



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2023 Standard Performance Evaluation Corporation

## Dell Inc.

SPECspeed®2017\_int\_base = 15.4

PowerEdge R7625 (AMD EPYC 9254 24-Core Processor)

SPECspeed®2017\_int\_peak = Not Run

CPU2017 License: 6573

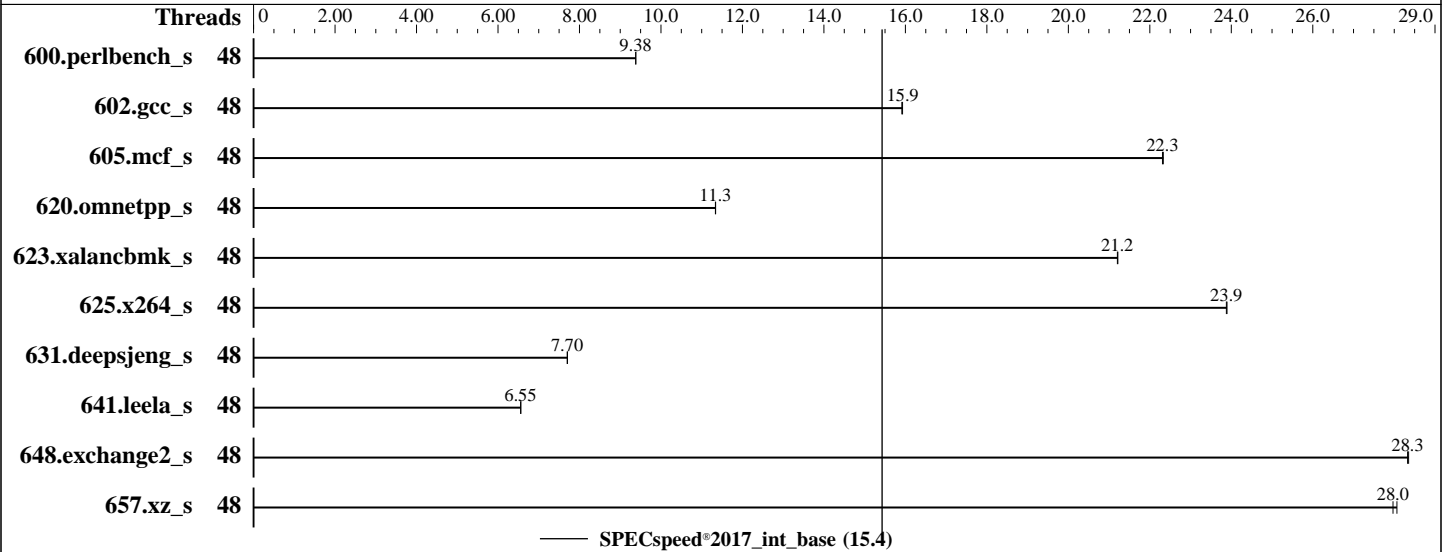
Test Date: Feb-2023

Test Sponsor: Dell Inc.

Hardware Availability: May-2023

Tested by: Dell Inc.

Software Availability: Jan-2023



### Hardware

CPU Name: AMD EPYC 9254  
 Max MHz: 4150  
 Nominal: 2900  
 Enabled: 48 cores, 2 chips  
 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: 128 MB I+D on chip per chip, 32 MB shared / 6 cores  
 Other: None  
 Memory: 768 GB (24 x 32 GB 2Rx8 PC5-4800B-R)  
 Storage: 125 GB on tmpfs  
 Other: None

### Software

OS: Ubuntu 22.04.1 LTS  
 5.15.0-58-generic  
 Compiler: C/C++/Fortran: Version 4.0.0 of AOCC  
 Parallel: Yes  
 Firmware: Version 1.1.1 released Dec-2022  
 File System: tmpfs  
 System State: Run level 5 (graphical multi-user)  
 Base Pointers: 64-bit  
 Peak Pointers: Not Applicable  
 Other: None  
 Power Management: BIOS and OS set to prefer performance at the cost of additional power usage.



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2023 Standard Performance Evaluation Corporation

## Dell Inc.

SPECspeed®2017\_int\_base = 15.4

PowerEdge R7625 (AMD EPYC 9254 24-Core Processor)

SPECspeed®2017\_int\_peak = Not Run

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

Test Date: Feb-2023  
Hardware Availability: May-2023  
Software Availability: Jan-2023

## Results Table

Benchmark	Base							Peak						
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
600.perlbench_s	48	189	9.38	<b><u>189</u></b>	<b><u>9.38</u></b>									
602.gcc_s	48	<b><u>250</u></b>	<b><u>15.9</u></b>	250	15.9									
605.mcf_s	48	<b><u>212</u></b>	<b><u>22.3</u></b>	211	22.3									
620.omnetpp_s	48	<b><u>144</u></b>	<b><u>11.3</u></b>	144	11.3									
623.xalancbmk_s	48	66.8	21.2	<b><u>66.8</u></b>	<b><u>21.2</u></b>									
625.x264_s	48	<b><u>73.9</u></b>	<b><u>23.9</u></b>	73.8	23.9									
631.deepsjeng_s	48	186	7.71	<b><u>186</u></b>	<b><u>7.70</u></b>									
641.leela_s	48	<b><u>260</u></b>	<b><u>6.55</u></b>	260	6.56									
648.exchange2_s	48	<b><u>104</u></b>	<b><u>28.3</u></b>	104	28.4									
657.xz_s	48	220	28.1	<b><u>221</u></b>	<b><u>28.0</u></b>									

SPECspeed®2017\_int\_base = 15.4

SPECspeed®2017\_int\_peak = Not Run

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.



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2023 Standard Performance Evaluation Corporation

Dell Inc.

SPECspeed®2017\_int\_base = 15.4

PowerEdge R7625 (AMD EPYC 9254 24-Core Processor)

SPECspeed®2017\_int\_peak = Not Run

CPU2017 License: 6573

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Feb-2023

Hardware Availability: May-2023

Software Availability: Jan-2023

## Environment Variables Notes

Environment variables set by runcpu before the start of the run:

```
GOMP_CPU_AFFINITY = "0-47"
LD_LIBRARY_PATH = "/mnt/ramdisk/cpu2017-1.1.9-aocc400-B1e/amd_speed_aocc400_genoa_B_lib/lib:"
LIBOMP_NUM_HIDDEN_HELPER_THREADS = "0"
MALLOC_CONF = "oversize_threshold:0,retain:true"
OMP_DYNAMIC = "false"
OMP_SCHEDULE = "static"
OMP_STACKSIZE = "128M"
OMP_THREAD_LIMIT = "48"
```

## General Notes

Binaries were compiled on a system with 2x AMD EPYC 9174F CPU + 1.5TiB Memory using RHEL 8.6

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.

Benchmark run from a 125 GB ramdisk created with the cmd: "mount -t tmpfs -o size=125G tmpfs /mnt/ramdisk"

## Platform Notes

BIOS settings:

```
DRAM Refresh Delay : Performance
DIMM Self Healing on
Uncorrectable Memory Error : Disabled
Logical Processor : Disabled
Virtualization Technology : Disabled
NUMA Nodes per Socket : 4
L3 Cache as NUMA Domain : Enabled

System Profile : Custom
C-States : Disabled
Memory Patrol Scrub : Disabled
PCI ASPM L1 Link
Power Management : Disabled
Determinism Slider : Power Determinism
Algorithm Performance
Boost Disable (ApbDis) : Enabled
```

Sysinfo program /mnt/ramdisk/cpu2017-1.1.9-aocc400-B1e/bin/sysinfo  
Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197  
running on ubuntu-genoa Fri Feb 3 15:16:38 2023

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

-----  
Table of contents  
-----

1. uname -a
2. w
3. Username

(Continued on next page)



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2023 Standard Performance Evaluation Corporation

Dell Inc.

SPECspeed®2017\_int\_base = 15.4

PowerEdge R7625 (AMD EPYC 9254 24-Core Processor)

SPECspeed®2017\_int\_peak = Not Run

CPU2017 License: 6573

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Feb-2023

Hardware Availability: May-2023

Software Availability: Jan-2023

## Platform Notes (Continued)

- 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 249 (249.11-0ubuntu3.6)
- 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. tuned-adm active
- 17. sysctl
- 18. /sys/kernel/mm/transparent\_hugepage
- 19. /sys/kernel/mm/transparent\_hugepage/khugepaged
- 20. OS release
- 21. Disk information
- 22. /sys/devices/virtual/dmi/id
- 23. dmidecode
- 24. BIOS

```
-----
1. uname -a
Linux ubuntu-genoa 5.15.0-58-generic #64-Ubuntu SMP Thu Jan 5 11:43:13 UTC 2023 x86_64 x86_64 x86_64
GNU/Linux
```

```
-----
2. w
15:16:39 up 39 min, 1 user, load average: 0.51, 0.14, 0.05
USER TTY FROM LOGIN@ IDLE JCPU PCPU WHAT
root tty1 - 15:14 55.00s 1.39s 0.30s /bin/bash ./amd_speed_aocc400_genoa_B1.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 3093948
nofiles 1024
vmemory(kbytes) unlimited
locks unlimited
rtprio 0
```

```
-----
5. sysinfo process ancestry
/sbin/init
/bin/login -p --
-bash
/bin/bash ./DELL_speed.sh
/bin/bash ./dell-run-main.sh speed
```

(Continued on next page)



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2023 Standard Performance Evaluation Corporation

Dell Inc.

SPECspeed®2017\_int\_base = 15.4

PowerEdge R7625 (AMD EPYC 9254 24-Core Processor)

SPECspeed®2017\_int\_peak = Not Run

CPU2017 License: 6573

Test Date: Feb-2023

Test Sponsor: Dell Inc.

Hardware Availability: May-2023

Tested by: Dell Inc.

Software Availability: Jan-2023

## Platform Notes (Continued)

```

/bin/bash ./dell-run-main.sh speed
/bin/bash ./dell-run-specspeed.sh --iterations 2 --output_format csv,html,pdf,txt -define
  Dell-BIOS-inc=Dell-BIOS_EPYC-4.inc --define Dell-BIOS-LogProc=1
python3 ./run_amd_speed_aocc400_genoa_B1.py
/bin/bash ./amd_speed_aocc400_genoa_B1.sh
runcpu --config amd_speed_aocc400_genoa_B1.cfg --tune base --reportable --iterations 2 --iterations 2
  --output_format csv,html,pdf,txt -define Dell-BIOS-inc=Dell-BIOS_EPYC-4.inc --define Dell-BIOS-LogProc=1
  intspeer
runcpu --configfile amd_speed_aocc400_genoa_B1.cfg --tune base --reportable --iterations 2 --iterations 2
  --output_format csv,html,pdf,txt --define Dell-BIOS-inc=Dell-BIOS_EPYC-4.inc --define Dell-BIOS-LogProc=1
  --nopower --runmode speed --tune base --size test:train:refspeed intspeer --nopreenv --note-preenv
  --logfile $SPEC/tmp/CPU2017.001/temlogs/preenv.intspeer.001.0.log --lognum 001.0 --from_runcpu 2
  specperl $SPEC/bin/sysinfo
$SPEC = /mnt/ramdisk/cpu2017-1.1.9-aocc400-B1e

```

```

-----
6. /proc/cpuinfo
model name      : AMD EPYC 9254 24-Core Processor
vendor_id      : AuthenticAMD
cpu family     : 25
model          : 17
stepping       : 1
microcode      : 0xa101111
bugs           : sysret_ss_attrs spectre_v1 spectre_v2 spec_store_bypass
TLB size      : 3584 4K pages
cpu cores     : 24
siblings      : 24
2 physical ids (chips)
48 processors (hardware threads)
physical id 0: core ids 0-5,16-21,32-37,48-53
physical id 1: core ids 0-5,16-21,32-37,48-53
physical id 0: apicids 0-5,16-21,32-37,48-53
physical id 1: apicids 64-69,80-85,96-101,112-117
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 2.37.2:
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):                48
On-line CPU(s) list:   0-47
Vendor ID:             AuthenticAMD
Model name:            AMD EPYC 9254 24-Core Processor
CPU family:            25
Model:                 17
Thread(s) per core:    1
Core(s) per socket:    24
Socket(s):             2
Stepping:              1
Frequency boost:       enabled
CPU max MHz:           4153.0000
CPU min MHz:           400.0000
BogoMIPS:              5801.96
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

```

(Continued on next page)



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2023 Standard Performance Evaluation Corporation

## Dell Inc.

SPECspeed®2017\_int\_base = 15.4

PowerEdge R7625 (AMD EPYC 9254 24-Core Processor)

SPECspeed®2017\_int\_peak = Not Run

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

**Test Date:** Feb-2023  
**Hardware Availability:** May-2023  
**Software Availability:** Jan-2023

### Platform Notes (Continued)

```
constant_tsc rep_good nopl nonstop_tsc cpuid extd_apicid aperfmperf rapl
pni pclmulqdq monitor ssse3 fma cxl6 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 bpeext perfctr_llc mwaitx cpb cat_l3 cdp_l3
invpcid_single hw_pstate ssbd mba ibrs ibpb stibp 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
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 v_spec_ctrl avx512vbmi
umip pku ospke avx512_vbmi2 gfni vaes vpclmulqdq avx512_vnni avx512_bitalg
avx512_vpopcntdq la57 rdpid overflow_recov succor smca fsrm flush_lld
AMD-V
```

```
Virtualization:
L1d cache: 1.5 MiB (48 instances)
L1i cache: 1.5 MiB (48 instances)
L2 cache: 48 MiB (48 instances)
L3 cache: 256 MiB (8 instances)
NUMA node(s): 8
NUMA node0 CPU(s): 0-5
NUMA node1 CPU(s): 12-17
NUMA node2 CPU(s): 18-23
NUMA node3 CPU(s): 6-11
NUMA node4 CPU(s): 24-29
NUMA node5 CPU(s): 36-41
NUMA node6 CPU(s): 42-47
NUMA node7 CPU(s): 30-35
Vulnerability Itlb multihit: Not affected
Vulnerability L1tf: Not affected
Vulnerability Mds: Not affected
Vulnerability Meltdown: Not affected
Vulnerability Mmio stale data: Not affected
Vulnerability Retbleed: Not affected
Vulnerability Spec store bypass: Mitigation; Speculative Store Bypass disabled via prctl and seccomp
Vulnerability Spectre v1: Mitigation; usercopy/swapgs barriers and __user pointer sanitization
Vulnerability Spectre v2: Mitigation; Retpolines, IBPB conditional, IBRS_FW, STIBP disabled, RSB
filling, PBRSE-eIBRS 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 1.5M 8 Data 1 64 1 64
L1i 32K 1.5M 8 Instruction 1 64 1 64
L2 1M 48M 8 Unified 2 2048 1 64
L3 32M 256M 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: 0-5
node 0 size: 96311 MB
node 0 free: 95958 MB
node 1 cpus: 12-17
node 1 size: 96765 MB
node 1 free: 96323 MB
node 2 cpus: 18-23
node 2 size: 96765 MB
```

(Continued on next page)



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2023 Standard Performance Evaluation Corporation

Dell Inc.

SPECspeed®2017\_int\_base = 15.4

PowerEdge R7625 (AMD EPYC 9254 24-Core Processor)

SPECspeed®2017\_int\_peak = Not Run

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

Test Date: Feb-2023  
Hardware Availability: May-2023  
Software Availability: Jan-2023

## Platform Notes (Continued)

```

node 2 free: 96456 MB
node 3 cpus: 6-11
node 3 size: 96749 MB
node 3 free: 96461 MB
node 4 cpus: 24-29
node 4 size: 96765 MB
node 4 free: 96557 MB
node 5 cpus: 36-41
node 5 size: 96730 MB
node 5 free: 92973 MB
node 6 cpus: 42-47
node 6 size: 96765 MB
node 6 free: 96546 MB
node 7 cpus: 30-35
node 7 size: 96742 MB
node 7 free: 96464 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:      792164464 kB

```

```

-----
10. who -r
    run-level 5 Feb 3 14:39

```

```

-----
11. Systemd service manager version: systemd 249 (249.11-0ubuntu3.6)
    Default Target   Status
    graphical        degraded

```

```

-----
12. Failed units, from systemctl list-units --state=failed
UNIT                                LOAD    ACTIVE SUB    DESCRIPTION
* systemd-networkd-wait-online.service loaded failed failed Wait for Network to be Configured

```

```

-----
13. Services, from systemctl list-unit-files
STATE      UNIT FILES
enabled    ModemManager apparmor blk-availability cloud-config cloud-final cloud-init
cloud-init-local console-setup cron dmesg e2scrub_reap finalrd getty@ gpu-manager
grub-common grub-initrd-fallback irqbalance keyboard-setup lm-sensors lvm2-monitor
lxd-agent multipathd networkd-dispatcher open-iscsi open-vm-tools pollinate rsyslog
secureboot-db setvtrgb ssh systemd-networkd systemd-networkd-wait-online systemd-pstore
systemd-resolved systemd-timesyncd thermald tuned ua-reboot-cmds ubuntu-advantage udisks2
ufw vgauth
enabled-runtime netplan-ovs-cleanup systemd-fsck-root systemd-remount-fs
disabled     console-getty debug-shell iscsid nftables rsync serial-getty@
systemd-boot-check-no-failures systemd-network-generator systemd-sysext
systemd-time-wait-sync upower
generated    apport

```

(Continued on next page)



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2023 Standard Performance Evaluation Corporation

Dell Inc.

SPECspeed®2017\_int\_base = 15.4

PowerEdge R7625 (AMD EPYC 9254 24-Core Processor)

SPECspeed®2017\_int\_peak = Not Run

CPU2017 License: 6573

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Feb-2023

Hardware Availability: May-2023

Software Availability: Jan-2023

## Platform Notes (Continued)

```

indirect      uuid
masked        cryptdisks cryptdisks-early hwclock lvm2 multipath-tools-boot rc rcS screen-cleanup sudo
              x11-common

```

```

-----
14. Linux kernel boot-time arguments, from /proc/cmdline
BOOT_IMAGE=/vmlinuz-5.15.0-58-generic
root=/dev/mapper/ubuntu--vg-ubuntu--lv
ro

```

```

-----
15. cpupower frequency-info
analyzing CPU 0:
  current policy: frequency should be within 400 MHz and 4.15 GHz.
                  The governor "performance" may decide which speed to use
                  within this range.

  boost state support:
    Supported: yes
    Active: yes
    Boost States: 0
    Total States: 3
    Pstate-P0: 2900MHz

```

```

-----
16. tuned-adm active
    Current active profile: latency-performance

```

```

-----
17. sysctl
kernel.numa_balancing          1
kernel.randomize_va_space      0
vm.compaction_proactiveness     20
vm.dirty_background_bytes       0
vm.dirty_background_ratio      3
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

```

```

-----
18. /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

```

```

-----
19. /sys/kernel/mm/transparent_hugepage/khugepaged
alloc_sleep_millisecs 60000
defrag                 1

```

(Continued on next page)





# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2023 Standard Performance Evaluation Corporation

## Dell Inc.

SPECspeed®2017\_int\_base = 15.4

PowerEdge R7625 (AMD EPYC 9254 24-Core Processor)

SPECspeed®2017\_int\_peak = Not Run

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

**Test Date:** Feb-2023  
**Hardware Availability:** May-2023  
**Software Availability:** Jan-2023

### Platform Notes (Continued)

```
max_ptes_none          511
max_ptes_shared        256
max_ptes_swap          64
pages_to_scan          4096
scan_sleep_millisecs   10000
```

-----  
20. OS release  
From /etc/\*-release /etc/\*-version  
os-release Ubuntu 22.04.1 LTS

-----  
21. Disk information  
SPEC is set to: /mnt/ramdisk/cpu2017-1.1.9-aocc400-B1e  
Filesystem Type Size Used Avail Use% Mounted on  
tmpfs tmpfs 125G 3.5G 122G 3% /mnt/ramdisk

-----  
22. /sys/devices/virtual/dmi/id  
Vendor: Dell Inc.  
Product: PowerEdge R7625  
Product Family: PowerEdge  
Serial: 1234567

-----  
23. dmidecode  
Additional information from dmidecode 3.3 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:  
1x 802C0000802C MTC20F2085S1RC48BA1 32 GB 2 rank 4800  
14x 80AD000080AD HMC88MEB1A107N 32 GB 2 rank 4800  
9x 80AD000080AD HMC88MEB1A174N 32 GB 2 rank 4800

-----  
24. BIOS  
(This section combines info from /sys/devices and dmidecode.)  
BIOS Vendor: Dell Inc.  
BIOS Version: 1.1.1  
BIOS Date: 12/08/2022  
BIOS Revision: 1.1

### Compiler Version Notes

=====  
C | 600.perlbench\_s(base) 602.gcc\_s(base) 605.mcf\_s(base) 625.x264\_s(base) 657.xz\_s(base)

-----  
AMD clang version 14.0.6 (CLANG: AOCC\_4.0.0-Build#389 2022\_10\_07) (based on LLVM Mirror.Version.14.0.6)  
Target: x86\_64-unknown-linux-gnu  
Thread model: posix  
InstalledDir: /opt/AMD/aocc/aocc-compiler-rel-4.0-3206-389/bin

=====  
C++ | 620.omnetpp\_s(base) 623.xalancbmk\_s(base) 631.deepsjeng\_s(base) 641.leela\_s(base)

-----  
AMD clang version 14.0.6 (CLANG: AOCC\_4.0.0-Build#389 2022\_10\_07) (based on LLVM Mirror.Version.14.0.6)

(Continued on next page)



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2023 Standard Performance Evaluation Corporation

Dell Inc.

SPECspeed®2017\_int\_base = 15.4

PowerEdge R7625 (AMD EPYC 9254 24-Core Processor)

SPECspeed®2017\_int\_peak = Not Run

CPU2017 License: 6573

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Feb-2023

Hardware Availability: May-2023

Software Availability: Jan-2023

## Compiler Version Notes (Continued)

Target: x86\_64-unknown-linux-gnu  
Thread model: posix  
InstalledDir: /opt/AMD/aocc/aocc-compiler-rel-4.0-3206-389/bin

-----  
Fortran | 648.exchange2\_s(base)  
-----

AMD clang version 14.0.6 (CLANG: AOCC\_4.0.0-Build#389 2022\_10\_07) (based on LLVM Mirror.Version.14.0.6)  
Target: x86\_64-unknown-linux-gnu  
Thread model: posix  
InstalledDir: /opt/AMD/aocc/aocc-compiler-rel-4.0-3206-389/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 -O3 -march=znver4 -fveclib=AMDLIBM

(Continued on next page)



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2023 Standard Performance Evaluation Corporation

Dell Inc.

SPECspeed®2017\_int\_base = 15.4

PowerEdge R7625 (AMD EPYC 9254 24-Core Processor)

SPECspeed®2017\_int\_peak = Not Run

CPU2017 License: 6573

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Feb-2023

Hardware Availability: May-2023

Software Availability: Jan-2023

## Base Optimization Flags (Continued)

C benchmarks (continued):

-ffast-math -fopenmp -flto -fstruct-layout=7  
-mllvm -unroll-threshold=50 -mllvm -inline-threshold=1000  
-fremap-arrays -fstrip-mining -mllvm -reduce-array-computations=3  
-DSPEC\_OPENMP -zopt -fopenmp=libomp -lomp -lamdlibm -lflang  
-lamdalloc

C++ benchmarks:

-m64 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6  
-Wl,-mllvm -Wl,-reduce-array-computations=3 -O3 -march=znver4  
-fveclib=AMDLIBM -ffast-math -fopenmp -flto  
-mllvm -unroll-threshold=100 -finline-aggressive  
-mllvm -loop-unswitch-threshold=200000  
-mllvm -reduce-array-computations=3 -DSPEC\_OPENMP -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,-inline-recursion=4 -Wl,-mllvm -Wl,-lsr-in-nested-loop  
-Wl,-mllvm -Wl,-enable-iv-split -O3 -march=znver4 -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

The flags files that were used to format this result can be browsed at

<http://www.spec.org/cpu2017/flags/aocc400-flags.html>

<http://www.spec.org/cpu2017/flags/Dell-Platform-Flags-PowerEdge-AMD-EPYC-v1.0.html>



# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2023 Standard Performance Evaluation Corporation

Dell Inc.

SPECspeed®2017\_int\_base = 15.4

PowerEdge R7625 (AMD EPYC 9254 24-Core Processor)

SPECspeed®2017\_int\_peak = Not Run

**CPU2017 License:** 6573

**Test Sponsor:** Dell Inc.

**Tested by:** Dell Inc.

**Test Date:** Feb-2023

**Hardware Availability:** May-2023

**Software Availability:** Jan-2023

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2017/flags/aocc400-flags.xml>

<http://www.spec.org/cpu2017/flags/Dell-Platform-Flags-PowerEdge-AMD-EPYC-v1.0.xml>

SPEC CPU and SPECspeed are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

For questions about this result, please contact the tester. For other inquiries, please contact [info@spec.org](mailto:info@spec.org).

Tested with SPEC CPU®2017 v1.1.9 on 2023-02-03 10:16:38-0500.

Report generated on 2023-05-09 15:57:32 by CPU2017 PDF formatter v6716.

Originally published on 2023-05-09.