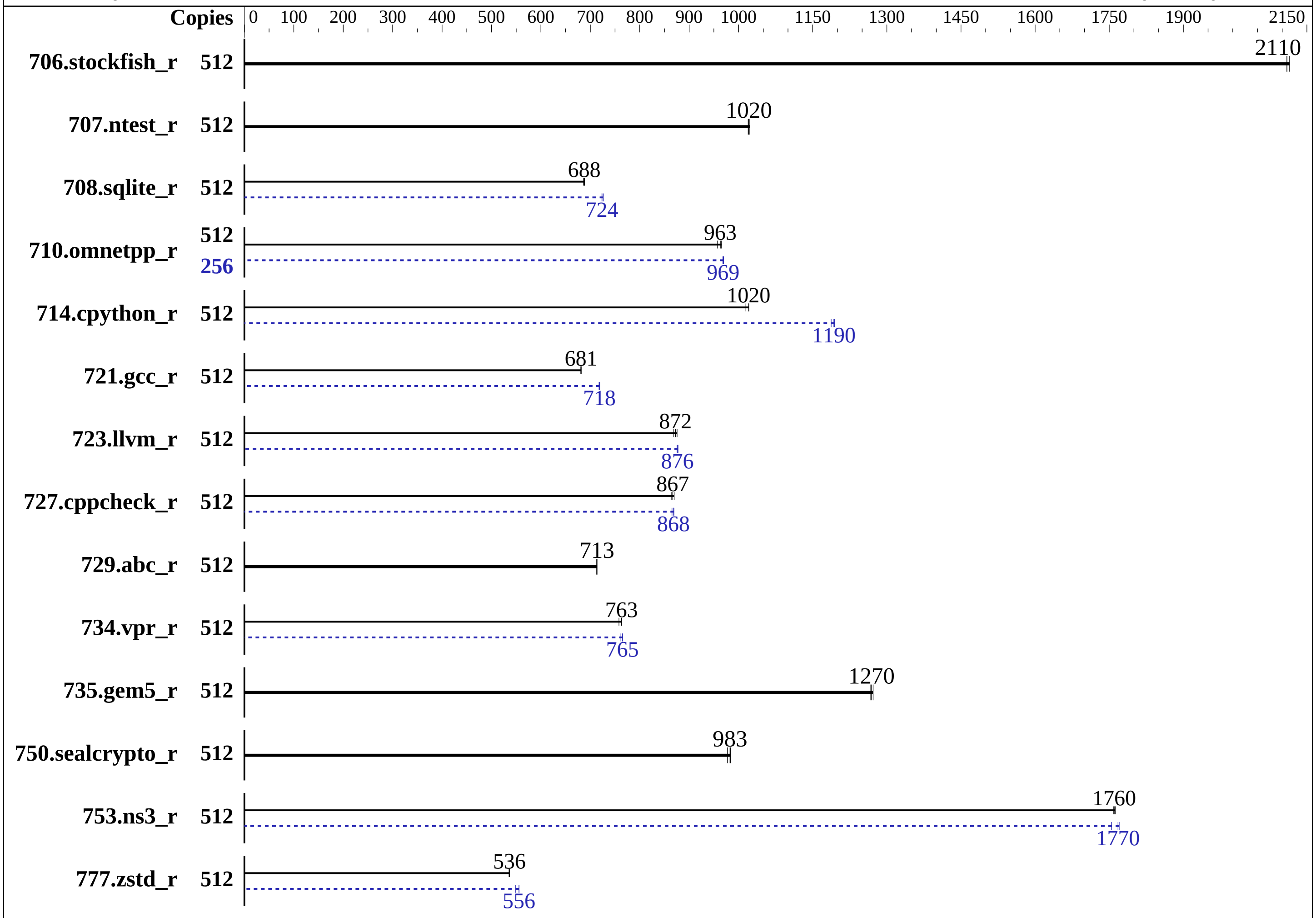
SPEC CPU®2026 Integer Rate Result

Hewlett Packard Enterprise
(Test Sponsor: HPE)
ProLiant DL365 Gen11
(2.40 GHz, AMD EPYC 9745)

SPECrate®2026_int_base = 949

SPECrate®2026_int_peak = 971

CPU2026 License:	3	**Test Date:**	Sep-2026
Test Sponsor:	HPE	**Hardware Availability:**	Oct-2024
Tested by:	HPE	**Software Availability:**	May-2026



Hardware

CPU Name:	AMD EPYC 9745
Max MHz:	3700
Nominal:	2400
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:	256 MB I+D on chip per chip, 32 MB shared / 16 cores
Other:	None
Memory:	1536 GB (24 x 64 GB 2Rx4 PC5-6400B-R)
Storage:	1 x 1.6 TB NVMe SSD
Cooling:	Air
Other:	None

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 v3.22 08/20/2026 released Aug-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

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
706.stockfish_r	512	306	2110	305	2110	**306**	**2110**	512	306	2110	305	2110	**306**	**2110**
707.ntest_r	512	296	1020	297	1020	**297**	**1020**	512	296	1020	297	1020	**297**	**1020**
708.sqlite_r	512	394	686	393	688	**393**	**688**	512	**374**	**724**	372	726	374	723
710.omnetpp_r	512	258	966	**258**	**963**	260	958	256	128	970	128	968	**128**	**969**
714.cpython_r	512	240	1020	**240**	**1020**	242	1010	512	**206**	**1190**	207	1190	205	1190
721.gcc_r	512	516	681	**515**	**681**	515	682	512	489	718	488	719	**489**	**718**
723.llvm_r	512	296	876	**298**	**872**	299	868	512	296	878	**296**	**876**	296	876
727.cppcheck_r	512	213	864	**212**	**867**	211	870	512	212	865	**212**	**868**	211	869
729.abc_r	512	330	712	**329**	**713**	329	713	512	330	712	**329**	**713**	329	713
734.vpr_r	512	309	764	311	758	**309**	**763**	512	310	762	**308**	**765**	308	766
735.gem5_r	512	196	1270	197	1270	**196**	**1270**	512	196	1270	197	1270	**196**	**1270**
750.sealcrypto_r	512	**279**	**983**	279	983	281	977	512	**279**	**983**	279	983	281	977
753.ns3_r	512	**178**	**1760**	178	1760	178	1760	512	177	1770	179	1750	**178**	**1770**
777.zstd_r	512	**615**	**536**	615	536	616	536	512	593	556	601	548	**593**	**556**
SPECrate®2026_int_base =		949												
SPECrate®2026_int_peak =		971												

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' and
'echo always > /sys/kernel/mm/transparent_hugepage/shmem_enabled' run as root.
```

Environment Variables Notes

```
Environment variables set by runcpu before the start of the run:
LD_LIBRARY_PATH =
     "/home/cpu2026/amd_rate_aocc520_znver5_A_lib/lib:/home/cpu2026/amd_rate_
     aocc520_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
Memory Patrol Scrubbing set to Disabled
ACPI CST C2 Latency set to 18 microseconds
Thermal Configuration set to Maximum Cooling
NUMA memory domains per socket set to Four memory domains per socket
AMD Periodic Directory Rinse set to Periodic
Workload Profile set to Custom
 Power Regulator set to OS Control Mode
```

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Platform Notes (Continued)

```
Sysinfo program /home/cpu2026/bin/sysinfo
Rev: 779ab21020787073335a329f3a45e2cd
running on localhost Tue Sep 15 22:26:03 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. sysctl
16. /sys/kernel/mm/transparent_hugepage
17. /sys/kernel/mm/transparent_hugepage/khugepaged
18. OS release
19. Disk information
20. /sys/devices/virtual/dmi/id
21. dmidecode
22. 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
   22:26:03 up 2 min,  4 users,  load average: 0.47, 0.26, 0.10
  USER     TTY      FROM             LOGIN@   IDLE   JCPU   PCPU WHAT

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

------------------------------------------------------------
```

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Platform Notes (Continued)

```
4. ulimit -a
  core file size          (blocks, -c) 0
  data seg size           (kbytes, -d) unlimited
  scheduling priority             (-e) 0
  file size               (blocks, -f) unlimited
  pending signals                 (-i) 6189902
  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) 6189902
  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@notty
 /bin/bash $SPEC/run_intrate_sh.sh
 sudo ./run_intrate.py
 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/CPU2026.001/templogs/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 9745 128-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
    TLB size        : 192 4K pages
    cpu cores       : 128
    siblings        : 256
    2 physical ids (chips)
```

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Platform Notes (Continued)

```
     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
   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 9745 128-Core Processor
   CPU family:                              26
   Model:                                   17
   Thread(s) per core:                      2
   Core(s) per socket:                      128
   Socket(s):                               2
   Stepping:                                0
   Frequency boost:                         enabled
   CPU(s) scaling MHz:                      100%
   CPU max MHz:                             2400.0000
   CPU min MHz:                             1500.0000
   BogoMIPS:                                4792.76
   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
```

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Platform Notes (Continued)

```
                                          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:                               512 MiB (16 instances)
  NUMA node(s):                           8
  NUMA node0 CPU(s):                      0-31,256-287
  NUMA node1 CPU(s):                      32-63,288-319
  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 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      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     512M   16 Unified         3 32768        1             64

 ------------------------------------------------------------
 8. numactl --hardware
```

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Platform Notes (Continued)

```
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: 193139 MB
  node 0 free: 192522 MB
  node 1 cpus: 32-63,288-319
  node 1 size: 193518 MB
  node 1 free: 192930 MB
  node 2 cpus: 64-95,320-351
  node 2 size: 193518 MB
  node 2 free: 193005 MB
  node 3 cpus: 96-127,352-383
  node 3 size: 193518 MB
  node 3 free: 193037 MB
  node 4 cpus: 128-159,384-415
  node 4 size: 193480 MB
  node 4 free: 192956 MB
  node 5 cpus: 160-191,416-447
  node 5 size: 193518 MB
  node 5 free: 193048 MB
  node 6 cpus: 192-223,448-479
  node 6 size: 193518 MB
  node 6 free: 193019 MB
  node 7 cpus: 224-255,480-511
  node 7 size: 193290 MB
  node 7 free: 192767 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:       1584645328 kB

------------------------------------------------------------
10. who -r
  run-level 3 Sep 15 22:24

------------------------------------------------------------
11. Systemd service manager version: systemd 254 (254.27+suse.167.g130293e510)
```

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Platform Notes (Continued)

```
  Default Target  Status
  multi-user      running

------------------------------------------------------------
12. Services, from systemctl list-unit-files
  STATE            UNIT FILES
  enabled          ModemManager YaST2-Firstboot YaST2-Second-Stage apparmor appstream-sync-cache auditd
                   bluetooth cron display-manager getty@ irqbalance issue-generator kbdsettings klog
                   lvm2-monitor nscd nvmefc-boot-connections nvmf-autoconnect postfix purge-kernels rollback
                   rsyslog smartd sshd 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 autofs
                   autoyast-initscripts blk-availability bluetooth-mesh boot-sysctl ca-certificates
                   chrony-wait chronyd console-getty 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 issue-add-ssh-keys kexec-load lunmask man-db-create
                   multipathd nfs nfs-blkmap nmb openvpn@ ostree-remount ostree-state-overlay@ rpcbind
                   rpmconfigcheck rsyncd rtkit-daemon samba-bgqd serial-getty@ 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=d0ab7ebe-8d2b-4ca4-97d8-878a5337a104
  splash=silent
  mitigations=auto
  quiet
  security=apparmor

------------------------------------------------------------
14. cpupower frequency-info
  analyzing CPU 66:
    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. sysctl
  kernel.numa_balancing              0
  kernel.randomize_va_space          0
```

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Platform Notes (Continued)

```
  vm.compaction_proactiveness        20
  vm.dirty_background_bytes           0
  vm.dirty_background_ratio          10
  vm.dirty_bytes                      0
  vm.dirty_expire_centisecs        3000
  vm.dirty_ratio                      8
  vm.dirty_writeback_centisecs      500
  vm.dirtytime_expire_seconds     43200
  vm.extfrag_threshold              500
  vm.min_unmapped_ratio               1
  vm.nr_hugepages                     0
  vm.nr_hugepages_mempolicy           0
  vm.nr_overcommit_hugepages          0
  vm.swappiness                       1
  vm.watermark_boost_factor       15000
  vm.watermark_scale_factor          10
  vm.zone_reclaim_mode                1

------------------------------------------------------------
16. /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

------------------------------------------------------------
17. /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

------------------------------------------------------------
18. OS release
  From /etc/*-release /etc/*-version
  os-release SUSE Linux Enterprise Server 15 SP7

------------------------------------------------------------
19. Disk information
SPEC is set to: /home/cpu2026
  Filesystem     Type   Size  Used Avail Use% Mounted on
  /dev/nvme1n1p2 btrfs  1.5T   35G  1.5T   3% /home

------------------------------------------------------------
```

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Platform Notes (Continued)

```
 20. /sys/devices/virtual/dmi/id
     Vendor:         HPE
     Product:        ProLiant DL365 Gen11
     Product Family: ProLiant
     Serial:         DL365G11-008

 ------------------------------------------------------------
 21. 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:
     10x Hynix HMCG94AHBRA480N 64 GB 2 rank 6400
     1x Hynix HMCG94AHBRA487N 64 GB 2 rank 6400
     1x Micron MTC40F2046S1RC64BD2 MWFF 64 GB 2 rank 6400
     12x Micron MTC40F2046S1RC64BD2 QSFF 64 GB 2 rank 6400


 ------------------------------------------------------------
 22. BIOS
 (This section combines info from /sys/devices and dmidecode.)
    BIOS Vendor:       HPE
    BIOS Version:      3.22
    BIOS Date:         08/20/2026
    BIOS Revision:     3.22
    Firmware Revision: 1.79
```

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
```

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Compiler Version Notes (Continued)

```
Thread model: posix
InstalledDir: /opt/AMD/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-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++

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Base Optimization Flags (Continued)

Benchmarks using both C and C++ (continued):
`-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`

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Peak Optimization Flags (Continued)

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: basepeak = yes

707.ntest_r: basepeak = yes

727.cppcheck_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

753.ns3_r: Same as 727.cppcheck_r

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: Same as 710.omnetpp_r

729.abc_r: basepeak = yes

734.vpr_r: Same as 710.omnetpp_r

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Peak Optimization Flags (Continued)

735.gem5_r: `basepeak = yes`

750.sealcrypto_r: `basepeak = yes`

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

For questions about this result, please contact the tester. For other inquiries, please contact info@spec.org.

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