SPEC CPU®2026 Floating Point Speed Result

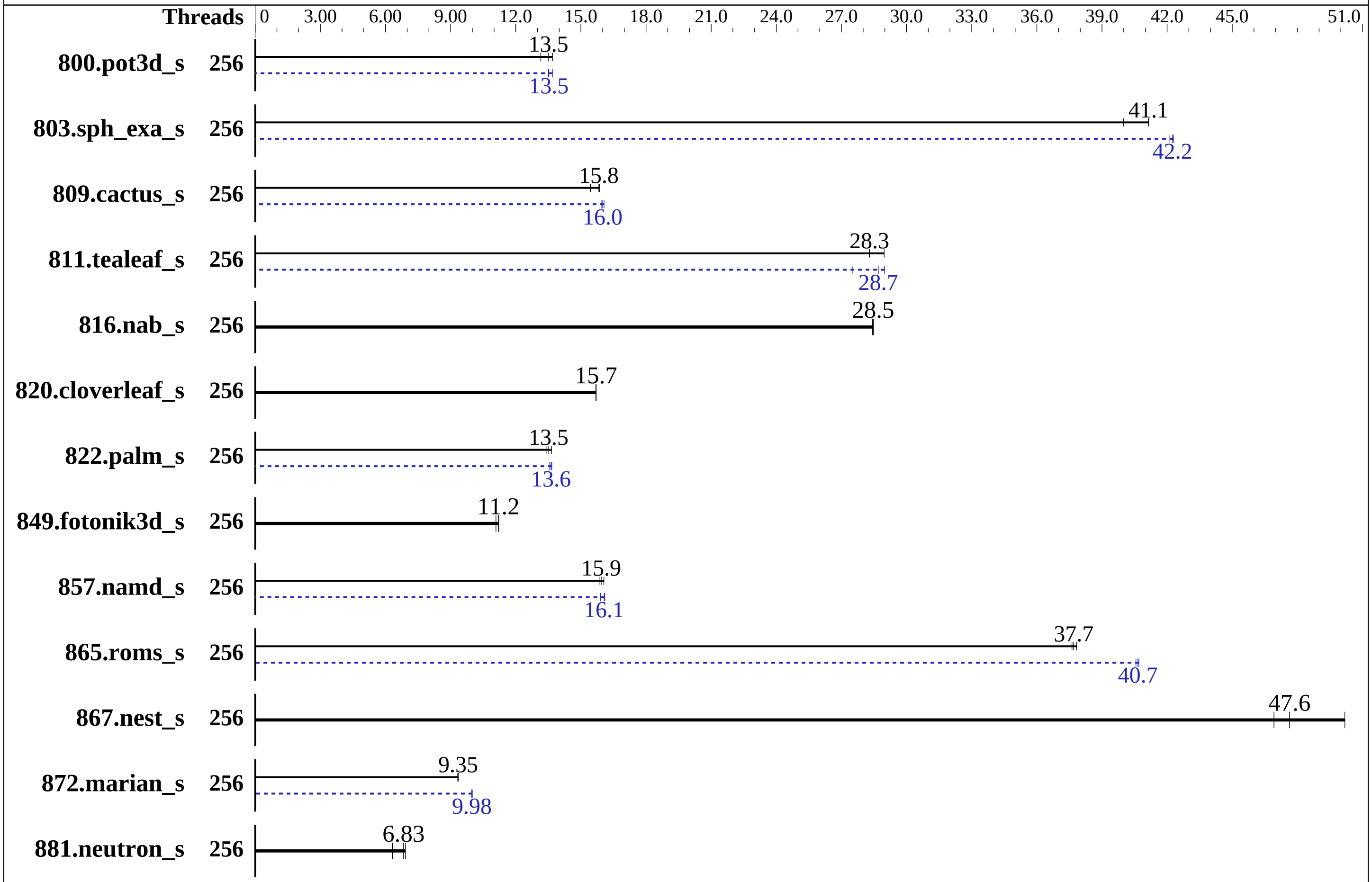
Compal Electronics, Inc.

SR224-2A
AMD EPYC 9755

SPECspeed®2026_fp_base = 18.5

SPECspeed®2026_fp_peak = 18.9

CPU2026 License:	6857	**Test Date:**	Oct-2026
Test Sponsor:	Compal Electronics, Inc.	**Hardware Availability:**	Jul-2025
Tested by:	Compal Electronics, Inc.	**Software Availability:**	May-2026



Hardware

CPU Name:	AMD EPYC 9755
Max MHz:	4100
Nominal:	2700
Enabled:	256 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:	512 MB I+D on chip per chip, 32 MB shared / 8 cores
Other:	None
Memory:	768 GB (24 x 32 GB 2Rx8 PC5-6400B-R)
Storage:	1 x 3.84TB M.2 NVMe SSD
Cooling:	Air
Other:	None

Software

OS:	SUSE Linux Enterprise Server 15 SP7 kernel version 6.4.0-150700.51-default
Compiler:	C/C++: Version 5.2.0 of AOCC Fortran: Flang v22
Compiler Category:	Vendor
Firmware:	American Megatrends Version 10.28.00 released Jan-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

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Results Table

Benchmark	Base							Peak						
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
800.pot3d_s	256	51.2	13.2	49.1	13.7	**49.8**	**13.5**	256	49.9	13.5	49.2	13.7	**49.8**	**13.5**
803.sph_exa_s	256	31.0	40.0	**30.1**	**41.1**	30.1	41.2	256	**29.3**	**42.2**	29.4	42.1	29.3	42.3
809.cactus_s	256	72.7	15.4	**70.9**	**15.8**	70.8	15.9	256	**70.1**	**16.0**	70.4	15.9	69.8	16.1
811.tealeaf_s	256	19.2	29.0	**19.7**	**28.3**	19.7	28.3	256	19.2	29.0	**19.4**	**28.7**	20.2	27.5
816.nab_s	256	39.6	28.4	39.5	28.5	**39.6**	**28.5**	256	39.6	28.4	39.5	28.5	**39.6**	**28.5**
820.cloverleaf_s	256	**54.6**	**15.7**	54.6	15.7	54.6	15.7	256	**54.6**	**15.7**	54.6	15.7	54.6	15.7
822.palm_s	256	91.7	13.4	**90.8**	**13.5**	90.0	13.6	256	89.9	13.7	90.5	13.6	**90.1**	**13.6**
849.fotonik3d_s	256	58.8	11.2	**58.9**	**11.2**	59.5	11.1	256	58.8	11.2	**58.9**	**11.2**	59.5	11.1
857.namd_s	256	90.4	16.1	91.5	15.9	**91.1**	**15.9**	256	91.3	15.9	**90.3**	**16.1**	90.2	16.1
865.roms_s	256	29.0	37.6	28.8	37.8	**28.9**	**37.7**	256	26.8	40.7	**26.8**	**40.7**	26.9	40.6
867.nest_s	256	**45.3**	**47.6**	43.0	50.2	46.0	46.9	256	**45.3**	**47.6**	43.0	50.2	46.0	46.9
872.marian_s	256	**116**	**9.35**	116	9.33	116	9.35	256	**108**	**9.98**	109	9.97	108	10.0
881.neutron_s	256	129	6.32	118	6.92	**119**	**6.83**	256	129	6.32	118	6.92	**119**	**6.83**

SPECspeed®2026_fp_base = **18.5**

SPECspeed®2026_fp_peak = **18.9**

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,
```

(Continued on next page)

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.

To disable Transparent Hugepages (THP) for 816.nab_s,865.roms_s=peak:
'echo never > /sys/kernel/mm/transparent_hugepage/enabled' and
'echo never > /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 = "0-255"
LD_LIBRARY_PATH =
     "/cpu2026/amd_speed_aocc520_znver5_A_lib/lib:/cpu2026/amd_speed_aocc520_
     znver5_A_lib/lib32:"
MALLOC_CONF = "retain:true"
OMP_THREAD_LIMIT = "256"
```

General Notes

Binaries were compiled on a system with an AMD EPYC 9754 CPU + 768 GiB Memory using Ubuntu 24.04

Platform Notes

```
BIOS settings:
 TDP Control: Manual
 TDP: 500
 PPT Control: Manual
 PPT: 500
 NUMA Nodes Per Socket: NPS1
 SMT Control : Disable
 Power Profile Selection : High Performance Mode
 ACPI CST C2 Latency : 18
 DF Cstates: Disabled
 DRAM Scrub Time: Disabled
 Global C-state Control: Disabled
 SVM mode: Disable
 SR-IOV Support: Disable
 GMI folding: Disabled
```

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Platform Notes (Continued)

```
  Prefetch/Request Throttle: Disable
  SMEE: Disable
  Separate CPU power plane throttling: Disable
  Periodic Directory Rinse (PDR) Tuning: Periodic
  Tracking Granularity: Finer-Grain
  ACS Enable: Disabled
  GMI encryption control: Disabled
  xGMI Encryption control: Disabled
  Adaptive Allocation (AA): Enabled
  Latency Under Load (LUL): Enabled
  4-link xGMI max speed: 32Gbps
  3-link xGMI max speed: 32Gbps
 OS setting:
  cpupower: amd-pstate-epp

  Sysinfo program /cpu2026/bin/sysinfo
  Rev: 779ab21020787073335a329f3a45e2cd
  running on localhost Thu Oct  1 13:39:10 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 (254.24+suse.148.g83b9060b6e)
  12. Services, from systemctl list-unit-files
  13. Linux kernel boot-time arguments, from /proc/cmdline
  14. cpupower frequency-info
  15. 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
  ------------------------------------------------------------
```

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Platform Notes (Continued)

```
------------------------------------------------------------
1. uname -srvm
  Linux 6.4.0-150700.51-default #1 SMP PREEMPT_DYNAMIC Wed Apr 30 21:35:43 UTC 2025 (6930611) x86_64

------------------------------------------------------------
2. w
   13:39:10 up 1 min,  2 users,  load average: 0.26, 0.11, 0.04
  USER     TTY      FROM             LOGIN@   IDLE   JCPU   PCPU WHAT
  root     pts/0    192.168.68.2     13:38    6.00s  1.06s  0.14s python3
  ./run_amd_speed_aocc520_znver5_A1.py

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

------------------------------------------------------------
4. ulimit -a
  core file size          (blocks, -c) unlimited
  data seg size           (kbytes, -d) unlimited
  scheduling priority             (-e) 0
  file size               (blocks, -f) unlimited
  pending signals                 (-i) 3091868
  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) 3091868
  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_amd_speed_aocc520_znver5_A1.py
 runcpu --config amd_speed_aocc520_znver5_A1.cfg --tune all --reportable --iterations 3 fpspeed
 runcpu --configfile amd_speed_aocc520_znver5_A1.cfg --tune all --reportable --iterations 3 --nopower
   --runmode speed --tune base:peak --size test:train:refspeed fpspeed --nopreenv --note-preenv --logfile
   $SPEC/tmp/CPU2026.001/templogs/preenv.fpspeed.001.0.log --lognum 001.0 --from_runcpu 2
```

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Platform Notes (Continued)

```
 specperl $SPEC/bin/sysinfo
$SPEC = /cpu2026

------------------------------------------------------------
6. /proc/cpuinfo
    model name      : AMD EPYC 9755 128-Core Processor
    vendor_id       : AuthenticAMD
    cpu family      : 26
    model           : 2
    stepping        : 1
    microcode       : 0xb00215a
    bugs            : sysret_ss_attrs spectre_v1 spectre_v2 spec_store_bypass srso
    TLB size        : 192 4K pages
    cpu cores       : 128
    siblings        : 128
    2 physical ids (chips)
    256 processors (hardware threads)
    physical id 0: core ids
   0-7,16-23,32-39,48-55,64-71,80-87,96-103,112-119,128-135,144-151,160-167,176-183,192-199,208-215,224-231,
    240-247
    physical id 1: core ids
   0-7,16-23,32-39,48-55,64-71,80-87,96-103,112-119,128-135,144-151,160-167,176-183,192-199,208-215,224-231,
    240-247
    physical id 0: apicids
   0-7,16-23,32-39,48-55,64-71,80-87,96-103,112-119,128-135,144-151,160-167,176-183,192-199,208-215,224-231,
    240-247
    physical id 1: apicids
   256-263,272-279,288-295,304-311,320-327,336-343,352-359,368-375,384-391,400-407,416-423,432-439,448-455,4
    64-471,480-487,496-503
  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):                               256
  On-line CPU(s) list:                  0-255
  Vendor ID:                            AuthenticAMD
  Model name:                           AMD EPYC 9755 128-Core Processor
  CPU family:                           26
  Model:                                2
  Thread(s) per core:                   1
```

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Platform Notes (Continued)

```
Core(s) per socket:                128
Socket(s):                         2
Stepping:                          1
CPU(s) scaling MHz:                33%
CPU max MHz:                       4121.0000
CPU min MHz:                       1200.0000
BogoMIPS:                          5391.88
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 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
L1d cache:                         12 MiB (256 instances)
L1i cache:                         8 MiB (256 instances)
L2 cache:                          256 MiB (256 instances)
L3 cache:                          1 GiB (32 instances)
NUMA node(s):                      2
NUMA node0 CPU(s):                 0-127
NUMA node1 CPU(s):                 128-255
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; 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
```

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Software Availability: May-2026

Platform Notes (Continued)

```
                                          disabled; RSB filling; 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       1G   16 Unified         3 32768        1             64

------------------------------------------------------------
8. numactl --hardware
NOTE: a numactl 'node' might or might not correspond to a physical chip.
  available: 2 nodes (0-1)
  node 0 cpus: 0-127
  node 0 size: 386527 MB
  node 0 free: 385532 MB
  node 1 cpus: 128-255
  node 1 size: 386467 MB
  node 1 free: 384014 MB
  node distances:
  node   0   1
    0:  10  32
    1:  32  10

------------------------------------------------------------
9. /proc/meminfo
   MemTotal:       791547080 kB

------------------------------------------------------------
10. who -r
  run-level 3 Oct 1 13:38

------------------------------------------------------------
11. Systemd service manager version: systemd 254 (254.24+suse.148.g83b9060b6e)
  Default Target  Status
  multi-user      running

------------------------------------------------------------
12. Services, from systemctl list-unit-files
  STATE            UNIT FILES
  enabled          ModemManager NetworkManager NetworkManager-dispatcher YaST2-Firstboot YaST2-Second-Stage
                   apparmor appstream-sync-cache auditd bluetooth chronyd 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
                   wpa_supplicant
```

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Platform Notes (Continued)

```
  enabled-runtime  systemd-remount-fs
  disabled         NetworkManager-wait-online accounts-daemon autofs autoyast-initscripts blk-availability
                   bluetooth-mesh boot-sysctl ca-certificates chrony-wait console-getty cups cups-browsed
                   debug-shell dnsmasq ebtables exchange-bmc-os-info firewalld fsidd gpm grub2-once haveged
                   hwloc-dump-hwdata ipmi ipmievd issue-add-ssh-keys kdump kdump-early kdump-notify
                   kexec-load ksm kvm_stat lunmask man-db-create mariadb mariadb@ multipathd munge nfs
                   nfs-blkmap nmb ntp-wait ntpd ostree-remount ostree-state-overlay@ rpcbind rpmconfigcheck
                   rsyncd rtkit-daemon salt-minion samba-bgqd serial-getty@ slurmd smartd_generate_opts smb
                   snmpd snmptrapd speech-dispatcherd svnserve systemd-boot-check-no-failures systemd-confext
                   systemd-network-generator systemd-sysext systemd-time-wait-sync systemd-timesyncd udisks2
                   update-system-flatpaks upower vncserver@ wicked wickedd-auto4 wickedd-dhcp4 wickedd-dhcp6
                   wickedd-nanny wpa_supplicant@ ypbind
  indirect         systemd-userdbd wickedd
  masked           packagekit

------------------------------------------------------------
13. Linux kernel boot-time arguments, from /proc/cmdline
  BOOT_IMAGE=/boot/vmlinuz-6.4.0-150700.51-default
  root=UUID=03f2994f-ee68-4440-b1db-7d3f781cf8b4
  splash=silent
  mitigations=auto
  quiet
  security=apparmor
  crashkernel=380M,high
  crashkernel=72M,low
  amd_pstate=active

------------------------------------------------------------
14. cpupower frequency-info
  analyzing CPU 175:
    current policy: frequency should be within 1.20 GHz and 4.12 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            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
```

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Platform Notes (Continued)

```
  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: /cpu2026
  Filesystem     Type   Size  Used Avail Use% Mounted on
  /dev/nvme0n1p2 btrfs  1.0T   70G  952G   7% /

------------------------------------------------------------
20. /sys/devices/virtual/dmi/id
    Vendor:         COMPAL
    Product:        COMPAL SERVER
    Product Family: COMPAL
    Serial:         7901567500001
```

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Platform Notes (Continued)

```
------------------------------------------------------------
21. dmidecode
  Additional information from dmidecode 3.7 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:
    24x Samsung M321R4GA3EB2-CCPKC 32 GIB 2 rank 6400


------------------------------------------------------------
22. BIOS
(This section combines info from /sys/devices and dmidecode.)
   BIOS Vendor:       American Megatrends International, LLC.
   BIOS Version:      10.28.00
   BIOS Date:         01/29/2026
   BIOS Revision:     5.35
   Firmware Revision: 5.35
```

Compiler Version Notes

```
==============================================================================
C       | 811.tealeaf_s(base, peak) 816.nab_s(base, peak) 881.neutron_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++     | 803.sph_exa_s(base, peak) 857.namd_s(base, peak) 867.nest_s(base,
        | peak) 872.marian_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++, C  | 809.cactus_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
```

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Compal Electronics, Inc.
SR224-2A
AMD EPYC 9755

SPECspeed®2026_fp_base = 18.5
SPECspeed®2026_fp_peak = 18.9

CPU2026 License: 6857
Test Sponsor: Compal Electronics, Inc.
Tested by: Compal Electronics, Inc.
Test Date: Oct-2026
Hardware Availability: Jul-2025
Software Availability: May-2026

Compiler Version Notes (Continued)

```
Thread model: posix
InstalledDir: /opt/AMD/aocc/aocc-compiler-rel-5.2.0-4925-2035/bin
------------------------------------------------------------------------------

==============================================================================
Fortran | 800.pot3d_s(base, peak) 820.cloverleaf_s(base, peak)
        | 822.palm_s(base, peak) 849.fotonik3d_s(base, peak) 865.roms_s(base,
        | peak)
------------------------------------------------------------------------------
flang version 22.1.0-rc2 (https://github.com/llvm/llvm-project
  a47b42eb9f9b302167b4fc413e6c92798d65dd0b)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /opt/llvm/llvm-22.1.0-rc2/install/bin
------------------------------------------------------------------------------
```

Base Compiler Invocation

C benchmarks:
clang

C++ benchmarks:
clang++

Fortran benchmarks:
flang-22

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

Base Portability Flags

800.pot3d_s: -DSPEC_LP64
803.sph_exa_s: -DSPEC_LP64
809.cactus_s: -DSPEC_LP64
811.tealeaf_s: -DSPEC_LP64
816.nab_s: -DSPEC_LP64
820.cloverleaf_s: -DSPEC_LP64
822.palm_s: -DSPEC_LP64
849.fotonik3d_s: -DSPEC_LP64
857.namd_s: -DSPEC_LP64
865.roms_s: -DSPEC_LP64
867.nest_s: -fno-finite-math-only -DSPEC_LP64

(Continued on next page)

Base Portability Flags (Continued)

872.marian_s: -DSPEC_LP64
881.neutron_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 -O3 -flto -march=znver5
-fveclib=AMDLIBM -ffast-math -fremap-arrays -fstrip-mining
-fstruct-layout=7 -mllvm -inline-threshold=1000
-mllvm -reduce-array-computations=3 -mllvm -unroll-threshold=50 -zopt
-mrecip=none -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 -O3 -flto -march=znver5
-fveclib=AMDLIBM -ffast-math -mllvm -unroll-threshold=100
-mllvm -loop-unswitch-threshold=200000
-mllvm -reduce-array-computations=3 -zopt -fopenmp -DSPEC_OPENMP
-pthread -lamdalloc -lamdlibm -fopenmp=libomp -lomp

Fortran benchmarks:
-m64 -std=f2018 -O3 -flto -march=znver5 -fveclib=AMDLIBM
-ffast-math -funroll-loops -DSPEC_OPENMP -fopenmp
-fdo-concurrent-to-openmp=host -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 -O3 -flto -march=znver5
-fveclib=AMDLIBM -ffast-math -fremap-arrays -fstrip-mining
-fstruct-layout=7 -mllvm -inline-threshold=1000
-mllvm -reduce-array-computations=3 -mllvm -unroll-threshold=50 -zopt
-mllvm -unroll-threshold=100 -mllvm -loop-unswitch-threshold=200000
-mrecip=none -fopenmp -DSPEC_OPENMP -pthread -lamdalloc -lamdlibm
-fopenmp=libomp -lomp

Base Other Flags

C benchmarks:
-Wno-return-type -Wno-unused-command-line-argument

(Continued on next page)

Base Other Flags (Continued)

Benchmarks using both C and C++:
-Wno-return-type -Wno-unused-command-line-argument

Peak Compiler Invocation

C benchmarks:
clang

C++ benchmarks:
clang++

Fortran benchmarks:
flang-22

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

Peak Portability Flags

Same as Base Portability Flags

Peak Optimization Flags

C benchmarks:

811.tealeaf_s: -m64 -std=c18
-Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3 -O3 -flto
-march=znver5 -fveclib=AMDLIBM -ffast-math
-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

816.nab_s: basepeak = yes

(Continued on next page)

Peak Optimization Flags (Continued)

881.neutron_s: basepeak = yes

C++ benchmarks:

803.sph_exa_s: -m64 -std=c++17
-Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3
-fprofile-instr-generate(pass 1)
-fprofile-instr-use(pass 2) -O3 -flto -march=znver5
-fveclib=AMDLIBM -ffast-math
-mllvm -reduce-array-computations=3
-mllvm -unroll-threshold=100 -fopenmp -DSPEC_OPENMP
-pthread -lamdalloc -lamdlibm -fopenmp=libomp -lomp

857.namd_s: Same as 803.sph_exa_s

867.nest_s: basepeak = yes

872.marian_s: Same as 803.sph_exa_s

Fortran benchmarks:

800.pot3d_s: -m64 -std=f2018 -O3 -flto -march=znver5
-fveclib=AMDLIBM -ffast-math -funroll-loops
-DSPEC_OPENMP -fopenmp -fdo-concurrent-to-openmp=host
-lamdalloc -lamdlibm -fopenmp=libomp -lomp

820.cloverleaf_s: basepeak = yes

822.palm_s: Same as 800.pot3d_s

849.fotonik3d_s: basepeak = yes

865.roms_s: Same as 800.pot3d_s

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 -flto -march=znver5
-fveclib=AMDLIBM -ffast-math -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 -pthread
-lamdalloc -lamdlibm -fopenmp=libomp -lomp

Peak Other Flags

C benchmarks (except as noted below):
`-Wno-return-type -Wno-unused-command-line-argument`

811.tealeaf_s: `-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/Compal-Platform-Flags-Linux-AMD_V1.12.html
http://www.spec.org/cpu2026/results/flags/aocc-flags.2026-10-07.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2026/results/flags/Compal-Platform-Flags-Linux-AMD_V1.12.xml
http://www.spec.org/cpu2026/results/flags/aocc-flags.2026-10-07.xml

Tested with SPEC CPU®2026 v1.0.1 on 2026-10-01 01:39:10-0400.
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