SPEC CPU®2026 Integer Speed Result

Hewlett Packard Enterprise

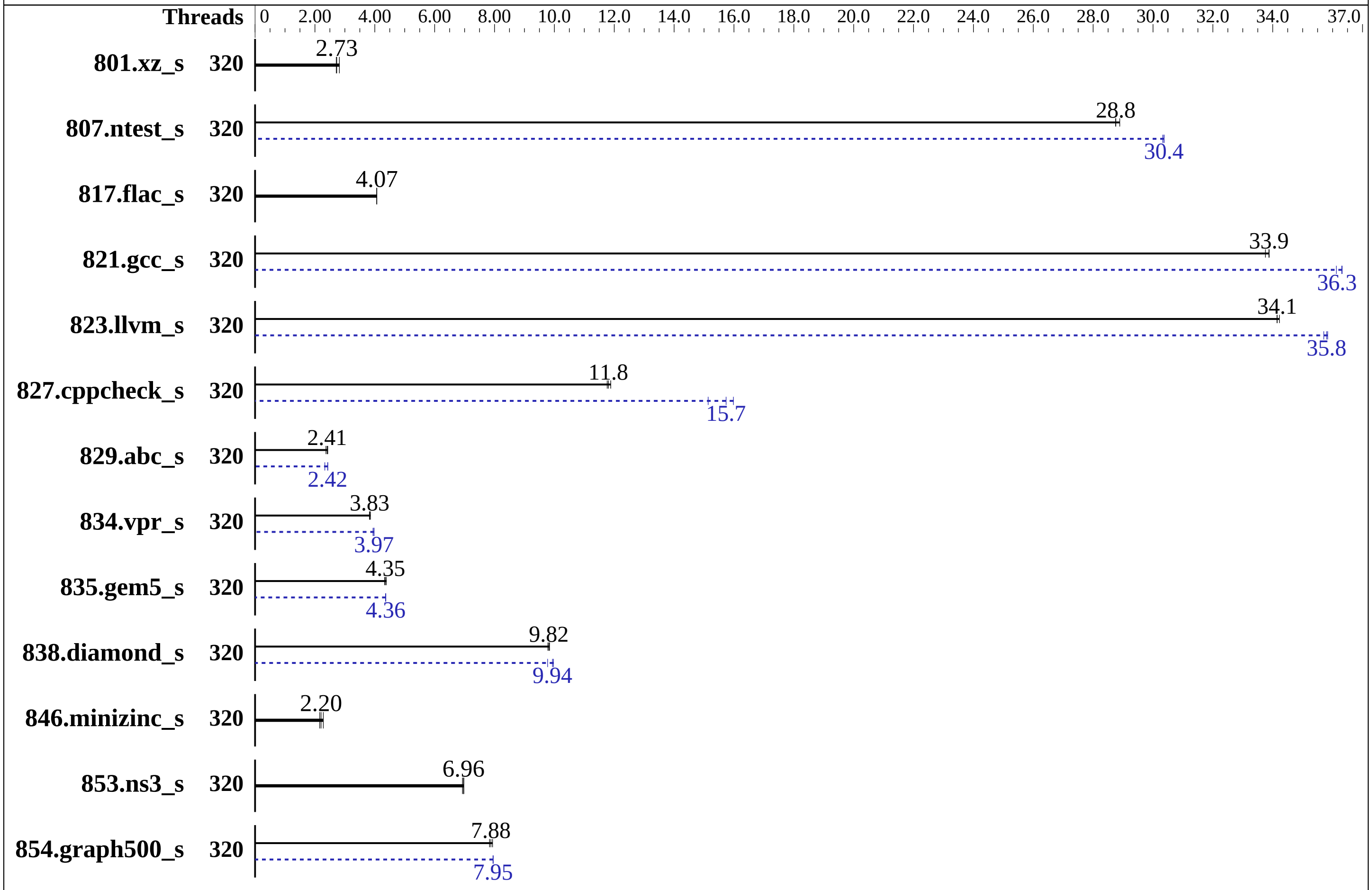
(Test Sponsor: HPE)

ProLiant DL365 Gen11
(2.10 GHz, AMD EPYC 9845)

SPECspeed®2026_int_base = 7.42

SPECspeed®2026_int_peak = 7.73

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 9845
Max MHz:	3700
Nominal:	2100
Enabled:	320 cores, 2 chips
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:	320 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 480 GB 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++: Version 5.2.0 of AOCC Fortran: Flang v22
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 set to prefer performance at the cost of additional power usage

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Results Table

Benchmark	Base							Peak						
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
801.xz_s	320	210	2.82	218	2.71	**217**	**2.73**	320	210	2.82	218	2.71	**217**	**2.73**
807.ntest_s	320	39.5	28.9	**39.6**	**28.8**	39.6	28.8	320	37.6	30.3	37.5	30.4	**37.5**	**30.4**
817.flac_s	320	427	4.07	427	4.07	**427**	**4.07**	320	427	4.07	427	4.07	**427**	**4.07**
821.gcc_s	320	**61.1**	**33.9**	61.1	33.9	61.3	33.8	320	**57.0**	**36.3**	57.0	36.3	57.3	36.1
823.llvm_s	320	41.2	34.2	**41.3**	**34.1**	41.3	34.1	320	39.4	35.8	39.5	35.7	**39.4**	**35.8**
827.cppcheck_s	320	95.1	11.8	**94.8**	**11.8**	94.2	11.9	320	70.0	16.0	73.9	15.1	**71.1**	**15.7**
829.abc_s	320	342	2.43	351	2.37	**345**	**2.41**	320	357	2.33	342	2.43	**343**	**2.42**
834.vpr_s	320	250	3.82	**249**	**3.83**	247	3.86	320	242	3.94	240	3.98	**240**	**3.97**
835.gem5_s	320	**262**	**4.35**	263	4.33	260	4.39	320	**261**	**4.36**	261	4.36	261	4.37
838.diamond_s	320	102	9.84	**102**	**9.82**	102	9.78	320	100	9.97	102	9.77	**101**	**9.94**
846.minizinc_s	320	**304**	**2.20**	294	2.28	310	2.16	320	**304**	**2.20**	294	2.28	310	2.16
853.ns3_s	320	**166**	**6.96**	166	6.93	165	6.97	320	**166**	**6.96**	166	6.93	165	6.97
854.graph500_s	320	77.0	7.93	78.0	7.83	**77.5**	**7.88**	320	76.8	7.96	76.9	7.95	**76.8**	**7.95**

SPECspeed®2026_int_base = 7.42

SPECspeed®2026_int_peak = 7.73

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/
Flang v22 is available at
https://flang.llvm.org/
```

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 --physcpubind=0-15 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.
To free node-local memory and avoid remote memory usage,
```

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Operating System Notes (Continued)

```
'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:
GOMP_CPU_AFFINITY = "0-319"
LD_LIBRARY_PATH =
     "/home/cpu2026/amd_speed_aocc520_znver5_A_lib/lib:/home/cpu2026/amd_spee
     d_aocc520_znver5_A_lib/lib32:"
MALLOC_CONF = "retain:true"
OMP_THREAD_LIMIT = "320"
```

General Notes

```
Binaries were compiled on a system with an AMD EPYC 9754 CPU + 768 GiB
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 Peak Frequency Compute
Determinism Control set to Manual
Performance Determinism set to Power Deterministic
Last-Level Cache (LLC) as NUMA Node set to Enabled
AMD SMT Option set to Disabled
Thermal Configuration set to Maximum Cooling

 Sysinfo program /home/cpu2026/bin/sysinfo
 Rev: 779ab21020787073335a329f3a45e2cd
 running on localhost Sun Sep 13 05:20:00 2026
```

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Platform Notes (Continued)

```
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
   05:20:00 up 2 min,  4 users,  load average: 0.20, 0.30, 0.13
  USER     TTY      FROM             LOGIN@   IDLE   JCPU   PCPU WHAT

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

------------------------------------------------------------
4. ulimit -a
  core file size          (blocks, -c) 0
  data seg size           (kbytes, -d) unlimited
```

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Platform Notes (Continued)

```
   scheduling priority              (-e) 0
   file size                (blocks, -f) unlimited
   pending signals                  (-i) 6190358
   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) 6190358
   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_intspeed_sh.sh
  sudo ./run_intspeed.py
  python3 ./run_intspeed.py
  runcpu --config amd_speed_aocc520_znver5_A1.cfg --tune all --reportable --iterations 3 intspeed
  runcpu --configfile amd_speed_aocc520_znver5_A1.cfg --tune all --reportable --iterations 3 --nopower
    --runmode speed --tune base:peak --size test:train:refspeed intspeed --nopreenv --note-preenv --logfile
    $SPEC/tmp/CPU2026.001/templogs/preenv.intspeed.001.0.log --lognum 001.0 --from_runcpu 2
  specperl $SPEC/bin/sysinfo
 $SPEC = /home/cpu2026

 ------------------------------------------------------------
 6. /proc/cpuinfo
     model name      : AMD EPYC 9845 160-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       : 160
     siblings        : 160
     2 physical ids (chips)
     320 processors (hardware threads)
     physical id 0: core ids 0-159
     physical id 1: core ids 0-159
```

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Platform Notes (Continued)

```
    physical id 0: apicids 0-159
    physical id 1: apicids 256-415
  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):                               320
  On-line CPU(s) list:                  0-319
  Vendor ID:                            AuthenticAMD
  Model name:                           AMD EPYC 9845 160-Core Processor
  CPU family:                           26
  Model:                                17
  Thread(s) per core:                   1
  Core(s) per socket:                   160
  Socket(s):                            2
  Stepping:                             0
  BogoMIPS:                             4193.40
  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
```

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Platform Notes (Continued)

```
  L1d cache:                          15 MiB (320 instances)
  L1i cache:                          10 MiB (320 instances)
  L2 cache:                           320 MiB (320 instances)
  L3 cache:                           640 MiB (20 instances)
  NUMA node(s):                       20
  NUMA node0 CPU(s):                  0-15
  NUMA node1 CPU(s):                  16-31
  NUMA node2 CPU(s):                  32-47
  NUMA node3 CPU(s):                  48-63
  NUMA node4 CPU(s):                  64-79
  NUMA node5 CPU(s):                  80-95
  NUMA node6 CPU(s):                  96-111
  NUMA node7 CPU(s):                  112-127
  NUMA node8 CPU(s):                  128-143
  NUMA node9 CPU(s):                  144-159
  NUMA node10 CPU(s):                 160-175
  NUMA node11 CPU(s):                 176-191
  NUMA node12 CPU(s):                 192-207
  NUMA node13 CPU(s):                 208-223
  NUMA node14 CPU(s):                 224-239
  NUMA node15 CPU(s):                 240-255
  NUMA node16 CPU(s):                 256-271
  NUMA node17 CPU(s):                 272-287
  NUMA node18 CPU(s):                 288-303
  NUMA node19 CPU(s):                 304-319
  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
                                          disabled; 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      15M   12 Data            1    64        1             64
     L1i       32K      10M    8 Instruction     1    64        1             64
```

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Platform Notes (Continued)

```
      L2          1M      320M    16 Unified          2  1024         1              64
      L3         32M      640M    16 Unified          3 32768         1              64

  ------------------------------------------------------------
  8. numactl --hardware
  NOTE: a numactl 'node' might or might not correspond to a physical chip.
    available: 20 nodes (0-19)
    node 0 cpus: 0-15
    node 0 size: 77030 MB
    node 0 free: 76765 MB
    node 1 cpus: 16-31
    node 1 size: 77409 MB
    node 1 free: 77215 MB
    node 2 cpus: 32-47
    node 2 size: 77373 MB
    node 2 free: 77197 MB
    node 3 cpus: 48-63
    node 3 size: 77409 MB
    node 3 free: 77241 MB
    node 4 cpus: 64-79
    node 4 size: 77411 MB
    node 4 free: 77174 MB
    node 5 cpus: 80-95
    node 5 size: 77411 MB
    node 5 free: 77228 MB
    node 6 cpus: 96-111
    node 6 size: 77409 MB
    node 6 free: 77209 MB
    node 7 cpus: 112-127
    node 7 size: 77411 MB
    node 7 free: 77216 MB
    node 8 cpus: 128-143
    node 8 size: 77411 MB
    node 8 free: 77082 MB
    node 9 cpus: 144-159
    node 9 size: 77403 MB
    node 9 free: 77159 MB
    node 10 cpus: 160-175
    node 10 size: 77409 MB
    node 10 free: 77168 MB
    node 11 cpus: 176-191
    node 11 size: 77409 MB
    node 11 free: 77204 MB
    node 12 cpus: 192-207
    node 12 size: 77411 MB
    node 12 free: 77209 MB
    node 13 cpus: 208-223
```

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Platform Notes (Continued)

```
   node 13 size: 77409 MB
   node 13 free: 77154 MB
   node 14 cpus: 224-239
   node 14 size: 77411 MB
   node 14 free: 77227 MB
   node 15 cpus: 240-255
   node 15 size: 77411 MB
   node 15 free: 77195 MB
   node 16 cpus: 256-271
   node 16 size: 77409 MB
   node 16 free: 77098 MB
   node 17 cpus: 272-287
   node 17 size: 77411 MB
   node 17 free: 77242 MB
   node 18 cpus: 288-303
   node 18 size: 77411 MB
   node 18 free: 77213 MB
   node 19 cpus: 304-319
   node 19 size: 77240 MB
   node 19 free: 76988 MB
   node distances:
   node   0   1   2   3   4   5   6   7   8   9  10  11  12  13  14  15  16  17  18  19
     0:  10  11  11  11  11  11  11  11  11  11  32  32  32  32  32  32  32  32  32  32
     1:  11  10  11  11  11  11  11  11  11  11  32  32  32  32  32  32  32  32  32  32
     2:  11  11  10  11  11  11  11  11  11  11  32  32  32  32  32  32  32  32  32  32
     3:  11  11  11  10  11  11  11  11  11  11  32  32  32  32  32  32  32  32  32  32
     4:  11  11  11  11  10  11  11  11  11  11  32  32  32  32  32  32  32  32  32  32
     5:  11  11  11  11  11  10  11  11  11  11  32  32  32  32  32  32  32  32  32  32
     6:  11  11  11  11  11  11  10  11  11  11  32  32  32  32  32  32  32  32  32  32
     7:  11  11  11  11  11  11  11  10  11  11  32  32  32  32  32  32  32  32  32  32
     8:  11  11  11  11  11  11  11  11  10  11  32  32  32  32  32  32  32  32  32  32
     9:  11  11  11  11  11  11  11  11  11  10  32  32  32  32  32  32  32  32  32  32
    10:  32  32  32  32  32  32  32  32  32  32  10  11  11  11  11  11  11  11  11  11
    11:  32  32  32  32  32  32  32  32  32  32  11  10  11  11  11  11  11  11  11  11
    12:  32  32  32  32  32  32  32  32  32  32  11  11  10  11  11  11  11  11  11  11
    13:  32  32  32  32  32  32  32  32  32  32  11  11  11  10  11  11  11  11  11  11
    14:  32  32  32  32  32  32  32  32  32  32  11  11  11  11  10  11  11  11  11  11
    15:  32  32  32  32  32  32  32  32  32  32  11  11  11  11  11  10  11  11  11  11
    16:  32  32  32  32  32  32  32  32  32  32  11  11  11  11  11  11  10  11  11  11
    17:  32  32  32  32  32  32  32  32  32  32  11  11  11  11  11  11  11  10  11  11
    18:  32  32  32  32  32  32  32  32  32  32  11  11  11  11  11  11  11  11  10  11
    19:  32  32  32  32  32  32  32  32  32  32  11  11  11  11  11  11  11  11  11  10

 ------------------------------------------------------------
 9. /proc/meminfo
    MemTotal:       1584761744 kB
```

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Platform Notes (Continued)

```
------------------------------------------------------------
10. who -r
  run-level 3 Sep 13 05:17

------------------------------------------------------------
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 apparmor appstream-sync-cache auditd
                   bluetooth cron display-manager getty@ irqbalance issue-generator kbdsettings klog
                   lvm2-monitor nscd 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=6864fa16-4e3a-4b5d-82dd-678b06e3a35e
  splash=silent
  mitigations=auto
  quiet
  security=apparmor

------------------------------------------------------------
14. cpupower frequency-info
  analyzing CPU 76:
    Unable to determine current policy
    boost state support:
      Supported: yes
      Active: yes

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


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Platform Notes (Continued)

```
15. 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
  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
```

(Continued on next page)

Platform Notes (Continued)

```
  /dev/sda2      btrfs  447G   36G  408G   8% /home

 ------------------------------------------------------------
 20. /sys/devices/virtual/dmi/id
     Vendor:         HPE
     Product:        ProLiant DL365 Gen11
     Product Family: ProLiant
     Serial:         DL365G11-001

 ------------------------------------------------------------
 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:
     8x Hynix HMCG94AHBRA480N 64 GB 2 rank 6400
     1x Micron MTC40F2046S1RC64BD2 MWFF 64 GB 2 rank 6400
     15x 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      | 854.graph500_s(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++    | 807.ntest_s(base, peak) 827.cppcheck_s(base, peak) 853.ns3_s(base,
       | peak)
------------------------------------------------------------------------------
AMD clang version 17.0.6 (CLANG: AOCC_5.2.0-Build#2035 2026_04_10)
```

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Compiler Version Notes (Continued)

```
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /opt/AMD/aocc/aocc-compiler-rel-5.2.0-4925-2035/bin
------------------------------------------------------------------------------

==============================================================================
C++, C | 801.xz_s(base, peak) 817.flac_s(base, peak) 821.gcc_s(base, peak)
       | 823.llvm_s(base, peak) 829.abc_s(base, peak) 834.vpr_s(base, peak)
       | 835.gem5_s(base, peak) 838.diamond_s(base, peak)
       | 846.minizinc_s(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 Portability Flags

801.xz_s: `-DSPEC_LP64`
807.ntest_s: `-DSPEC_LP64`
817.flac_s: `-DSPEC_LP64`
821.gcc_s: `-DSPEC_LP64`
823.llvm_s: `-DSPEC_LP64`
827.cppcheck_s: `-DSPEC_LP64`
829.abc_s: `-DSPEC_LP64`
834.vpr_s: `-fno-finite-math-only -DSPEC_LP64`
835.gem5_s: `-fno-finite-math-only -DSPEC_LP64`
838.diamond_s: `-DSPEC_LP64`
846.minizinc_s: `-DSPEC_LP64`
853.ns3_s: `-fno-finite-math-only -DSPEC_LP64`
854.graph500_s: `-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
-Wl,-allow-multiple-definition -Wl,-mllvm -Wl,-extra-inliner -O3 -flto
-march=znver5 -fveclib=AMDLIBM -ffast-math -zopt -fremap-arrays
-fstrip-mining -fstruct-layout=7 -mllvm -inline-threshold=1000
-mllvm -reduce-array-computations=3 -mllvm -unroll-threshold=50
-fopenmp -DSPEC_OPENMP -lamdalloc -lamdlibm -fopenmp=libomp -lomp

C++ benchmarks:
-m64 -std=c++17 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3
-Wl,-mllvm -Wl,-x86-use-vzeroupper=false -O3 -flto -march=znver5
-fveclib=AMDLIBM -ffast-math -zopt -mllvm -unroll-threshold=100
-mllvm -loop-unswitch-threshold=200000
-mllvm -reduce-array-computations=3 -fopenmp -DSPEC_OPENMP
-fvirtual-function-elimination -fvisibility=hidden -lamdalloc
-lamdlibm -fopenmp=libomp -lomp

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
-Wl,-mllvm -Wl,-x86-use-vzeroupper=false -O3 -flto -march=znver5
-fveclib=AMDLIBM -ffast-math -zopt -fremap-arrays -fstrip-mining
-fstruct-layout=7 -mllvm -inline-threshold=1000
-mllvm -reduce-array-computations=3 -mllvm -unroll-threshold=50
-mllvm -unroll-threshold=100 -mllvm -loop-unswitch-threshold=200000
-fopenmp -DSPEC_OPENMP -fvirtual-function-elimination
-fvisibility=hidden -lamdalloc -lamdlibm -fopenmp=libomp -lomp

Base Other Flags

C benchmarks:
-Wno-return-type

Benchmarks using both C and C++:
-Wno-return-type

Peak Compiler Invocation

C benchmarks:
clang

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Peak Compiler Invocation (Continued)

C++ benchmarks:
`clang++`

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

Peak Portability Flags

Same as Base Portability Flags

Peak Optimization Flags

C benchmarks:
```
-m64 -std=c18 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3
-Wl,-allow-multiple-definition -Wl,-mllvm -Wl,-extra-inliner -Ofast
-flto -march=znver5 -fveclib=AMDLIBM -ffast-math -zopt
-fremap-arrays -fstrip-mining -fstruct-layout=7
-mllvm -inline-threshold=1000 -mllvm -reduce-array-computations=3
-mllvm -unroll-threshold=50 -fopenmp -DSPEC_OPENMP -lamdalloc
-lamdlibm -fopenmp=libomp -lomp
```

C++ benchmarks:

807.ntest_s: `-m64 -std=c++17`
```
-Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3
-Wl,-mllvm -Wl,-x86-use-vzeroupper=false
```
`-fprofile-instr-generate`(pass 1) `-fprofile-instr-use`(pass 2)
```
-Ofast -flto -march=znver5 -fveclib=AMDLIBM -ffast-math
-zopt -mllvm -reduce-array-computations=3
-mllvm -unroll-threshold=100 -fopenmp -DSPEC_OPENMP
-fvirtual-function-elimination -fvisibility=hidden
-lamdalloc -lamdlibm -fopenmp=libomp -lomp
```

827.cppcheck_s: `Same as 807.ntest_s`

853.ns3_s: `basepeak = yes`

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Peak Optimization Flags (Continued)

Benchmarks using both C and C++:

801.xz_s: basepeak = yes

817.flac_s: basepeak = yes

821.gcc_s: -m64 -std=c++17 -std=c18
-Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3
-Wl,-mllvm -Wl,-x86-use-vzeroupper=false
-fprofile-instr-generate(pass 1) -fprofile-instr-use(pass 2)
-Ofast -flto -march=znver5 -fveclib=AMDLIBM -ffast-math
-zopt -fremap-arrays -fstrip-mining -fstruct-layout=7
-mllvm -inline-threshold=1000
-mllvm -reduce-array-computations=3
-mllvm -unroll-threshold=50 -mllvm -unroll-threshold=100
-fopenmp -DSPEC_OPENMP -fvirtual-function-elimination
-fvisibility=hidden -lamdalloc -lamdlibm -fopenmp=libomp
-lomp

823.llvm_s: Same as 821.gcc_s

829.abc_s: Same as 821.gcc_s

834.vpr_s: Same as 821.gcc_s

835.gem5_s: -m64 -std=c++17 -std=c18
-Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3
-Wl,-mllvm -Wl,-x86-use-vzeroupper=false -Ofast -flto
-march=znver5 -fveclib=AMDLIBM -ffast-math -zopt
-fremap-arrays -fstrip-mining -fstruct-layout=7
-mllvm -inline-threshold=1000
-mllvm -reduce-array-computations=3
-mllvm -unroll-threshold=50 -mllvm -unroll-threshold=100
-fopenmp -DSPEC_OPENMP -fvirtual-function-elimination
-fvisibility=hidden -lamdalloc -lamdlibm -fopenmp=libomp
-lomp

838.diamond_s: Same as 821.gcc_s

846.minizinc_s: basepeak = yes

Peak Other Flags

C benchmarks:
`-Wno-return-type`

Benchmarks using both C and C++:
`-Wno-return-type`

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 2026-09-12 19:50:00-0400.
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