# SPEC CPU®2017 Integer Speed Result

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## Dell Inc.

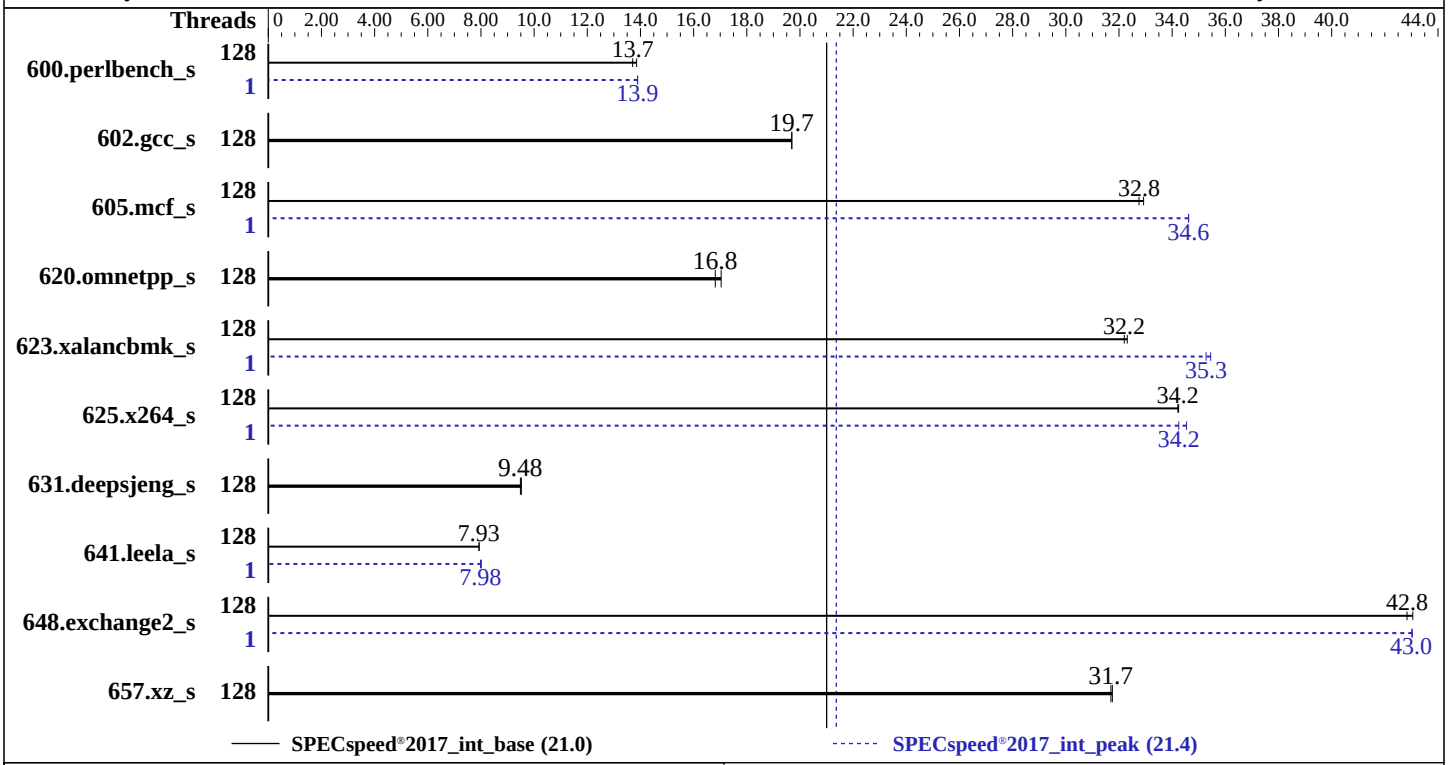
PowerEdge R7725 (AMD EPYC 9575F 64-Core Processor)

SPECspeed®2017_int_base = 21.0

SPECspeed®2017_int_peak = 21.4

**CPU2017 License:** 6573
**Test Sponsor:** Dell Inc.
**Tested by:** Dell Inc.

**Test Date:** Nov-2025
**Hardware Availability:** Nov-2025
**Software Availability:** Jun-2025




## Hardware

| | |
|---|---|
| CPU Name: | AMD EPYC 9575F |
| Max MHz: | 5000 |
| Nominal: | 3300 |
| Enabled: | 128 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 / 8 cores |
| Other: | None |
| Memory: | 1536 GB (24 x 64 GB 2Rx4 PC5-6400B-R) |
| Storage: | 130 GB on tmpfs |
| Other: | CPU Cooling: Air |

## Software

| | |
|---|---|
| OS: | Ubuntu 24.04.2 LTS 6.8.0-62-generic |
| Compiler: | C/C++/Fortran: Version 5.0.0 of AOCC |
| Parallel: | Yes |
| Firmware: | Version 1.4.1 released Aug-2025 |
| File System: | tmpfs |
| System State: | Run level 5 (graphical 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 |
| 600.perlbench_s | 128 | **129** | **13.7** | 128 | 13.9 | | | 1 | **128** | **13.9** | 128 | 13.9 | | |
| 602.gcc_s | 128 | 202 | 19.7 | **202** | **19.7** | | | 128 | 202 | 19.7 | **202** | **19.7** | | |
| 605.mcf_s | 128 | **144** | **32.8** | 143 | 32.9 | | | 1 | 136 | 34.6 | **136** | **34.6** | | |
| 620.omnetpp_s | 128 | 95.7 | 17.0 | **97.0** | **16.8** | | | 128 | 95.7 | 17.0 | **97.0** | **16.8** | | |
| 623.xalancbmk_s | 128 | 43.9 | 32.3 | **44.0** | **32.2** | | | 1 | **40.2** | **35.3** | 40.0 | 35.4 | | |
| 625.x264_s | 128 | **51.6** | **34.2** | 51.5 | 34.2 | | | 1 | 51.1 | 34.5 | **51.5** | **34.2** | | |
| 631.deepsjeng_s | 128 | 151 | 9.52 | **151** | **9.48** | | | 128 | 151 | 9.52 | **151** | **9.48** | | |
| 641.leela_s | 128 | 215 | 7.93 | **215** | **7.93** | | | 1 | 213 | 8.02 | **214** | **7.98** | | |
| 648.exchange2_s | 128 | 68.3 | 43.1 | **68.6** | **42.8** | | | 1 | **68.3** | **43.0** | 68.3 | 43.0 | | |
| 657.xz_s | 128 | 195 | 31.8 | **195** | **31.7** | | | 128 | 195 | 31.8 | **195** | **31.7** | | |

**SPECspeed®2017_int_base = 21.0**

**SPECspeed®2017_int_peak = 21.4**

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/
```

## 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.
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' 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 =
     "/mnt/ramdisk/cpu2017-1.1.9-aocc500-znerv5_A1.4/amd_speed_aocc500_znver5_A_lib/lib:/mnt/ramdisk/cpu201
     7-1.1.9-aocc500-znerv5_A1.4/amd_speed_aocc500_znver5_A_lib/lib32:"
LIBOMP_NUM_HIDDEN_HELPER_THREADS = "0"
MALLOC_CONF = "retain:true"
OMP_DYNAMIC = "false"
OMP_SCHEDULE = "static"
OMP_STACKSIZE = "128M"
OMP_THREAD_LIMIT = "256"

Environment variables set by runcpu during the 600.perlbench_s peak run:
GOMP_CPU_AFFINITY = "15"

Environment variables set by runcpu during the 605.mcf_s peak run:
GOMP_CPU_AFFINITY = "15"

Environment variables set by runcpu during the 623.xalancbmk_s peak run:
GOMP_CPU_AFFINITY = "15"

Environment variables set by runcpu during the 625.x264_s peak run:
GOMP_CPU_AFFINITY = "15"

Environment variables set by runcpu during the 641.leela_s peak run:
GOMP_CPU_AFFINITY = "15"

Environment variables set by runcpu during the 648.exchange2_s peak run:
GOMP_CPU_AFFINITY = "15"
```

## General Notes

```
Binaries were compiled on a system with 2x AMD EPYC 9D64 CPU + 500GiB Memory using Ubuntu 22.04

 Benchmark run from a 130 GB ramdisk created with the cmd: "mount -t tmpfs -o size=130G tmpfs /mnt/ramdisk"
```

## Platform Notes

```
 BIOS Settings:
            Virtualization Technology : Disabled
                NUMA Nodes Per Socket : 4

                        System Profile : Custom
                               C-States : Disabled
                  Memory Patrol Scrub : Disabled
    PCI ASPM L1 Link Power Management : Disabled
      Periodic Directory Rinse Tuning : Blended
                  Determinism Control : Manual
                   Determinism Slider : Power Determinism
                       Optimizer Mode : Enabled
  Algorithm Performance Boost Disable : Enabled
                  Adaptive Allocation : Enabled
                   Dram Refresh Delay : Performance
                  DIMM Self Healing -
        on Uncorrectable Memory Error : Disabled
```

**(Continued on next page)**

## Platform Notes (Continued)

```
Sysinfo program /mnt/ramdisk/cpu2017-1.1.9-aocc500-znerv5_A1.4/bin/sysinfo
Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197
running on SLR7726-R7725 Tue Nov  4 09:02:25 2025

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

------------------------------------------------------------
Table of contents
------------------------------------------------------------
 1. uname -a
 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 255 (255.4-1ubuntu8.8)
12. Failed units, from systemctl list-units --state=failed
13. Services, from systemctl list-unit-files
14. Linux kernel boot-time arguments, from /proc/cmdline
15. cpupower frequency-info
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 -a
  Linux SLR7726-R7725 6.8.0-62-generic #65-Ubuntu SMP PREEMPT_DYNAMIC Mon May 19 17:15:03 UTC 2025 x86_64
  x86_64 x86_64 GNU/Linux

------------------------------------------------------------
2. w
   09:02:25 up 3 min,  1 user,  load average: 0.26, 0.09, 0.03
  USER     TTY      FROM             LOGIN@   IDLE   JCPU   PCPU  WHAT
  root     tty1     -                08:59   49.00s  1.24s  0.34s /bin/bash ./amd_speed_aocc500_znver5_A1.sh

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

------------------------------------------------------------
4. ulimit -a
  time(seconds)        unlimited
  file(blocks)         unlimited
  data(kbytes)         unlimited
  stack(kbytes)        unlimited
  coredump(blocks)     0
  memory(kbytes)       unlimited
  locked memory(kbytes) 2097152
  process              6189188
  nofiles              1024
```

(Continued on next page)

## Platform Notes (Continued)

```
   vmemory(kbytes)      unlimited
   locks                unlimited
   rtprio               0

------------------------------------------------------------
5. sysinfo process ancestry
 /sbin/init splash
 /bin/login -p --
 -bash
 /bin/bash /home/DellFiles/bin/DELL_speed.sh
 /bin/bash /home/DellFiles/bin/dell-run-main.sh speed
 /bin/bash /home/DellFiles/bin/dell-run-main.sh speed
 /bin/bash /home/DellFiles/bin/AMD/dell-run-speccpu.sh speed --define DL-VERS=6.3b --output_format
   html,pdf,txt
 python3 ./run_amd_speed_aocc500_znver5_A1.py
 /bin/bash ./amd_speed_aocc500_znver5_A1.sh
 runcpu --config amd_speed_aocc500_znver5_A1.cfg --tune all --reportable --iterations 2 --define DL-VERS=6.3b
   --output_format html,pdf,txt intspeed
 runcpu --configfile amd_speed_aocc500_znver5_A1.cfg --tune all --reportable --iterations 2 --define
   DL-VERS=6.3b --output_format html,pdf,txt --nopower --runmode speed --tune base:peak --size
   test:train:refspeed intspeed --nopreenv --note-preenv --logfile
   $SPEC/tmp/CPU2017.001/templogs/preenv.intspeed.001.0.log --lognum 001.0 --from_runcpu 2
 specperl $SPEC/bin/sysinfo
$SPEC = /mnt/ramdisk/cpu2017-1.1.9-aocc500-znerv5_A1.4

------------------------------------------------------------
6. /proc/cpuinfo
    model name      : AMD EPYC 9575F 64-Core Processor
    vendor_id       : AuthenticAMD
    cpu family      : 26
    model           : 2
    stepping        : 1
    microcode       : 0xb002152
    bugs            : sysret_ss_attrs spectre_v1 spectre_v2 spec_store_bypass
    TLB size        : 192 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

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:                       AMD
  Model name:                           AMD EPYC 9575F 64-Core Processor
  BIOS Model name:                      AMD EPYC 9575F 64-Core Processor                CPU @ 3.3GHz
```

(Continued on next page)

## Platform Notes (Continued)

```
BIOS CPU family:                  107
CPU family:                       26
Model:                            2
Thread(s) per core:               2
Core(s) per socket:               64
Socket(s):                        2
Stepping:                         1
Frequency boost:                  enabled
CPU(s) scaling MHz:               27%
CPU max MHz:                      5008.0000
CPU min MHz:                      1200.0000
BogoMIPS:                         6591.04
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 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 avx512_vp2intersect
                                  flush_l1d debug_swap
L1d cache:                        6 MiB (128 instances)
L1i cache:                        4 MiB (128 instances)
L2 cache:                         128 MiB (128 instances)
L3 cache:                         512 MiB (16 instances)
NUMA node(s):                     8
NUMA node0 CPU(s):                0-15,128-143
NUMA node1 CPU(s):                16-31,144-159
NUMA node2 CPU(s):                32-47,160-175
NUMA node3 CPU(s):                48-63,176-191
NUMA node4 CPU(s):                64-79,192-207
NUMA node5 CPU(s):                80-95,208-223
NUMA node6 CPU(s):                96-111,224-239
NUMA node7 CPU(s):                112-127,240-255
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:   Not affected
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
```

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## Platform Notes (Continued)

```
From lscpu --cache:
     NAME ONE-SIZE ALL-SIZE WAYS TYPE        LEVEL  SETS PHY-LINE COHERENCY-SIZE
     L1d       48K       6M   12 Data            1    64        1             64
     L1i       32K       4M    8 Instruction     1    64        1             64
     L2         1M     128M   16 Unified         2  1024        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: 8 nodes (0-7)
  node 0 cpus: 0-15,128-143
  node 0 size: 192813 MB
  node 0 free: 191980 MB
  node 1 cpus: 16-31,144-159
  node 1 size: 193479 MB
  node 1 free: 193019 MB
  node 2 cpus: 32-47,160-175
  node 2 size: 193522 MB
  node 2 free: 193145 MB
  node 3 cpus: 48-63,176-191
  node 3 size: 193506 MB
  node 3 free: 193066 MB
  node 4 cpus: 64-79,192-207
  node 4 size: 193522 MB
  node 4 free: 193150 MB
  node 5 cpus: 80-95,208-223
  node 5 size: 193522 MB
  node 5 free: 188107 MB
  node 6 cpus: 96-111,224-239
  node 6 size: 193522 MB
  node 6 free: 193151 MB
  node 7 cpus: 112-127,240-255
  node 7 size: 193483 MB
  node 7 free: 193063 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:       1584511812 kB

------------------------------------------------------------
10. who -r
  run-level 5 Nov 4 08:59

------------------------------------------------------------
11. Systemd service manager version: systemd 255 (255.4-1ubuntu8.8)
  Default Target  Status
  graphical       degraded
```

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## Platform Notes (Continued)

```
------------------------------------------------------------
12. Failed units, from systemctl list-units --state=failed
    UNIT            LOAD   ACTIVE SUB    DESCRIPTION
  * pwrcoll.service loaded failed failed Power Daemon
  Legend: LOAD   -> Reflects whether the unit definition was properly loaded.
          ACTIVE -> The high-level unit activation state, i.e. generalization of SUB.
          SUB    -> The low-level unit activation state, values depend on unit type.
  1 loaded units listed.

------------------------------------------------------------
13. Services, from systemctl list-unit-files
  STATE            UNIT FILES
  enabled          ModemManager apparmor apport avahi-daemon blk-availability cloud-config cloud-final
                   cloud-init cloud-init-local console-setup cron e2scrub_reap finalrd getty@ gpu-manager
                   grub-common grub-initrd-fallback keyboard-setup lm-sensors lvm2-monitor multipathd
                   networkd-dispatcher open-iscsi pollinate pwrcoll secureboot-db setvtrgb ssh
                   systemd-networkd systemd-networkd-wait-online systemd-pstore systemd-resolved
                   systemd-timesyncd thermald udisks2 ufw wpa_supplicant
  enabled-runtime  netplan-ovs-cleanup systemd-fsck-root systemd-remount-fs
  disabled         console-getty debug-shell ipmievd iscsid nftables powertop rtkit-daemon serial-getty@
                   systemd-boot-check-no-failures systemd-confext systemd-network-generator
                   systemd-networkd-wait-online@ systemd-pcrlock-file-system systemd-pcrlock-firmware-code
                   systemd-pcrlock-firmware-config systemd-pcrlock-machine-id systemd-pcrlock-make-policy
                   systemd-pcrlock-secureboot-authority systemd-pcrlock-secureboot-policy systemd-sysext
                   systemd-time-wait-sync upower wpa_supplicant-nl80211@ wpa_supplicant-wired@
                   wpa_supplicant@
  generated        cpufrequtils loadcpufreq openipmi
  indirect         systemd-sysupdate systemd-sysupdate-reboot
  masked           cryptdisks cryptdisks-early hwclock multipath-tools-boot screen-cleanup sudo x11-common

------------------------------------------------------------
14. Linux kernel boot-time arguments, from /proc/cmdline
  BOOT_IMAGE=/boot/vmlinuz-6.8.0-62-generic
  root=UUID=24c22b24-b79c-4fae-9365-376646cd2341
  ro
  quiet
  splash
  amd_pstate=passive
  vt.handoff=7

------------------------------------------------------------
15. cpupower frequency-info
  analyzing CPU 108:
    current policy: frequency should be within 1.20 GHz and 5.01 GHz.
                    The governor "ondemand" may decide which speed to use
                    within this range.
    boost state support:
      Supported: yes
      Active: yes

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

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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

------------------------------------------------------------
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 Ubuntu 24.04.2 LTS

------------------------------------------------------------
20. Disk information
SPEC is set to: /mnt/ramdisk/cpu2017-1.1.9-aocc500-znerv5_A1.4
  Filesystem     Type   Size  Used Avail Use% Mounted on
  tmpfs          tmpfs  130G  3.3G  127G   3% /mnt/ramdisk

------------------------------------------------------------
21. /sys/devices/virtual/dmi/id
    Vendor:         Dell Inc.
    Product:        PowerEdge R7725
    Product Family: PowerEdge
    Serial:         SLR7726

------------------------------------------------------------
22. dmidecode
  Additional information from dmidecode 3.5 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:
    19x 80AD000080AD HMCG94AHBRA277N 64 GB 2 rank 6400
    4x 80AD000080AD HMCG94AHBRA480N 64 GB 2 rank 6400
    1x 80CE000080CE M321R8GA0PB1-CCPQC 64 GB 2 rank 6400


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

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## Platform Notes (Continued)

```
 23. BIOS
 (This section combines info from /sys/devices and dmidecode.)
    BIOS Vendor:       Dell Inc.
    BIOS Version:      1.4.1
    BIOS Date:         08/13/2025
    BIOS Revision:     1.4
```

## Compiler Version Notes

```
==============================================================================================================
C       | 600.perlbench_s(base, peak) 602.gcc_s(base, peak) 605.mcf_s(base, peak) 625.x264_s(base, peak)
        | 657.xz_s(base, peak)
--------------------------------------------------------------------------------------------------------------
AMD clang version 17.0.6 (CLANG: AOCC_5.0.0-Build#1377 2024_09_24)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /opt/AMD/aocc/aocc-compiler-5.0.0/bin
--------------------------------------------------------------------------------------------------------------

==============================================================================================================
C++     | 620.omnetpp_s(base, peak) 623.xalancbmk_s(base, peak) 631.deepsjeng_s(base, peak)
        | 641.leela_s(base, peak)
--------------------------------------------------------------------------------------------------------------
AMD clang version 17.0.6 (CLANG: AOCC_5.0.0-Build#1377 2024_09_24)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /opt/AMD/aocc/aocc-compiler-5.0.0/bin
--------------------------------------------------------------------------------------------------------------

==============================================================================================================
Fortran | 648.exchange2_s(base, peak)
--------------------------------------------------------------------------------------------------------------
AMD clang version 17.0.6 (CLANG: AOCC_5.0.0-Build#1377 2024_09_24)
Target: x86_64-unknown-linux-gnu
Thread model: posix
InstalledDir: /opt/AMD/aocc/aocc-compiler-5.0.0/bin
--------------------------------------------------------------------------------------------------------------
```

## Base Compiler Invocation

C benchmarks:
`clang`

C++ benchmarks:
`clang++`

Fortran benchmarks:
`flang`

## Base Portability Flags

600.perlbench_s: `-DSPEC_LINUX_X64 -DSPEC_LP64`
602.gcc_s: `-DSPEC_LP64`
605.mcf_s: `-DSPEC_LP64`
620.omnetpp_s: `-DSPEC_LP64`
623.xalancbmk_s: `-DSPEC_LINUX -DSPEC_LP64`
625.x264_s: `-DSPEC_LP64`
631.deepsjeng_s: `-DSPEC_LP64`
641.leela_s: `-DSPEC_LP64`
648.exchange2_s: `-DSPEC_LP64`
657.xz_s: `-DSPEC_LP64`

## Base Optimization Flags

C benchmarks:
```
-m64 -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
-march=znver5 -fveclib=AMDLIBM -ffast-math -fopenmp -DSPEC_OPENMP
-flto -fremap-arrays -fstrip-mining -fstruct-layout=7
-mllvm -inline-threshold=1000 -mllvm -reduce-array-computations=3
-mllvm -unroll-threshold=50 -zopt -fopenmp=libomp -lomp -lamdlibm
-lflang -lamdalloc
```

C++ benchmarks:
```
-m64 -std=c++14 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3 -O3 -march=znver5
-fveclib=AMDLIBM -ffast-math -fopenmp -DSPEC_OPENMP -flto
-mllvm -loop-unswitch-threshold=200000
-mllvm -reduce-array-computations=3 -mllvm -unroll-threshold=100 -zopt
-fvirtual-function-elimination -fvisibility=hidden -fopenmp=libomp
-lomp -lamdlibm -lflang -lamdalloc-ext
```

Fortran benchmarks:
```
-m64 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3
-Wl,-mllvm -Wl,-enable-iv-split -Wl,-mllvm -Wl,-inline-recursion=4
-Wl,-mllvm -Wl,-lsr-in-nested-loop -O3 -march=znver5 -fveclib=AMDLIBM
-ffast-math -fopenmp -flto -mllvm -optimize-strided-mem-cost
-mllvm -unroll-aggressive -mllvm -unroll-threshold=150 -fopenmp=libomp
-lomp -lamdlibm -lflang -lamdalloc
```

## Base Other Flags

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

C++ benchmarks:
`-Wno-unused-command-line-argument`

Fortran benchmarks:
`-Wno-unused-command-line-argument`

## Peak Compiler Invocation

C benchmarks:
`clang`

C++ benchmarks:
`clang++`

Fortran benchmarks:
`flang`

## Peak Portability Flags

`Same as Base Portability Flags`

## Peak Optimization Flags

C benchmarks:

600.perlbench_s: `-m64 -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 -march=znver5`
`-fveclib=AMDLIBM -ffast-math -fopenmp -flto`
`-DSPEC_OPENMP -fremap-arrays -fstrip-mining`
`-fstruct-layout=9 -mllvm -inline-threshold=1000`
`-mllvm -reduce-array-computations=3`
`-mllvm -unroll-threshold=50 -zopt -fopenmp=libomp -lomp`
`-lamdlibm -lamdalloc -lflang`

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## Peak Optimization Flags (Continued)

602.gcc_s: `basepeak = yes`

605.mcf_s: `-m64 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6`
`-Wl,-mllvm -Wl,-reduce-array-computations=3`
`-Wl,-mllvm -Wl,-extra-inliner -Ofast -march=znver5`
`-fveclib=AMDLIBM -ffast-math -fopenmp -flto`
`-DSPEC_OPENMP -fremap-arrays -fstrip-mining`
`-fstruct-layout=9 -mllvm -inline-threshold=1000`
`-mllvm -reduce-array-computations=3`
`-mllvm -unroll-threshold=50 -zopt -fopenmp=libomp -lomp`
`-lamdlibm -lamdalloc -lflang`

625.x264_s: `Same as 600.perlbench_s`

657.xz_s: `basepeak = yes`

C++ benchmarks:

620.omnetpp_s: `basepeak = yes`

623.xalancbmk_s: `-m64 -std=c++14`
`-Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6`
`-Wl,-mllvm -Wl,-reduce-array-computations=3`
`-Wl,-mllvm -Wl,-do-block-reorder=advanced -Ofast`
`-march=znver5 -fveclib=AMDLIBM -ffast-math -fopenmp`
`-flto -DSPEC_OPENMP -mllvm -reduce-array-computations=3`
`-mllvm -unroll-threshold=100 -zopt`
`-fvirtual-function-elimination -fvisibility=hidden`
`-mllvm -do-block-reorder=advanced -fopenmp=libomp -lomp`
`-lamdlibm -lamdalloc-ext -lflang`

631.deepsjeng_s: `basepeak = yes`

641.leela_s: `-m64 -std=c++14`
`-Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6`
`-Wl,-mllvm -Wl,-reduce-array-computations=3 -Ofast`
`-march=znver5 -fveclib=AMDLIBM -ffast-math -fopenmp`
`-flto -DSPEC_OPENMP -mllvm -reduce-array-computations=3`
`-mllvm -unroll-threshold=100 -zopt`
`-fvirtual-function-elimination -fvisibility=hidden`
`-fopenmp=libomp -lomp -lamdlibm -lamdalloc -lflang`

Fortran benchmarks:
`-m64 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6`
`-Wl,-mllvm -Wl,-reduce-array-computations=3`
`-Wl,-mllvm -Wl,-enable-iv-split -Wl,-mllvm -Wl,-inline-recursion=4`

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## Peak Optimization Flags (Continued)

Fortran benchmarks (continued):
-Wl,-mllvm -Wl,-lsr-in-nested-loop -O3 -march=znver5 -fveclib=AMDLIBM
-ffast-math -fopenmp -flto -mllvm -optimize-strided-mem-cost
-mllvm -unroll-aggressive -mllvm -unroll-threshold=150 -fopenmp=libomp
-lomp -lamdlibm -lamdalloc -lflang

## Peak Other Flags

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

C++ benchmarks:
-Wno-unused-command-line-argument

Fortran benchmarks:
-Wno-unused-command-line-argument

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2017/flags/aocc500-flags.2024-10-10.html
http://www.spec.org/cpu2017/flags/Dell-Platform-Flags-PowerEdge-AMD-EPYC-v1.8.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2017/flags/aocc500-flags.2024-10-10.xml
http://www.spec.org/cpu2017/flags/Dell-Platform-Flags-PowerEdge-AMD-EPYC-v1.8.xml


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