



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant Compute DL325 Gen12

(3.65 GHz, AMD EPYC 9135)

SPECrate®2017_fp_base = 345

SPECrate®2017_fp_peak = 354

CPU2017 License: 3

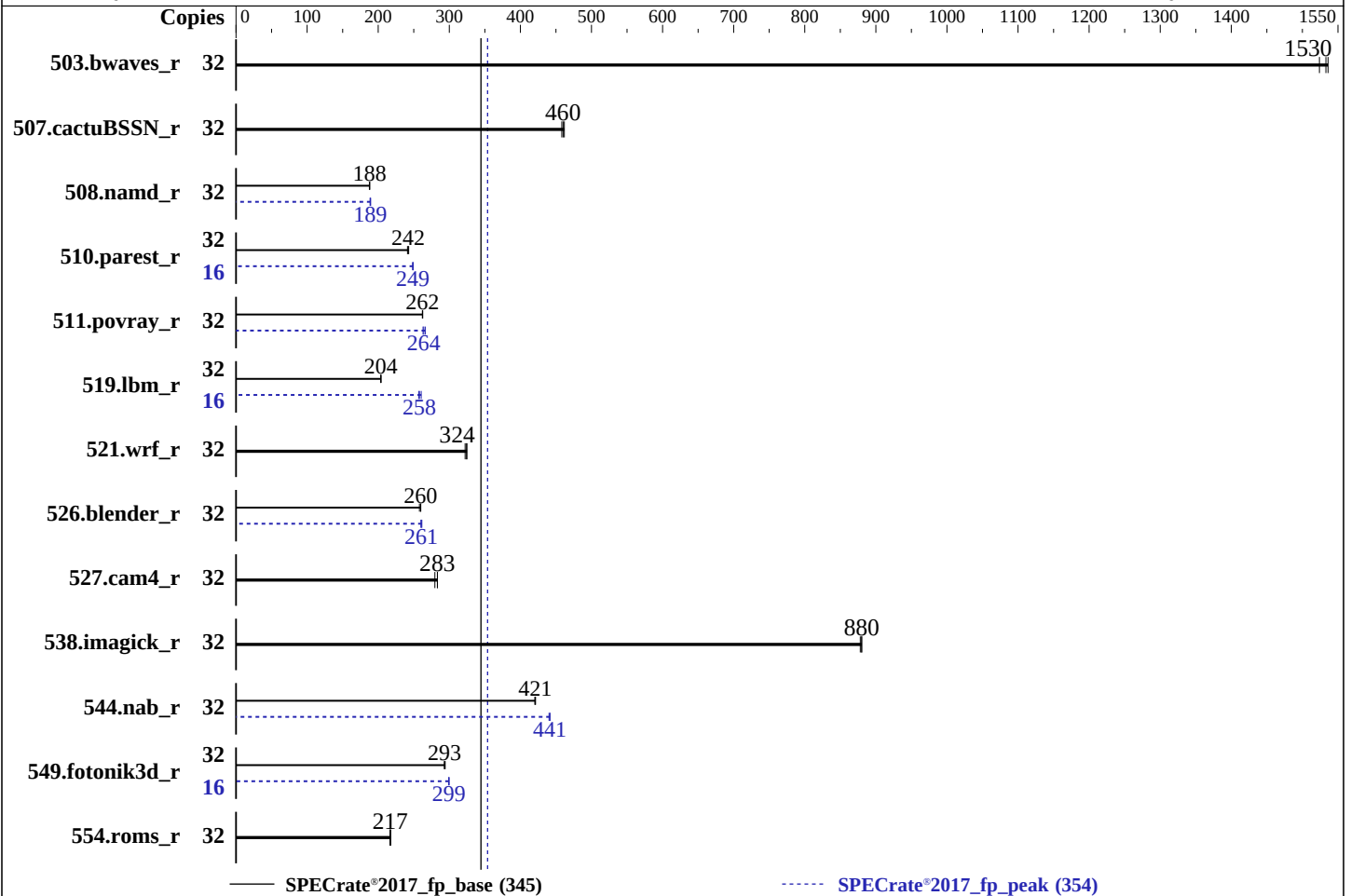
Test Sponsor: HPE

Tested by: HPE

Test Date: Sep-2025

Hardware Availability: Jul-2025

Software Availability: Oct-2024



Hardware

CPU Name: AMD EPYC 9135
Max MHz: 4300
Nominal: 3650
Enabled: 16 cores, 1 chip, 2 threads/core
Orderable: 1 chip
Cache L1: 32 KB I + 48 KB D on chip per core
L2: 1 MB I+D on chip per core
L3: 64 MB I+D on chip per chip, 16 MB shared / 4 cores
Other: None
Memory: 768 GB (12 x 64 GB 2Rx4 PC5-6400B-R, running at 5200)
Storage: 1 x 2 TB NVMe SSD
Other: CPU Cooling: Air

Software

OS: SUSE Linux Enterprise Server 15 SP6
kernel 6.4.0-150600.21-default
Compiler: C/C++/Fortran: Version 5.0.0 of AOCC
Parallel: No
Firmware: HPE BIOS Version v1.20 07/11/2025 released Jul-2025
File System: ext4
System State: Run level 5 (multi-user)
Base Pointers: 64-bit
Peak Pointers: 64-bit
Other: None
Power Management: BIOS and OS set to prefer performance at the cost of additional power usage



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant Compute DL325 Gen12

(3.65 GHz, AMD EPYC 9135)

SPECrate®2017_fp_base = 345

SPECrate®2017_fp_peak = 354

CPU2017 License: 3

Test Sponsor: HPE

Tested by: HPE

Test Date: Sep-2025

Hardware Availability: Jul-2025

Software Availability: Oct-2024

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
503.bwaves_r	32	209	1530	209	1540	211	1520	32	209	1530	209	1540	211	1520
507.cactuBSSN_r	32	88.1	460	87.7	462	88.4	458	32	88.1	460	87.7	462	88.4	458
508.namd_r	32	162	188	162	188	162	188	32	161	189	161	189	161	189
510.parest_r	32	347	241	345	243	346	242	16	168	249	169	248	168	249
511.povray_r	32	285	262	285	262	284	263	32	281	266	283	264	284	263
519.lbm_r	32	165	204	166	204	166	204	16	65.3	258	64.7	261	65.6	257
521.wrf_r	32	221	325	221	324	222	322	32	221	325	221	324	222	322
526.blender_r	32	189	258	188	260	188	260	32	186	261	187	260	187	261
527.cam4_r	32	200	280	198	283	198	283	32	200	280	198	283	198	283
538.imagick_r	32	90.4	880	90.4	880	90.6	878	32	90.4	880	90.4	880	90.6	878
544.nab_r	32	128	421	128	421	128	420	32	122	442	122	441	122	440
549.fotonik3d_r	32	426	293	424	294	425	293	16	208	300	208	299	208	299
554.roms_r	32	235	216	234	218	234	217	32	235	216	234	218	234	217

SPECrate®2017_fp_base = 345

SPECrate®2017_fp_peak = 354

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,

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant Compute DL325 Gen12

(3.65 GHz, AMD EPYC 9135)

SPECrate®2017_fp_base = 345

SPECrate®2017_fp_peak = 354

CPU2017 License: 3

Test Sponsor: HPE

Tested by: HPE

Test Date: Sep-2025

Hardware Availability: Jul-2025

Software Availability: Oct-2024

Operating System Notes (Continued)

'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:

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 Configurations : Parameters are selected in the order shown below

Workload Profile set to High Performance Compute (HPC)

Determinism Control set to Manual

Performance Determinism set to Power Deterministic

Memory Patrol Scrubbing set to Disabled

ACPI CST C2 Latency set to 18 microseconds

Last-Level Cache (LLC) as NUMA Node set to Enabled

NUMA memory domains per socket set to Four memory domains per socket

Thermal Configuration set to Enhanced CPU Cooling

AMD Periodic Directory Rinse set to Periodic

Workload Profile set to Custom

Power Regulator set to OS Control Mode

Sysinfo program /home/cpu2017/bin/sysinfo

Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197

running on localhost Mon Sep 15 00:56:20 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

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant Compute DL325 Gen12

(3.65 GHz, AMD EPYC 9135)

SPECrate®2017_fp_base = 345

SPECrate®2017_fp_peak = 354

CPU2017 License: 3

Test Sponsor: HPE

Tested by: HPE

Test Date: Sep-2025

Hardware Availability: Jul-2025

Software Availability: Oct-2024

Platform Notes (Continued)

```
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. sysctl
16. /sys/kernel/mm/transparent_hugepage
17. /sys/kernel/mm/transparent_hugepage/khugepaged
18. OS release
19. Disk information
20. /sys/devices/virtual/dmi/id
21. dmidecode
22. BIOS
```

```
1. uname -a
Linux localhost 6.4.0-150600.21-default #1 SMP PREEMPT_DYNAMIC Thu May 16 11:09:22 UTC 2024 (36c1e09/lp)
x86_64 x86_64 x86_64 GNU/Linux
```

```
2. w
00:56:20 up 3 days, 14:21, 7 users, load average: 21.28, 28.44, 29.83
USER      TTY      FROM            LOGIN@   IDLE   JCPU   PCPU WHAT
root      pts/2    10.79.30.183    20:49    4:06m  0.03s  0.03s -bash
root      pts/3    10.79.30.183:S.0 20:52    4:02m  0.86s  0.12s /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) 3094764
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) 3094764
virtual memory          (kbytes, -v) unlimited
file locks              (-x) unlimited
```

```
5. sysinfo process ancestry
/usr/lib/systemd/systemd --switched-root --system --deserialize=42
sshd: /usr/sbin/sshd -D [listener] 0 of 10-100 startups
sshd: root [priv]
sshd: root@pts/0
-bash
screen -S cpu
SCREEN -S cpu
/bin/bash
```

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant Compute DL325 Gen12

(3.65 GHz, AMD EPYC 9135)

SPECrate®2017_fp_base = 345

SPECrate®2017_fp_peak = 354

CPU2017 License: 3

Test Sponsor: HPE

Tested by: HPE

Test Date: Sep-2025

Hardware Availability: Jul-2025

Software Availability: Oct-2024

Platform Notes (Continued)

```
python3 ./run_intrate.py
/bin/bash ./amd_rate_aocc500_znver5_A1.sh
runcpu --config amd_rate_aocc500_znver5_A1.cfg --tune all --reportable --iterations 3 fprate
runcpu --configfile amd_rate_aocc500_znver5_A1.cfg --tune all --reportable --iterations 3 --nopower
--runmode rate --tune base:peak --size test:train:refrate fprate --nopreenv --note-preenv --logfile
$SPEC/tmp/CPU2017.042/temlogs/preenv.fprate.042.0.log --lognum 042.0 --from_runcpu 2
specperl $SPEC/bin/sysinfo
$SPEC = /home/cpu2017
```

6. /proc/cpuinfo

```
model name      : AMD EPYC 9135 16-Core Processor
vendor_id       : AuthenticAMD
cpu family      : 26
model           : 2
stepping        : 1
microcode       : 0xb002151
bugs            : sysret_ss_attrs spectre_v1 spectre_v2 spec_store_bypass
TLB size        : 192 4K pages
cpu cores       : 16
siblings        : 32
1 physical ids (chips)
32 processors (hardware threads)
physical id 0:  core ids 0-15
physical id 0:  apicids 0-31
```

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):                32
On-line CPU(s) list:   0-31
Vendor ID:             AuthenticAMD
BIOS Vendor ID:        Advanced Micro Devices, Inc.
Model name:            AMD EPYC 9135 16-Core Processor
BIOS Model name:       AMD EPYC 9135 16-Core Processor
BIOS CPU family:       107
CPU family:            26
Model:                 2
Thread(s) per core:    2
Core(s) per socket:    16
Socket(s):             1
Stepping:              1
Frequency boost:        enabled
CPU(s) scaling MHz:    112%
CPU max MHz:           3650.0000
CPU min MHz:           1500.0000
BogoMIPS:              7289.18
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 movbe popcnt aes xsave avx f16c rdrand lahf_lm
                        cmp_legacy extapic cr8_legacy abm sse4a misalignsse 3dnowprefetch
```

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant Compute DL325 Gen12
(3.65 GHz, AMD EPYC 9135)

SPECrate®2017_fp_base = 345

SPECrate®2017_fp_peak = 354

CPU2017 License: 3

Test Sponsor: HPE

Tested by: HPE

Test Date: Sep-2025

Hardware Availability: Jul-2025

Software Availability: Oct-2024

Platform Notes (Continued)

osvw ibs skinit wdt tce topoext perfctr_core perfctr_nb bpext
perfctr_llc mwaitx cpb cat_l3 cdp_l3 hw_pstate ssbd mba perfmon_v2
ibrs ibpb stibp ibrs_enhanced vmmcall fsgsbase tsc_adjust bmi1 avx2
smep bmi2 erms invpcid cqm rdt_a avx512f avx512dq rdseed adx smap
avx512ifma clflushopt clwb avx512cd sha_ni avx512bw avx512vl xsaveopt
xsavec xgetbv1 xsaves cqm_llc cqm_occup_llc cqm_mbm_total
cqm_mbm_local user_shstk avx_vnni avx512_bf16 clzero irperf
xsaveerptr rdpru wbnoinvd amd_ppin cppc arat npt lbrv svm_lock
nrip_save tsc_scale vmcb_clean flushbyasid decodeassists pausefilter
pfthreshold avic v_vmsave_vmload vgif x2avic v_spec_ctrl vnmi
avx512vbmi umip pku ospke avx512_vbmi2 gfni vaes vpclmulqdq
avx512_vnni avx512_bitalg avx512_vpopcntdq la57 rdpid bus_lock_detect
movdiri movdir64b overflow_recov succor smca fsrm avx512_vp2intersect
flush_l1d debug_swap
768 KiB (16 instances)
512 KiB (16 instances)
16 MiB (16 instances)
64 MiB (4 instances)
4
0-3,16-19
4-7,20-23
8-11,24-27
12-15,28-31
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; PBRBS-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	768K	12	Data	1	64	1	64
L1i	32K	512K	8	Instruction	1	64	1	64
L2	1M	16M	16	Unified	2	1024	1	64
L3	16M	64M	16	Unified	3	16384	1	64

8. numactl --hardware

NOTE: a numactl 'node' might or might not correspond to a physical chip.

available: 4 nodes (0-3)
node 0 cpus: 0-3,16-19
node 0 size: 193217 MB
node 0 free: 192188 MB
node 1 cpus: 4-7,20-23
node 1 size: 193495 MB
node 1 free: 192915 MB
node 2 cpus: 8-11,24-27
node 2 size: 193533 MB
node 2 free: 192852 MB
node 3 cpus: 12-15,28-31

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant Compute DL325 Gen12

(3.65 GHz, AMD EPYC 9135)

SPECrate®2017_fp_base = 345

SPECrate®2017_fp_peak = 354

CPU2017 License: 3

Test Sponsor: HPE

Tested by: HPE

Test Date: Sep-2025

Hardware Availability: Jul-2025

Software Availability: Oct-2024

Platform Notes (Continued)

node 3 size: 193475 MB

node 3 free: 192861 MB

node distances:

node	0	1	2	3
0:	10	12	12	12
1:	12	10	12	12
2:	12	12	10	12
3:	12	12	12	10

9. /proc/meminfo

MemTotal: 792290752 kB

10. who -r

run-level 5 Sep 11 10:35

11. Systemd service manager version: systemd 254 (254.10+suse.84.ge8d77af424)

Default Target	Status
graphical	running

12. Services, from systemctl list-unit-files

STATE	UNIT FILES
-------	------------

enabled	ModemManager YaST2-Firstboot YaST2-Second-Stage apparmor appstream-sync-cache auditd bluetooth cron display-manager getty@ irqbalance iscsi issue-generator kbdsettings klog lvm2-monitor nscd nvme-fc-boot-connections nvme-fc-autoconnect oracle postfix purge-kernels rollback rsyslog sapconf smartd sshd sysctl-logger systemd-pstore virtqemu virtxend wicked wickedd-auto4 wickedd-dhcp4 wickedd-dhcp6 wickedd-nanny wpa_supplicant xencommons
enabled-runtime	systemd-fsck-root systemd-remount-fs
disabled	NetworkManager NetworkManager-dispatcher NetworkManager-wait-online accounts-daemon amavis apache2 apache2@ autofs autoyast-initscripts bgpd blk-availability bluetooth-mesh boot-sysctl booth-arbitrator booth@ ca-certificates certmonger chrony-wait chronyd clamav-milter clamd console-getty corosync corosync-notifyd crm_mon ctdb cups cups-browsed ddcclient debug-shell dhcpd dhcpd6 dhcrelay dhcrelay6 dirsrv@ dlm dnsmasq drbd drbd-lvchange@ drbd-wait-promotable@ ebttables exchange-bmc-os-info fetchmail firewallld freshclam fsidd gpm grub2-once haveged hawk hwloc-dump-hwdata ipmi ipmievdt ipvsadm iscsi-init iscsid isid issue-add-ssh-keys kexec-load ksm kvm_stat ldirectord libvirt-guests logd lunmask lvmlockd lvmlocks man-db-create mariadb mariadb@ multipathd named nfs nfs-blkmap nfs-server nfs-server nmb openvpn@ ospf6d ospfd ostree-remount pacemaker racoon racoon-setkey radvd rarpd@ ripd ripngd rpcbnd rpmconfigcheck rsyncd rtkit-daemon sanlock sbd sbd_remote serial-getty@ smartd-generate_opts smb snmpd snmptrapd spamd spamd speech-dispatcherd squid srp_daemon srp_daemon_port@ strongswan strongswan-starter svnserv sysstat systemd-boot-check-no-failures systemd-confext systemd-network-generator systemd-nspawn@ systemd-sysext systemd-time-wait-sync systemd-timesyncd tcdd udisks2 update-system-flatpaks upower virtinterfaced virtlockd virtlogd virtnetworkd virtnodevdev virtnwfilterd virtsecret virtstoraged vncserver@ vsftpd wdm winbind wpa_supplicant@ xen-dom0-modules xen-init-dom0 xen-qemu-dom0-disk-backend xen-watchdog xenconsoled xendomains xenstored zebra pcsd saned@ systemd-userdbd tftpd uidd wickedd
indirect	

13. Linux kernel boot-time arguments, from /proc/cmdline

BOOT_IMAGE=/boot/vmlinuz-6.4.0-150600.21-default
root=UUID=97def8eb-7bcd-4ed3-b3a2-8816e352f9b0
splash=silent
mitigations=auto
quiet
security=apparmor

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant Compute DL325 Gen12

(3.65 GHz, AMD EPYC 9135)

SPECrate®2017_fp_base = 345

SPECrate®2017_fp_peak = 354

CPU2017 License: 3

Test Sponsor: HPE

Tested by: HPE

Test Date: Sep-2025

Hardware Availability: Jul-2025

Software Availability: Oct-2024

Platform Notes (Continued)

amd_pstate=active

14. cpupower frequency-info

analyzing CPU 29:

current policy: frequency should be within 1.50 GHz and 3.65 GHz.

The governor "performance" may decide which speed to use within this range.

boost state support:

Supported: yes

Active: yes

15. sysctl

kernel.numa_balancing	0
kernel.randomize_va_space	0
vm.compaction_proactiveness	20
vm.dirty_background_bytes	314572800
vm.dirty_background_ratio	0
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

16. /sys/kernel/mm/transparent_hugepage

defrag	[always]	defer	defer+madvise	madvise	never
enabled	[always]	madvise	never		
hpage_pmd_size	2097152				
shmem_enabled	always	within_size	advise	[never]	deny force

17. /sys/kernel/mm/transparent_hugepage/khugepaged

alloc_sleep_millisecs	60000
defrag	1
max_ptes_none	511
max_ptes_shared	256
max_ptes_swap	64
pages_to_scan	4096
scan_sleep_millisecs	10000

18. OS release

From /etc/*-release /etc/*-version

os-release SUSE Linux Enterprise Server 15 SP6

19. Disk information

SPEC is set to: /home/cpu2017

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
------------	------	------	------	-------	------	------------

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant Compute DL325 Gen12

(3.65 GHz, AMD EPYC 9135)

SPECrate®2017_fp_base = 345

SPECrate®2017_fp_peak = 354

CPU2017 License: 3

Test Sponsor: HPE

Tested by: HPE

Test Date: Sep-2025

Hardware Availability: Jul-2025

Software Availability: Oct-2024

Platform Notes (Continued)

/dev/nvme1n1p3 ext4 1.8T 20G 1.7T 2% /

20. /sys/devices/virtual/dmi/id

Vendor: HPE

Product: HPE ProLiant Compute DL325 Gen12

Product Family: ProLiant

Serial: SANJACSCM

21. 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:

8x Hynix HMC94AHBRA480N 64 GB 2 rank 6400, configured at 5200

4x Micron MTC40F2046S1RC64BD2 QSFF 64 GB 2 rank 6400, configured at 5200

22. BIOS

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

BIOS Vendor: HPE

BIOS Version: 1.20

BIOS Date: 07/11/2025

BIOS Revision: 1.20

Firmware Revision: 1.16

Compiler Version Notes

C | 519.lbm_r(base, peak) 538.imagick_r(base, peak) 544.nab_r(base, peak)

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++ | 508.namd_r(base, peak) 510.parest_r(base, peak)

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++, C | 511.povray_r(base, peak) 526.blender_r(base, peak)

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

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

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant Compute DL325 Gen12
(3.65 GHz, AMD EPYC 9135)

SPECrate®2017_fp_base = 345

SPECrate®2017_fp_peak = 354

CPU2017 License: 3

Test Sponsor: HPE

Tested by: HPE

Test Date: Sep-2025

Hardware Availability: Jul-2025

Software Availability: Oct-2024

Compiler Version Notes (Continued)

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

=====
C++, C, Fortran | 507.cactuBSSN_r(base, peak)

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

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

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 | 503.bwaves_r(base, peak) 549.fotonik3d_r(base, peak) 554.roms_r(base, peak)

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, C | 521.wrf_r(base, peak) 527.cam4_r(base, peak)

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

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

Base Compiler Invocation

C benchmarks:

clang

C++ benchmarks:

clang++

Fortran benchmarks:

flang

Benchmarks using both Fortran and C:

flang clang

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant Compute DL325 Gen12

(3.65 GHz, AMD EPYC 9135)

SPECrate®2017_fp_base = 345

SPECrate®2017_fp_peak = 354

CPU2017 License: 3

Test Sponsor: HPE

Tested by: HPE

Test Date: Sep-2025

Hardware Availability: Jul-2025

Software Availability: Oct-2024

Base Compiler Invocation (Continued)

Benchmarks using both C and C++:

clang++ clang

Benchmarks using Fortran, C, and C++:

clang++ clang flang

Base Portability Flags

503.bwaves_r: -DSPEC_LP64
507.cactuBSSN_r: -DSPEC_LP64
508.namd_r: -DSPEC_LP64
510.parest_r: -DSPEC_LP64
511.povray_r: -DSPEC_LP64
519.lbm_r: -DSPEC_LP64
521.wrf_r: -DSPEC_CASE_FLAG -Mbyteswapio -DSPEC_LP64
526.blender_r: -funsigned-char -DSPEC_LP64
527.cam4_r: -DSPEC_CASE_FLAG -DSPEC_LP64
538.imagick_r: -DSPEC_LP64
544.nab_r: -DSPEC_LP64
549.fotonik3d_r: -DSPEC_LP64
554.roms_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 -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 -lamdalloc
-lflang -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,-x86-use-vzeroupper=false -Wl,-mllvm -Wl,-extra-inliner
-O3 -march=znver5 -fveclib=AMDLIBM -ffast-math -flto
-mllvm -unroll-threshold=100 -mllvm -loop-unswitch-threshold=2000000

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant Compute DL325 Gen12

(3.65 GHz, AMD EPYC 9135)

SPECrate®2017_fp_base = 345

SPECrate®2017_fp_peak = 354

CPU2017 License: 3

Test Sponsor: HPE

Tested by: HPE

Test Date: Sep-2025

Hardware Availability: Jul-2025

Software Availability: Oct-2024

Base Optimization Flags (Continued)

C++ benchmarks (continued):

-mllvm -reduce-array-computations=3 -zopt -lamdlibm -lamdalloc
-lflang -ldl

Fortran benchmarks:

-m64 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3
-Wl,-mllvm -Wl,-enable-X86-prefetching
-Wl,-mllvm -Wl,-enable-aggressive-gather=true
-Wl,-mllvm -Wl,-enable-masked-gather-sequence=false -O3 -march=znver5
-fveclib=AMDLIBM -ffast-math -flto -Mrecursive -funroll-loops
-mllvm -lsr-in-nested-loop -mllvm -reduce-array-computations=3
-fepilog-vectorization-of-inductions -zopt -lamdlibm -lamdalloc
-lflang -ldl

Benchmarks using both Fortran and C:

-m64 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3
-Wl,-mllvm -Wl,-enable-X86-prefetching
-Wl,-mllvm -Wl,-enable-aggressive-gather=true
-Wl,-mllvm -Wl,-enable-masked-gather-sequence=false -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 -Mrecursive -funroll-loops
-mllvm -lsr-in-nested-loop -fepilog-vectorization-of-inductions
-lamdlibm -lamdalloc -lflang -ldl

Benchmarks using both C and C++:

-m64 -std=c++14 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3
-Wl,-mllvm -Wl,-x86-use-vzeroupper=false -Wl,-mllvm -Wl,-extra-inliner
-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 -mllvm -unroll-threshold=100
-mllvm -loop-unswitch-threshold=200000 -lamdlibm -lamdalloc -lflang
-ldl

Benchmarks using Fortran, C, and C++:

-m64 -std=c++14 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3
-Wl,-mllvm -Wl,-x86-use-vzeroupper=false -Wl,-mllvm -Wl,-extra-inliner
-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

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant Compute DL325 Gen12

(3.65 GHz, AMD EPYC 9135)

SPECrate®2017_fp_base = 345

SPECrate®2017_fp_peak = 354

CPU2017 License: 3

Test Sponsor: HPE

Tested by: HPE

Test Date: Sep-2025

Hardware Availability: Jul-2025

Software Availability: Oct-2024

Base Optimization Flags (Continued)

Benchmarks using Fortran, C, and C++ (continued):

-mllvm -reduce-array-computations=3 -zopt -mllvm -unroll-threshold=100
-mllvm -loop-unswitch-threshold=200000 -Mrecursive -funroll-loops
-mllvm -lsr-in-nested-loop -fepilog-vectorization-of-inductions
-lamdlibm -lamdalloc -lflang -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

Benchmarks using both Fortran and C:

-Wno-unused-command-line-argument

Benchmarks using both C and C++:

-Wno-unused-command-line-argument

Benchmarks using Fortran, C, and C++:

-Wno-unused-command-line-argument

Peak Compiler Invocation

C benchmarks:

clang

C++ benchmarks:

clang++

Fortran benchmarks:

flang

Benchmarks using both Fortran and C:

flang clang

Benchmarks using both C and C++:

clang++ clang

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant Compute DL325 Gen12

(3.65 GHz, AMD EPYC 9135)

SPECrate®2017_fp_base = 345

SPECrate®2017_fp_peak = 354

CPU2017 License: 3

Test Sponsor: HPE

Tested by: HPE

Test Date: Sep-2025

Hardware Availability: Jul-2025

Software Availability: Oct-2024

Peak Compiler Invocation (Continued)

Benchmarks using Fortran, C, and C++:

clang++ clang flang

Peak Portability Flags

Same as Base Portability Flags

Peak Optimization Flags

C benchmarks:

```
519.lbm_r: -m64 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3 -Ofast
-march=znver5 -fveclib=AMDLIBM -ffast-math -flto
-fstruct-layout=7 -mllvm -unroll-threshold=50
-fremap-arrays -fstrip-mining
-mllvm -inline-threshold=1000
-mllvm -reduce-array-computations=3 -zopt -lamdlibm
-lamdalloc -ldl
```

538.imagick_r: basepeak = yes

```
544.nab_r: -m64 -flto -Wl,-mllvm -Wl,-ldist-scalar-expand
-fenable-aggressive-gather -Ofast -march=znver5
-fveclib=AMDLIBM -ffast-math -fstruct-layout=7
-mllvm -unroll-threshold=50 -fremap-arrays -fstrip-mining
-mllvm -inline-threshold=1000
-mllvm -reduce-array-computations=3 -zopt -lamdlibm
-lamdalloc -ldl
```

C++ benchmarks:

```
508.namd_r: -m64 -std=c++14
-Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3
-Wl,-mllvm -Wl,-x86-use-vzeroupper=false -Ofast
-march=znver5 -fveclib=AMDLIBM -ffast-math -flto
-mllvm -unroll-threshold=100
-mllvm -reduce-array-computations=3 -zopt -lamdlibm
-lamdalloc -ldl
```

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant Compute DL325 Gen12

(3.65 GHz, AMD EPYC 9135)

SPECrate®2017_fp_base = 345

SPECrate®2017_fp_peak = 354

CPU2017 License: 3

Test Sponsor: HPE

Tested by: HPE

Test Date: Sep-2025

Hardware Availability: Jul-2025

Software Availability: Oct-2024

Peak Optimization Flags (Continued)

```
510.parest_r: -m64 -std=c++14 -flto -Wl,-mllvm -Wl,-suppress-fmas
-Wl,-mllvm -Wl,-x86-use-vzeroupper=false -Ofast
-march=znver5 -fveclib=AMDLIBM -ffast-math
-mllvm -unroll-threshold=100
-mllvm -reduce-array-computations=3 -zopt -lamdlibm
-lamdalloc -ldl
```

Fortran benchmarks:

503.bwaves_r: basepeak = yes

```
549.fotonik3d_r: -m64 -Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3 -Ofast
-march=znver5 -fveclib=AMDLIBM -ffast-math -flto
-Mreduce-array-computations=3
-fepilog-vectorization-of-inductions -fvector-transform
-fscalar-transform -lamdlibm -lamdalloc -ldl -lflang
```

554.roms_r: basepeak = yes

Benchmarks using both Fortran and C:

521.wrf_r: basepeak = yes

527.cam4_r: basepeak = yes

Benchmarks using both C and C++:

```
511.povray_r: -m64 -std=c++14
-Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3
-Wl,-mllvm -Wl,-x86-use-vzeroupper=false
-Wl,-mllvm -Wl,-extra-inliner -Ofast -march=znver5
-fveclib=AMDLIBM -ffast-math -flto -fstruct-layout=7
-mllvm -unroll-threshold=50 -mllvm -inline-threshold=1000
-freemap-arrays -mllvm -reduce-array-computations=3 -zopt
-mllvm -unroll-threshold=100
-mllvm -loop-unswitch-threshold=2000000 -lamdlibm
-lamdalloc -ldl
```

```
526.blender_r: -m64 -std=c++14
-Wl,-mllvm -Wl,-align-all-nofallthru-blocks=6
-Wl,-mllvm -Wl,-reduce-array-computations=3
-Wl,-mllvm -Wl,-x86-use-vzeroupper=false -Ofast
```

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant Compute DL325 Gen12

(3.65 GHz, AMD EPYC 9135)

SPECrate®2017_fp_base = 345

SPECrate®2017_fp_peak = 354

CPU2017 License: 3

Test Sponsor: HPE

Tested by: HPE

Test Date: Sep-2025

Hardware Availability: Jul-2025

Software Availability: Oct-2024

Peak Optimization Flags (Continued)

526.blender_r (continued):

```
-march=znver5 -fveclib=AMDLIBM -ffast-math -flto  
-fstruct-layout=7 -mllvm -unroll-threshold=50  
-fremap-arrays -fstrip-mining  
-mllvm -inline-threshold=1000  
-mllvm -reduce-array-computations=3 -zopt  
-mllvm -unroll-threshold=100 -lamdlibm -lamdalloc -ldl
```

Benchmarks using Fortran, C, and C++:

507.cactuBSSN_r: basepeak = yes

Peak Other Flags

C benchmarks:

-Wno-unused-command-line-argument

C++ benchmarks:

-Wno-unused-command-line-argument

Fortran benchmarks:

-Wno-unused-command-line-argument

Benchmarks using both Fortran and C:

-Wno-unused-command-line-argument

Benchmarks using both C and C++:

-Wno-unused-command-line-argument

Benchmarks using Fortran, C, and C++:

-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/HPE-Platform-Flags-AMD-Turin-rev1.7.html>

<http://www.spec.org/cpu2017/flags/aocc500-flags.2024-10-10.html>

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

<http://www.spec.org/cpu2017/flags/HPE-Platform-Flags-AMD-Turin-rev1.7.xml>

<http://www.spec.org/cpu2017/flags/aocc500-flags.2024-10-10.xml>



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

Hewlett Packard Enterprise

(Test Sponsor: HPE)

ProLiant Compute DL325 Gen12

(3.65 GHz, AMD EPYC 9135)

SPECrate®2017_fp_base = 345

SPECrate®2017_fp_peak = 354

CPU2017 License: 3

Test Sponsor: HPE

Tested by: HPE

Test Date: Sep-2025

Hardware Availability: Jul-2025

Software Availability: Oct-2024

SPEC CPU and SPECrate 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.

Tested with SPEC CPU®2017 v1.1.9 on 2025-09-15 01:56:20-0400.

Report generated on 2025-11-05 12:06:38 by CPU2017 PDF formatter v6716.

Originally published on 2025-11-04.