SPEC CPU®2026 Floating Point Speed Result

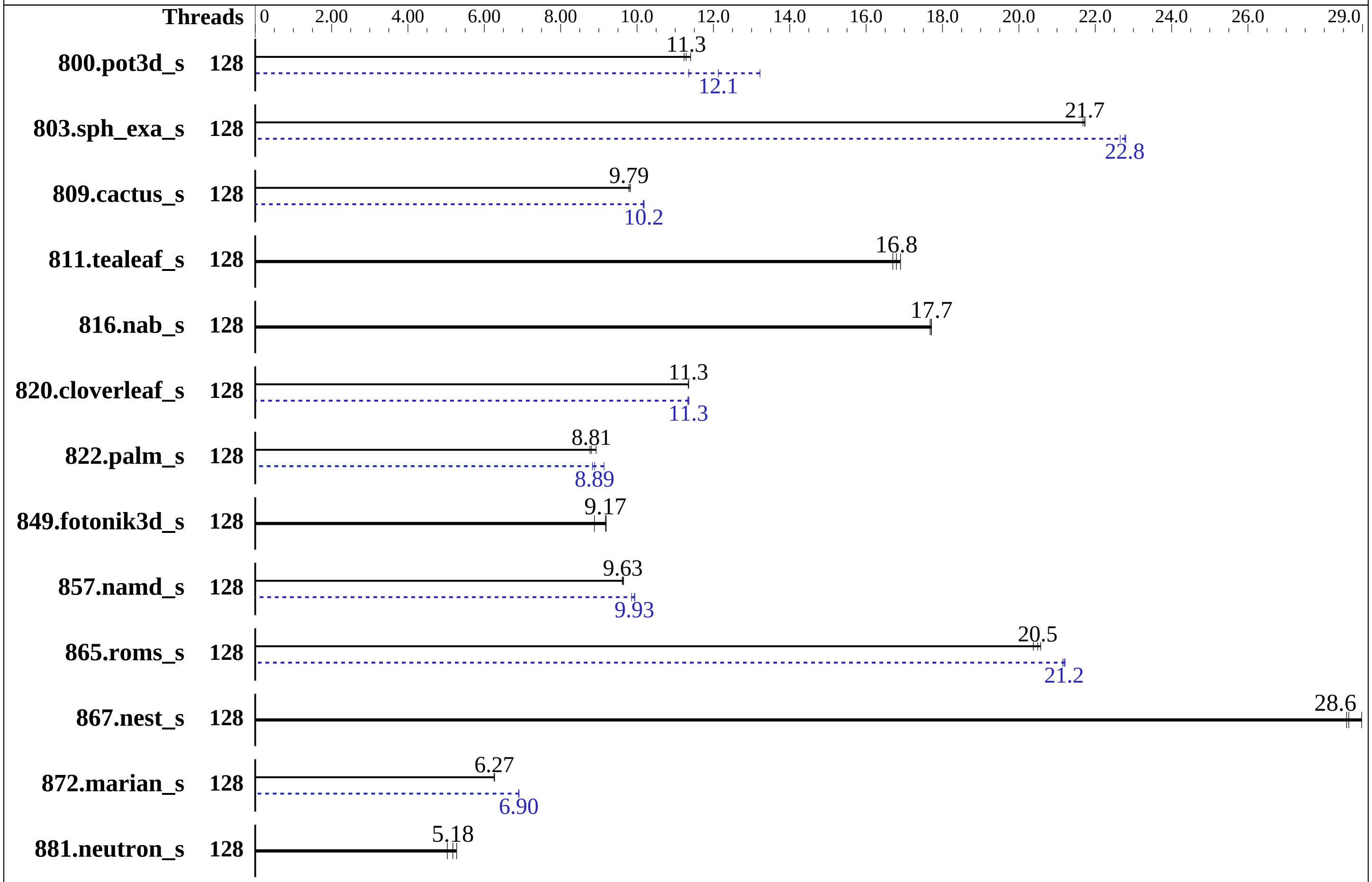
Esconet Technologies Ltd.

Hexadata HD-RS4000 Ver:TUR-02/10G
(AMD EPYC 9554 64-Core Processor)

SPECspeed®2026_fp_base = 12.1

SPECspeed®2026_fp_peak = 12.4

CPU2026 License:	7385	**Test Date:**	Sep-2026
Test Sponsor:	Esconet Technologies Ltd.	**Hardware Availability:**	Feb-2026
Tested by:	Esconet Technologies Ltd.	**Software Availability:**	May-2026



Hardware

CPU Name:	AMD EPYC 9554
Max MHz:	3750
Nominal:	3100
Enabled:	128 cores, 2 chips, 2 threads/core
Orderable:	1,2 chips
Cache L1:	32 KB I + 32 KB D on chip per core
L2:	1 MB I+D on chip per core
L3:	256 MB I+D on chip per chip, 32 MB shared / 8 cores
Other:	None
Memory:	1536 GB (24 x 64 GB 2Rx4 PC5-5600B-R, running at 4800)
Storage:	1 x 500 GB M.2 SSD
Cooling:	Air
Other:	None

Software

OS:	SUSE Linux Enterprise Server 15 SP6 6.4.0-150600.21-default
Compiler:	C/C++: Version 5.2.0 of AOCC Fortran: Flang v22
Compiler Category:	Vendor
Firmware:	Version 11.04.HD01 released Feb-2026
File System:	btrfs
System State:	Run level 3 (multi-user)
Base Pointers:	64-bit
Peak Pointers:	64-bit
Other:	None
Power Management:	OS set to prefer performance at the cost of additional power usage.

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Results Table

	Base							Peak						
Benchmark	**Threads**	**Seconds**	**Ratio**	**Seconds**	**Ratio**	**Seconds**	**Ratio**	**Threads**	**Seconds**	**Ratio**	**Seconds**	**Ratio**	**Seconds**	**Ratio**
800.pot3d_s	128	**59.6**	**11.3**	59.9	11.2	59.0	11.4	128	50.9	13.2	**55.5**	**12.1**	59.3	11.4
803.sph_exa_s	128	57.1	21.7	57.0	21.7	**57.0**	**21.7**	128	54.6	22.7	**54.4**	**22.8**	54.3	22.8
809.cactus_s	128	115	9.79	**115**	**9.79**	114	9.83	128	**110**	**10.2**	110	10.2	110	10.2
811.tealeaf_s	128	33.0	16.9	**33.2**	**16.8**	33.4	16.7	128	33.0	16.9	**33.2**	**16.8**	33.4	16.7
816.nab_s	128	63.7	17.7	**63.6**	**17.7**	63.6	17.7	128	63.7	17.7	**63.6**	**17.7**	63.6	17.7
820.cloverleaf_s	128	75.5	11.4	**75.5**	**11.3**	75.6	11.3	128	75.6	11.3	75.5	11.4	**75.5**	**11.3**
822.palm_s	128	138	8.93	140	8.77	**139**	**8.81**	128	134	9.14	**138**	**8.89**	139	8.83
849.fotonik3d_s	128	74.3	8.88	**72.0**	**9.17**	71.8	9.19	128	74.3	8.88	**72.0**	**9.17**	71.8	9.19
857.namd_s	128	**151**	**9.63**	151	9.65	151	9.61	128	146	9.94	**146**	**9.93**	147	9.86
865.roms_s	128	53.0	20.6	**53.2**	**20.5**	53.5	20.4	128	51.5	21.2	**51.5**	**21.2**	51.4	21.2
867.nest_s	128	75.6	28.6	**75.4**	**28.6**	74.5	29.0	128	75.6	28.6	**75.4**	**28.6**	74.5	29.0
872.marian_s	128	**173**	**6.27**	173	6.26	173	6.27	128	**157**	**6.90**	157	6.91	157	6.90
881.neutron_s	128	**157**	**5.18**	162	5.03	155	5.27	128	**157**	**5.18**	162	5.03	155	5.27

SPECspeed®2026_fp_base = 12.1

SPECspeed®2026_fp_peak = 12.4

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.

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 =
     "/root/cpu2026/amd_speed_aocc520_znver5_A_lib/lib:/root/cpu2026/amd_spee
     d_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:
              Default

 Sysinfo program /root/cpu2026/bin/sysinfo
 Rev: 779ab21020787073335a329f3a45e2cd
 running on localhost Sat Sep 26 18:23:01 2026

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

 ------------------------------------------------------------
 Table of contents
 ------------------------------------------------------------
  1. uname -srvm
  2. w
```

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Platform Notes (Continued)

```
  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 (254.10+suse.84.ge8d77af424)
 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 6.4.0-150600.21-default #1 SMP PREEMPT_DYNAMIC Thu May 16 11:09:22 UTC 2024 (36c1e09) x86_64

------------------------------------------------------------
2. w
   18:23:01 up  5:52,  1 user,  load average: 54.66, 51.86, 37.65
  USER     TTY      FROM             LOGIN@   IDLE   JCPU   PCPU WHAT
  root     tty1     -                10Jul26 77days 29.06s 27.62s python3.11
  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) 6189004
  max locked memory       (kbytes, -l) 2048
  max memory size         (kbytes, -m) unlimited
```

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Platform Notes (Continued)

```
    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) 6189004
    virtual memory            (kbytes, -v) unlimited
    file locks                        (-x) unlimited

  ------------------------------------------------------------
  5. sysinfo process ancestry
   /usr/lib/systemd/systemd --switched-root --system --deserialize=31
   login -- root
   -bash
   python3.11 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/CPU2026.002/templogs/preenv.fpspeed.002.0.log --lognum 002.0 --from_runcpu 2
   specperl $SPEC/bin/sysinfo
  $SPEC = /root/cpu2026

  ------------------------------------------------------------
  6. /proc/cpuinfo
      model name       : AMD EPYC 9554 64-Core Processor
      vendor_id        : AuthenticAMD
      cpu family       : 25
      model            : 17
      stepping         : 1
      microcode        : 0xa101148
      bugs             : sysret_ss_attrs spectre_v1 spectre_v2 spec_store_bypass srso
      TLB size         : 3584 4K pages
      cpu cores        : 64
      siblings         : 128
      2 physical ids (chips)
      256 processors (hardware threads)
      physical id 0: core ids 0-63
      physical id 1: core ids 0-63
      physical id 0: apicids 0-127
      physical id 1: apicids 128-255
    Caution: /proc/cpuinfo data regarding chips, cores, and threads is not necessarily reliable, especially for
    virtualized systems.  Use the above data carefully.

  ------------------------------------------------------------
  7. lscpu
```

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Platform Notes (Continued)

```
From lscpu from util-linux 2.39.3:
  Architecture:                    x86_64
  CPU op-mode(s):                  32-bit, 64-bit
  Address sizes:                   52 bits physical, 57 bits virtual
  Byte Order:                      Little Endian
  CPU(s):                          256
  On-line CPU(s) list:             0-255
  Vendor ID:                       AuthenticAMD
  BIOS Vendor ID:                  Advanced Micro Devices, Inc.
  Model name:                      AMD EPYC 9554 64-Core Processor
  BIOS Model name:                 AMD EPYC 9554 64-Core Processor                Unknown CPU @ 3.1GHz
  BIOS CPU family:                 107
  CPU family:                      25
  Model:                           17
  Thread(s) per core:              2
  Core(s) per socket:              64
  Socket(s):                       2
  Stepping:                        1
  Frequency boost:                 enabled
  CPU(s) scaling MHz:              83%
  CPU max MHz:                     3762.9880
  CPU min MHz:                     1500.0000
  BogoMIPS:                        6199.96
  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 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 avx512_bf16 clzero irperf xsaveerptr rdpru wbnoinvd
                                   amd_ppin cppc arat npt lbrv svm_lock nrip_save tsc_scale vmcb_clean
                                   flushbyasid decodeassists pausefilter pfthreshold avic
                                   v_vmsave_vmload vgif x2avic v_spec_ctrl vnmi avx512vbmi umip pku
                                   ospke avx512_vbmi2 gfni vaes vpclmulqdq avx512_vnni avx512_bitalg
                                   avx512_vpopcntdq la57 rdpid overflow_recov succor smca fsrm flush_l1d
                                   debug_swap
  Virtualization:                  AMD-V
  L1d cache:                       4 MiB (128 instances)
  L1i cache:                       4 MiB (128 instances)
  L2 cache:                        128 MiB (128 instances)
  L3 cache:                        512 MiB (16 instances)
```

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Platform Notes (Continued)

```
  NUMA node(s):                      2
  NUMA node0 CPU(s):                 0-63,128-191
  NUMA node1 CPU(s):                 64-127,192-255
  Vulnerability Gather data sampling:  Not affected
  Vulnerability Itlb multihit:         Not affected
  Vulnerability L1tf:                  Not affected
  Vulnerability Mds:                   Not affected
  Vulnerability Meltdown:              Not affected
  Vulnerability Mmio stale data:       Not affected
  Vulnerability Reg file data sampling: Not affected
  Vulnerability Retbleed:              Not affected
  Vulnerability Spec rstack overflow:  Mitigation; Safe RET
  Vulnerability Spec store bypass:     Mitigation; Speculative Store Bypass disabled via prctl
  Vulnerability Spectre v1:            Mitigation; usercopy/swapgs barriers and __user pointer sanitization
  Vulnerability Spectre v2:            Mitigation; Enhanced / Automatic IBRS; IBPB conditional; STIBP
                                       always-on; RSB filling; 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       32K       4M    8 Data            1    64        1             64
     L1i       32K       4M    8 Instruction     1    64        1             64
     L2         1M     128M    8 Unified         2  2048        1             64
     L3        32M     512M   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: 0-63,128-191
  node 0 size: 773668 MB
  node 0 free: 771361 MB
  node 1 cpus: 64-127,192-255
  node 1 size: 773607 MB
  node 1 free: 771372 MB
  node distances:
  node   0   1
    0:  10  32
    1:  32  10

------------------------------------------------------------
9. /proc/meminfo
   MemTotal:       1584411052 kB

------------------------------------------------------------
10. who -r
```

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Platform Notes (Continued)

```
  run-level 3 Jul 10 22:21

------------------------------------------------------------
11. Systemd service manager version: systemd 254 (254.10+suse.84.ge8d77af424)
  Default Target  Status
  multi-user      running

------------------------------------------------------------
12. Services, from systemctl list-unit-files
  STATE             UNIT FILES
  enabled           apparmor auditd cron firewalld getty@ irqbalance issue-generator kbdsettings kdump
                    kdump-early kdump-notify nvmefc-boot-connections nvmf-autoconnect postfix purge-kernels
                    rollback sshd systemd-pstore wicked wickedd-auto4 wickedd-dhcp4 wickedd-dhcp6
                    wickedd-nanny
  enabled-runtime   systemd-remount-fs
  disabled          boot-sysctl ca-certificates chrony-wait chronyd console-getty debug-shell ebtables fsidd
                    grub2-once haveged hwloc-dump-hwdata issue-add-ssh-keys kexec-load lunmask nfs nfs-blkmap
                    rpcbind rpmconfigcheck serial-getty@ systemd-boot-check-no-failures systemd-confext
                    systemd-network-generator systemd-sysext systemd-time-wait-sync systemd-timesyncd tuned
  indirect          systemd-userdbd wickedd

------------------------------------------------------------
13. Linux kernel boot-time arguments, from /proc/cmdline
  BOOT_IMAGE=/boot/vmlinuz-6.4.0-150600.21-default
  root=UUID=a9f42cc9-bff7-45f3-9acc-353a5217934b
  splash=silent
  mitigations=auto
  quiet
  security=apparmor
  crashkernel=383M,high
  crashkernel=72M,low

------------------------------------------------------------
14. cpupower frequency-info
  analyzing CPU 74:
    current policy: frequency should be within 1.50 GHz and 3.10 GHz.
                    The governor "performance" may decide which speed to use
                    within this range.
    boost state support:
      Supported: yes
      Active: yes

------------------------------------------------------------
15. tuned-adm active
  It seems that tuned daemon is not running, preset profile is not activated.
  Preset profile: throughput-performance
```

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Platform Notes (Continued)

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

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

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

------------------------------------------------------------
19. OS release
  From /etc/*-release /etc/*-version
  os-release SUSE Linux Enterprise Server 15 SP6

------------------------------------------------------------
20. Disk information
SPEC is set to: /root/cpu2026
```

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Platform Notes (Continued)

```
  Filesystem     Type   Size  Used Avail Use% Mounted on
  /dev/nvme0n1p2 btrfs  464G   25G  436G   6% /root

------------------------------------------------------------
21. /sys/devices/virtual/dmi/id
    Vendor:         HexaData
    Product:        HD-RS4000
    Serial:         HDS20260998

------------------------------------------------------------
22. dmidecode
  Additional information from dmidecode 3.4 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 M321R8GA0PB0-CWMCJ 64 GB 2 rank 5600, configured at 4800


------------------------------------------------------------
23. BIOS
(This section combines info from /sys/devices and dmidecode.)
   BIOS Vendor:       HexaData
   BIOS Version:      11.04.HD01
   BIOS Date:         02/09/2026
   BIOS Revision:     5.27
```

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
```

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Compiler Version Notes (Continued)

```
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
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`

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Base Portability Flags (Continued)

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
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

(Continued on next page)

Base Optimization Flags (Continued)

Benchmarks using both C and C++ (continued):
-fopenmp=libomp -lomp

Base Other Flags

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

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: basepeak = yes

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: `Same as 800.pot3d_s`

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

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/aocc520-flags.html
http://www.spec.org/cpu2026/results/flags/HexaData-Platform-Settings-V1.2-Genoa-revA.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2026/results/flags/aocc520-flags.xml
http://www.spec.org/cpu2026/results/flags/HexaData-Platform-Settings-V1.2-Genoa-revA.xml

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