



# SPEC CPU®2017 Integer Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

## Cisco Systems

Cisco UCS C245 M8 (AMD EPYC 9825  
2.20 GHz Processor)

**SPECrate®2017\_int\_base = 2530**

**SPECrate®2017\_int\_peak = Not Run**

**CPU2017 License:** 9019

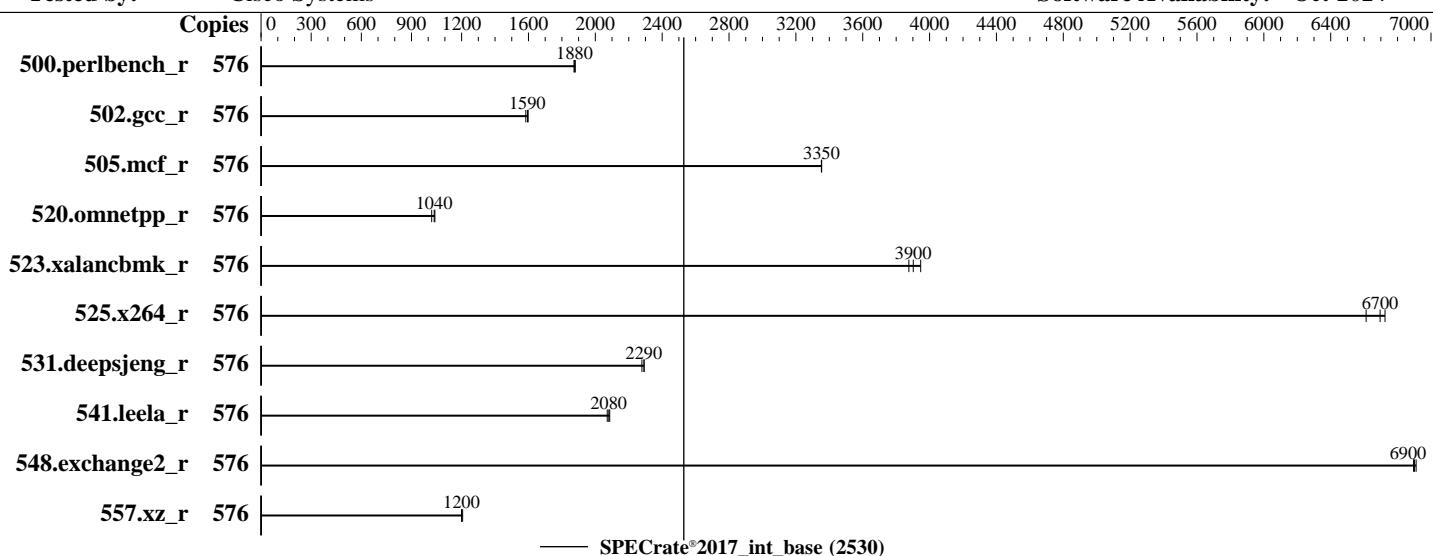
**Test Sponsor:** Cisco Systems

**Tested by:** Cisco Systems

**Test Date:** Jun-2025

**Hardware Availability:** Oct-2024

**Software Availability:** Oct-2024



### Hardware

CPU Name: AMD EPYC 9825  
Max MHz: 3700  
Nominal: 2200  
Enabled: 288 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: 384 MB I+D on chip per chip, 32 MB shared / 12 cores  
Other: None  
Memory: 1536 GB (24 x 64 GB 2Rx4 PC5-6400B-R, running at 6000)  
Storage: 1 x 960 GB SATA SSD  
Other: CPU Cooling: Air

### Software

OS: SUSE Linux Enterprise Server 15 SP6  
Compiler: kernel version  
Parallel: 6.4.0-150600.21-default  
Firmware: C/C++/Fortran: Version 5.0.0 of AOCC  
File System: No  
System State: Version 4.3.5c released Dec-2024  
Base Pointers: btrfs  
Peak Pointers: System State: Run level 3 (multi-user)  
Other: 64-bit  
Power Management: Peak Pointers: Not Applicable  
Other: Power Management: BIOS and OS set to prefer performance at the cost of additional power usage.



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## Results Table

Benchmark	Base								Peak							
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
500.perlbench_r	576	488	1880	490	1870	<b>489</b>	<b>1880</b>									
502.gcc_r	576	510	1600	515	1580	<b>512</b>	<b>1590</b>									
505.mcf_r	576	278	3350	<b>278</b>	<b>3350</b>	278	3350									
520.omnetpp_r	576	740	1020	<b>730</b>	<b>1040</b>	727	1040									
523.xalancbmk_r	576	<b>156</b>	<b>3900</b>	154	3950	157	3880									
525.x264_r	576	<b>151</b>	<b>6700</b>	150	6720	153	6610									
531.deepsjeng_r	576	290	2280	<b>288</b>	<b>2290</b>	288	2290									
541.leela_r	576	461	2070	<b>458</b>	<b>2080</b>	457	2090									
548.exchange2_r	576	218	6910	219	6900	<b>219</b>	<b>6900</b>									
557.xz_r	576	518	1200	516	1210	<b>518</b>	<b>1200</b>									

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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) only on request for base runs,  
'echo madvise > /sys/kernel/mm/transparent\_hugepage/enabled' run as root.  
To enable THP for all allocations for peak runs,  
'echo always > /sys/kernel/mm/transparent\_hugepage/enabled' and  
'echo always > /sys/kernel/mm/transparent\_hugepage/defrag' run as root.



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## Environment Variables Notes

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

```
LD_LIBRARY_PATH =
    "/home/cpu2017/amd_rate_aocc500_znver5_A_lib/lib:/home/cpu2017/amd_rate_aocc500_znver5_A_lib/lib32:"
MALLOC_CONF = "retain:true"
```

## 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.

## Platform Notes

BIOS settings:

NUMA nodes per socket set to NPS4  
Determinism Slider set to Power  
DF C-States set to Disabled  
Enhanced CPU performance set to Auto

```
Sysinfo program /home/cpu2017/bin/sysinfo
Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197
running on localhost Tue Jun 10 20:30:39 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 254 (254.10+suse.84.ge8d77af424)
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

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## Platform Notes (Continued)

22. dmidecode  
23. BIOS

1. uname -a  
Linux localhost 6.4.0-150600.21-default #1 SMP PREEMPT\_DYNAMIC Thu May 16 11:09:22 UTC 2024 (36c1e09)  
x86\_64 x86\_64 x86\_64 GNU/Linux

2. w  
20:30:39 up 8 min, 2 users, load average: 4.25, 2.96, 1.48  
USER TTY FROM LOGIN@ IDLE JCPU PCPU WHAT  
root ttys1 - 20:29 47.00s 1.13s 0.14s /bin/bash ./amd\_rate\_aocc500\_znver5\_A1.sh

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) 6188867  
max locked memory (kbytes, -l) 2097152  
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) 6188867  
virtual memory (kbytes, -v) unlimited  
file locks (-x) unlimited

5. sysinfo process ancestry  
/usr/lib/systemd/systemd --switched-root --system --deserialize=43  
login -- root  
-bash  
python3 ./run\_amd\_rate\_aocc500\_znver5\_A1.py -b intrate  
/bin/bash ./amd\_rate\_aocc500\_znver5\_A1.sh  
runcpu --config amd\_rate\_aocc500\_znver5\_A1.cfg --tune base --reportable --iterations 3 intrate  
runcpu --configfile amd\_rate\_aocc500\_znver5\_A1.cfg --tune base --reportable --iterations 3 --nopower  
--runmode rate --tune base --size test:train:refrate intrate --nopreenv --note-preenv --logfile  
\$SPEC/tmp/CPU2017.001/templogs/preenv.intrate.001.0.log --lognum 001.0 --from\_runcpu 2  
specperl \$SPEC/bin/sysinfo  
\$SPEC = /home/cpu2017

6. /proc/cpuinfo  
model name : AMD EPYC 9825 144-Core Processor  
vendor\_id : AuthenticAMD  
cpu family : 26  
model : 17  
stepping : 0  
microcode : 0xb101025

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## Platform Notes (Continued)

```

bugs          : sysret_ss_attrs spectre_v1 spectre_v2 spec_store_bypass
TLB size      : 192 4K pages
cpu cores     : 144
siblings       : 288
2 physical ids (chips)
576 processors (hardware threads)
physical id 0: core ids 0-11,16-27,32-43,48-59,64-75,80-91,96-107,112-123,128-139,144-155,160-171,176-187
physical id 1: core ids 0-11,16-27,32-43,48-59,64-75,80-91,96-107,112-123,128-139,144-155,160-171,176-187
physical id 0: apicids
0-23,32-55,64-87,96-119,128-151,160-183,192-215,224-247,256-279,288-311,320-343,352-375
physical id 1: apicids
512-535,544-567,576-599,608-631,640-663,672-695,704-727,736-759,768-791,800-823,832-855,864-887
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):                 576
On-line CPU(s) list:    0-575
Vendor ID:               AuthenticAMD
BIOS Vendor ID:         Advanced Micro Devices, Inc.
Model name:              AMD EPYC 9825 144-Core Processor
BIOS Model name:         AMD EPYC 9825 144-Core Processor
BIOS CPU family:        Unknown CPU @ 2.2GHz
CPU family:              107
Model:                  26
Thread(s) per core:     17
Core(s) per socket:      2
Socket(s):              144
Stepping:                0
Frequency boost:        enabled
CPU(s) scaling MHz:     59%
CPU max MHz:             3714.6479
CPU min MHz:             1500.0000
BogoMIPS:                4393.48
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 aperfmpfperf 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
osw ibs skinit wdt tce topoext perfctr_core perfctr_nb bpext
perfctr_llc mwaitx cpb cat_13 cdp_13 hw_pstate ssbd mba perfmon_v2
ibrs ibpb stibp ibrs_enhanced vmmcall fsgsbase tsc_adjust bmil avx2
smep bmi2 erms invpcid cqmq rdt_a avx512f avx512dq rdseed adx smap
avx512ifma clflushopt clwb avx512cd sha_ni avx512bw avx512vl xsaveopt
xsavec xgetbv1 xsaves cqmq_llc cqmq_occup_llc cqmq_mbm_total
cqmq_mbm_local user_shstk avx_vnni avx512_bf16 clzero irperf
xsaveerptr rdpru wbnoinvd amd_ppin cppc arat npt lbrv svm_lock
nrip_save tsc_scale vmcb_clean flushbyasid decodeassist pausefilter
pfthreshold avic v_vmsave_vmlload vgif x2avic v_spec_ctrl vmmi
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

```

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## Platform Notes (Continued)

Virtualization:	flush_l1d debug_swap
L1d cache:	AMD-V
L1i cache:	13.5 MiB (288 instances)
L2 cache:	9 MiB (288 instances)
L3 cache:	288 MiB (288 instances)
NUMA node(s):	768 MiB (24 instances)
NUMA node0 CPU(s):	8
NUMA node1 CPU(s):	0-35,288-323
NUMA node2 CPU(s):	36-71,324-359
NUMA node3 CPU(s):	72-107,360-395
NUMA node4 CPU(s):	108-143,396-431
NUMA node5 CPU(s):	144-179,432-467
NUMA node6 CPU(s):	180-215,468-503
NUMA node7 CPU(s):	216-251,504-539
NUMA node8 CPU(s):	252-287,540-575
Vulnerability Gather data sampling:	Not affected
Vulnerability Itlb multihit:	Not affected
Vulnerability Llft:	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

From lscpu --cache:

NAME	ONE-SIZE	ALL-SIZE	WAYS	TYPE	LEVEL	SETS	PHY-LINE	COHERENCY-SIZE
L1d	48K	13.5M	12	Data	1	64	1	64
L1i	32K	9M	8	Instruction	1	64	1	64
L2	1M	288M	16	Unified	2	1024	1	64
L3	32M	768M	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: 0-35,288-323
node 0 size: 192907 MB
node 0 free: 192038 MB
node 1 cpus: 36-71,324-359
node 1 size: 193517 MB
node 1 free: 192655 MB
node 2 cpus: 72-107,360-395
node 2 size: 193517 MB
node 2 free: 192744 MB
node 3 cpus: 108-143,396-431
node 3 size: 193517 MB
node 3 free: 192543 MB
node 4 cpus: 144-179,432-467
node 4 size: 193517 MB
node 4 free: 193228 MB
node 5 cpus: 180-215,468-503
node 5 size: 193517 MB
node 5 free: 193183 MB
```

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## Platform Notes (Continued)

```
node 6 cpus: 216-251,504-539
node 6 size: 193478 MB
node 6 free: 193162 MB
node 7 cpus: 252-287,540-575
node 7 size: 193271 MB
node 7 free: 192932 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: 1584377168 kB

-----
10. who -r
run-level 3 Jun 10 20:27

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

-----
12. Failed units, from systemctl list-units --state=failed
UNIT LOAD ACTIVE SUB DESCRIPTION
* logrotate.service loaded failed Rotate log files

-----
13. Services, from systemctl list-unit-files
STATE UNIT FILES
enabled YaST2-Firstboot YaST2-Second-Stage apparmor auditd cron getty@ irqbalance iscsi
issue-generator kbdsettings klog lvm2-monitor nsqd postfix purge-kernels rollback rsyslog
smartd sshd systemd-pstore virtqemud wicked wickedd-auto4 wickedd-dhcp4 wickedd-dhcp6
wickedd-nanny
enabled-runtime systemd-remount-fs
disabled autofs autoyast-initscripts blk-availability boot-sysctl ca-certificates chrony-wait
chronyd console-getty cups cups-browsed debug-shell dnsmasq ebttables exchange-bmc-os-info
firewalld fsidd gpm grub2-once haveged hv_fcopy_daemon hv_kvp_daemon hv_vss_daemon
hwloc-dump-hwdata ipmi ipmievrd iscsid issue-add-ssh-keys kexec-load ksm
kvm_stat libvirt-guests lunmask man-db-create multipathd nfs nfs-blkmap nfs-server
nfsserver rpcbind rpmconfigcheck rsyncd rtkit-daemon serial-getty@ smartd_generate_opts
snmpd snmptrapd strongswan strongswan-starter svnserve systemd-boot-check-no-failures
systemd-confext systemd-network-generator systemd-nspawn@ systemd-systext
systemd-time-wait-sync systemd-timesyncd tcsd udisks2 virtinterfaced virtlockd virtlogd
virtnetworkd virtnodedevedv virtnwfiterd virtsecretd virtstoraged
indirect pcscd systemd-userdb tftpd wickedd

-----
14. Linux kernel boot-time arguments, from /proc/cmdline
BOOT_IMAGE=/boot/vmlinuz-6.4.0-150600.21-default
root=UUID=c83597cb-e37b-43a6-bd1c-58cd7f1f9316
splash=silent
```

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## Platform Notes (Continued)

```
mitigations=auto
quiet
security=apparmor
```

```
-----  
15. cpupower frequency-info  
analyzing CPU 398:  
    current policy: frequency should be within 1.50 GHz and 2.20 GHz.  
        The governor "performance" 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  
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
```

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## Platform Notes (Continued)

SPEC is set to: /home/cpu2017

```
Filesystem      Type   Size  Used Avail Use% Mounted on
/dev/sda2        btrfs  224G  9.5G  210G   5% /home
```

-----  
21. /sys/devices/virtual/dmi/id

```
Vendor:          Cisco Systems Inc
Product:         UCSC-C245-M8SX
Product Family:  Cisco UCS Rack Server
Serial:          WZP2750Z0CS
```

-----  
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:

```
22x 0xCE00 M321R8GA0PB2-CCPEC 64 GB 2 rank 6400, configured at 6000
1x 0xCE00 M321R8GA0PB2-CCPKC 64 GB 2 rank 6400, configured at 6000
1x 0xCE00 M321R8GA0PB2-CCPPC 64 GB 2 rank 6400, configured at 6000
```

-----  
23. BIOS

(This section combines info from /sys/devices and dmidecode.)

```
BIOS Vendor:      Cisco Systems, Inc.
BIOS Version:    C245M8.4.3.5c.0.1202241033
BIOS Date:       12/02/2024
BIOS Revision:   5.35
```

## Compiler Version Notes

=====

```
C      | 500.perlbench_r(base) 502.gcc_r(base) 505.mcf_r(base) 525.x264_r(base) 557.xz_r(base)
```

=====

```
AMD clang version 17.0.6 (CLANG: AOCC_5.0.0-Build#1316 2024_09_09)
```

```
Target: x86_64-unknown-linux-gnu
```

```
Thread model: posix
```

```
InstalledDir: /opt/AMD/aocc/aocc-compiler-rel-5.0.0-4925-1316/bin
```

=====

```
C++     | 520.omnetpp_r(base) 523.xalancbmk_r(base) 531.deepsjeng_r(base) 541.leela_r(base)
```

=====

```
AMD clang version 17.0.6 (CLANG: AOCC_5.0.0-Build#1316 2024_09_09)
```

```
Target: x86_64-unknown-linux-gnu
```

```
Thread model: posix
```

```
InstalledDir: /opt/AMD/aocc/aocc-compiler-rel-5.0.0-4925-1316/bin
```

=====

```
Fortran | 548.exchange2_r(base)
```

=====

```
AMD clang version 17.0.6 (CLANG: AOCC_5.0.0-Build#1316 2024_09_09)
```

```
Target: x86_64-unknown-linux-gnu
```

```
Thread model: posix
```

```
InstalledDir: /opt/AMD/aocc/aocc-compiler-rel-5.0.0-4925-1316/bin
```



# SPEC CPU®2017 Integer Rate Result

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## Cisco Systems

Cisco UCS C245 M8 (AMD EPYC 9825  
2.20 GHz Processor)

SPECrate®2017\_int\_base = 2530

SPECrate®2017\_int\_peak = Not Run

CPU2017 License: 9019

Test Date: Jun-2025

Test Sponsor: Cisco Systems

Hardware Availability: Oct-2024

Tested by: Cisco Systems

Software Availability: Oct-2024

## Base Compiler Invocation

C benchmarks:

clang

C++ benchmarks:

clang++

Fortran benchmarks:

flang

## Base Portability Flags

500.perlbench\_r: -DSPEC\_LINUX\_X64 -DSPEC\_LP64  
502.gcc\_r: -DSPEC\_LP64  
505.mcf\_r: -DSPEC\_LP64  
520.omnetpp\_r: -DSPEC\_LP64  
523.xalancbmk\_r: -DSPEC\_LINUX -DSPEC\_LP64  
525.x264\_r: -DSPEC\_LP64  
531.deepsjeng\_r: -DSPEC\_LP64  
541.leela\_r: -DSPEC\_LP64  
548.exchange2\_r: -DSPEC\_LP64  
557.xz\_r: -DSPEC\_LP64

## Base Optimization Flags

C benchmarks:

-m64 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6  
-Wl,-mllvm -Wl,-reduce-array-computations=3  
-Wl,-mllvm -Wl,-ldist-scalar-expand -fenable-aggressive-gather  
-Wl,-mllvm -Wl,-extra-inliner -z muldefs -O3 -march=znver5  
-fveclib=AMDLIBM -ffast-math -fno-PIE -no-pie -flto  
-fstruct-layout=7 -mllvm -unroll-threshold=50  
-mllvm -inline-threshold=1000 -fremap-arrays -fstrip-mining  
-mllvm -reduce-array-computations=3 -zopt -lamdlibm -lflang  
-lamdalloc-ext -ldl

C++ benchmarks:

-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 -z muldefs -O3 -march=znver5  
-fveclib=AMDLIBM -ffast-math -flto -mllvm -unroll-threshold=100  
-mllvm -loop-unswitch-threshold=200000  
-mllvm -reduce-array-computations=3 -zopt -fno-PIE -no-pie

(Continued on next page)



# SPEC CPU®2017 Integer Rate Result

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## Cisco Systems

Cisco UCS C245 M8 (AMD EPYC 9825  
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SPECrate®2017\_int\_base = 2530

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CPU2017 License: 9019

Test Sponsor: Cisco Systems

Tested by: Cisco Systems

Test Date: Jun-2025

Hardware Availability: Oct-2024

Software Availability: Oct-2024

## Base Optimization Flags (Continued)

C++ benchmarks (continued):

```
-fvirtual-function-elimination -fvisibility=hidden  
-mllvm -do-block-reorder=advanced -lamdlibm -lflang -lamdalloc-ext  
-ldl
```

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 -z muldefs -O3 -march=znver5  
-fveclib=AMDLIBM -ffast-math -flto  
-fepilog-vectorization-of-inductions -mllvm -optimize-strided-mem-cost  
-floop-transform -mllvm -unroll-aggressive -mllvm -unroll-threshold=500  
-lamdlibm -lflang -lamdalloc -ldl
```

## Base Other Flags

C benchmarks:

```
-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.html>

<http://www.spec.org/cpu2017/flags/Cisco-Platform-Settings-AMD-Turin-v1.1-revG.html>

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

<http://www.spec.org/cpu2017/flags/aocc500-flags.xml>

<http://www.spec.org/cpu2017/flags/Cisco-Platform-Settings-AMD-Turin-v1.1-revG.xml>

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