

SPEC CPU®2017 Floating Point Rate Result

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My Corporation

SPECrate®2017_fp_base = 9.59

SPECrate®2017_fp_peak = Not Run

CPU2017 License: nnn (Your SPEC license number)

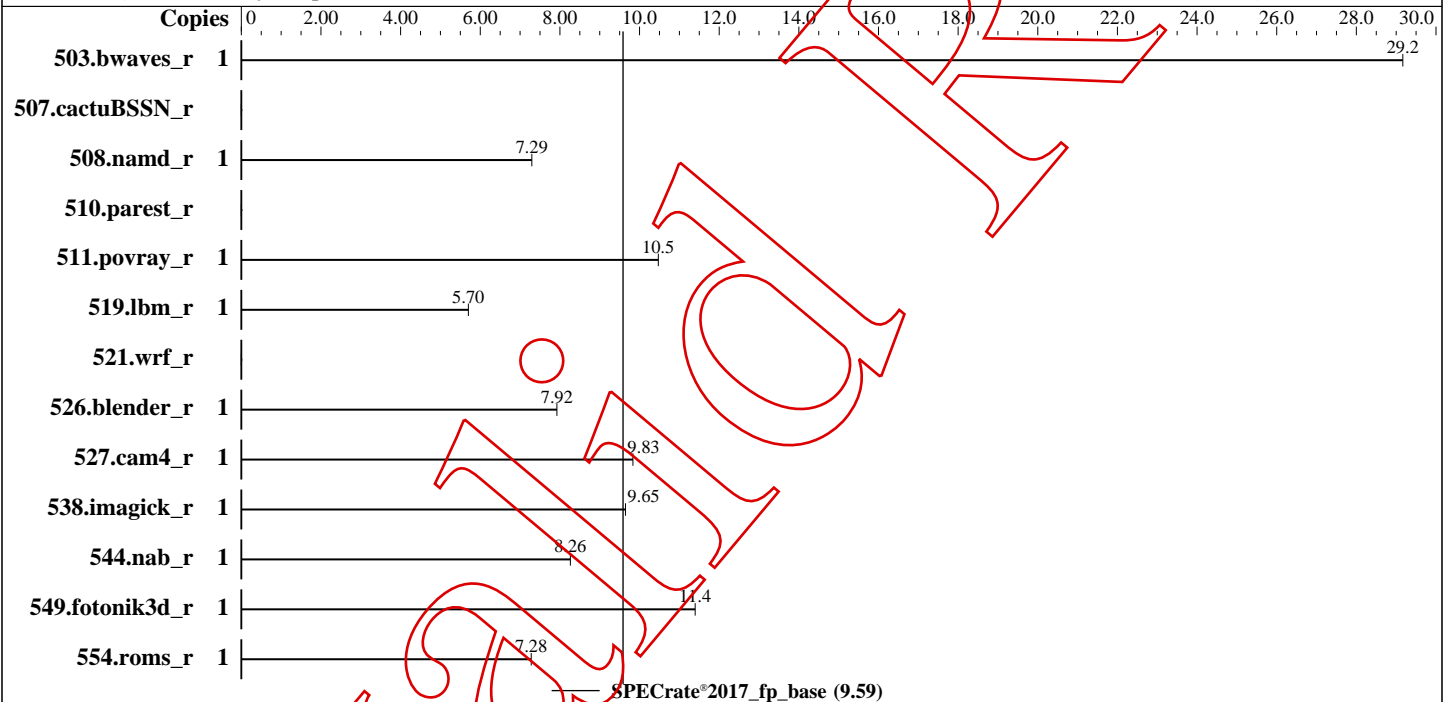
Test Sponsor: My Corporation

Tested by: My Corporation

Test Date: Oct-2024

Hardware Availability:

Software Availability:



Hardware

CPU Name: 06/8f
Max MHz:
Nominal:
Enabled: cores, 1 chip, threads/core
Orderable:
Cache L1:
L2:
L3:
Other:
Memory: 1.785 GB fixme: If using DDR4, the format is:
'N GB (N x M GB nRxn PC4-nnnnX-X)'
Storage: 51 GB add more disk info here
Other:

Software

OS: Ubuntu 24.04 LTS
6.8.0-35-generic
Compiler: C/C++/Fortran: Version 10.1.0 of GCC, the
GNU Compiler Collection
Parallel: No
Firmware:
File System: ext4
System State: Run level 5 (add definition here)
Base Pointers: 64-bit
Peak Pointers: Not Applicable
Other:
Power Management:

Errors

'reportable' flag not set during run
538.imagick_r (base) did not have enough runs!
544.nab_r (base) did not have enough runs!
549.fotonik3d_r (base) did not have enough runs!
527.cam4_r (base) did not have enough runs!
508.namd_r (base) did not have enough runs!
554.roms_r (base) did not have enough runs!

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Errors (Continued)

521.wrf_r (base) did not have enough runs!
510.parest_r (base) did not have enough runs!
503.bwaves_r (base) did not have enough runs!
519.lbm_r (base) did not have enough runs!
507.cactuBSSN_r (base) did not have enough runs!
526.blender_r (base) did not have enough runs!
511.povray_r (base) did not have enough runs!
521.wrf_r (base) had invalid runs!
510.parest_r (base) had invalid runs!
507.cactuBSSN_r (base) had invalid runs!
Run of 507.cactuBSSN_r (base) was not valid; status is CE
Run of 510.parest_r (base) was not valid; status is CE
Run of 521.wrf_r (base) was not valid; status is CE

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
503.bwaves_r	1	<u>344</u>	<u>29.2</u>											
507.cactuBSSN_r	1	0.00	0.00											
508.namd_r	1	<u>130</u>	<u>7.29</u>											
510.parest_r	1	0.00	0.00											
511.povray_r	1	<u>223</u>	<u>10.5</u>											
519.lbm_r	1	<u>185</u>	<u>5.70</u>											
521.wrf_r	1	0.00	0.00											
526.blender_r	1	<u>192</u>	<u>7.92</u>											
527.cam4_r	1	<u>178</u>	<u>9.83</u>											
538.imagick_r	1	<u>258</u>	<u>9.65</u>											
544.nab_r	1	<u>204</u>	<u>8.26</u>											
549.fotonik3d_r	1	<u>342</u>	<u>11.4</u>											
554.roms_r	1	<u>218</u>	<u>7.28</u>											

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Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Environment Variables Notes

Environment variables set by runcpu before the start of the run:
LD_LIBRARY_PATH = "/usr/lib64:/usr/lib:/lib64"

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Platform Notes

Sysinfo program /home/tdx/speccpu2017/bin/sysinfo
Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197
running on tdx-guest Thu Oct 24 15:51:36 2024

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-lubuntu8.1)
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/dmidecode
22. dmidecode
23. BIOS

1. uname -a
Linux tdx-guest 6.8.0-35-generic #35-Ubuntu SMP PREEMPT_DYNAMIC Mon May 20 15:51:52 UTC 2024 x86_64 x86_64
x86_64 GNU/Linux

2. w
15:51:36 up 3:44, 1 user, load average: 0.08, 0.02, 0.01
USER TTY FROM LOGIN@ IDLE JCPU PCPU WHAT
root hvc0 - 12:07 8.00s 2.39s ? sh -c w 2>/dev/null

3. Username
From environment variable \$USER: root

4. ulimit -a
time(seconds) unlimited
file(blocks) unlimited
data(kbytes) unlimited
stack(kbytes) 8192
coredump(blocks) 0
memory(kbytes) unlimited
locked memory(kbytes) 233908
process 7107

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Software Availability:

Platform Notes (Continued)

nofiles 1024
vmemory(kbytes) unlimited
locks unlimited
rtprio 0

5. sysinfo process ancestry

```
/sbin/init
/bin/login -p --
-bash
runcpu --config=tdx2.cfg --tune=base --size=ref all
runcpu --configfile tdx2.cfg --tune base --size ref --noreportable --nopower --runmode rate --tune base
--size refrate fprate --nopreenv --note-preenv --logfile
$SPEC/tmp/CPU2017.014/templots/preenv.fprate.014.0.log --lognum 014.0 --from_runcpu 2
specperl $SPEC/bin/sysinfo
$SPEC = /home/tdx/speccpu2017
```

6. /proc/cpuinfo

```
model name      : 06/8f
vendor_id       : GenuineIntel
cpu family      : 6
model           : 143
stepping        : 8
microcode       : 0x2b0005d1
bugs            : spectre_v1 spectre_v2 spec_store_bypass swapgs eibrs_pbrsb bhi
cpu cores       : 16
siblings        : 16
1 physical ids (chips)
16 processors (hardware threads)
physical id 0: core ids 0-15
physical id 0: apicids 0-15
```

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):	16
On-line CPU(s) list:	0-15
Vendor ID:	GenuineIntel
BIOS Vendor ID:	QEMU
Model name:	06/8f
BIOS Model name:	pc-q35-8.2 CPU @ 2.0GHz
BIOS CPU family:	1
CPU family:	6
Model:	143
Thread(s) per core:	1
Core(s) per socket:	16
Socket(s):	1
Stepping:	8
BogoMIPS:	4800.00
Flags:	fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov pat clflush dts mmx fxsr sse sse2 ss ht tm syscall nx pdpe1gb rdtscp lm constant_tsc bts rep_good nopl tsc_reliable nonstop_tsc cpuid

(Continued on next page)

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Software Availability:

Platform Notes (Continued)

tsc_known_freq pni pclmulqdq dtes64 ds_cpl ssse3 fma cx16 pdc_m pcid
sse4_1 sse4_2 x2apic movbe popcnt tsc_deadline_timer aes xsave avx
f16c rdrand hypervisor lahf_lm abm 3dnowprefetch cpuid_fault ssbd
ibrs ibpb stibp ibrs_enhanced tdx guest ts_gbase bml avx2 smep bmi2
erms invpcid avx512f avx512dq rdseed adx smap avx512ifma clflushopt
clwb avx512cd sha_ni avx512bw avx512vl xsaveopt xsavec xgetbv1 xsaves
avx_vnni avx512_bf16 wbnoinvd avx512_vbmi umip pku ospke avx512_vbmi2
gfni vaes vpclmulqdq avx512_vnni avx512_bitalg avx512_vpopcntdq la57
rdrpid bus_lock_detect cldemote movdiri movdir64b fsrm md_clear
serialize tsxldtrk amx_bf16 avx512_fp16 amx_tile amx_int8 flush_l1d
arch_capabilities

Hypervisor vendor: KVM
Virtualization type: full
L1d cache: 512 KiB (16 instances)
L1i cache: 512 KiB (16 instances)
L2 cache: 64 MiB (16 instances)
L3 cache: 16 MiB (1 instance)
NUMA node(s): 1
NUMA node0 CPU(s): 0-15
Vulnerability Gather data sampling: Not affected
Vulnerability Itlb multihit: Not affected
Vulnerability Lltf: 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; RSB filling;
PBRBS-eIBRS SW sequence; BHI BHI_DIS_S
Vulnerability Smbds: 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	512K	8	Data	1	64	1	64
L1i	32K	512K	8	Instruction	1	64	1	64
L2	4M	64M	16	Unified	2	4096	1	64
L3	16M	16M	16	Unified	3	16384	1	64

8. numactl --hardware

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

available: 1 nodes (0)
node 0 cpus: 0-15
node 0 size: 1827 MB
node 0 free: 864 MB
node distances:
node 0
0: 10

9. /proc/meminfo

MemTotal: 1871276 kB

10. who -r

run-level 5 Oct 24 12:07

(Continued on next page)

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Platform Notes (Continued)

11. Systemd service manager version: systemd 255 (255.4-lubuntu8.1)

Default Target	Status
graphical	degraded

12. Failed units, from systemctl list-units --state=failed

UNIT	LOAD	ACTIVE	SUB	DESCRIPTION
* fwupd-refresh.service	loaded	failed	failed	Refresh fwupd metadata and update motd

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 appport blk-availability cloud-config cloud-final cloud-init cloud-init-local console-setup cron dmesg e2scrub_reap finalrd getty@ grub-common grub-initrd-fallback keyboard-setup lvm2-monitor multipathd networkd-dispatcher open-iscsi open-vm-tools rsyslog secureboot-db setvtrgb snapd ssh sysstat systemd-networkd systemd-networkd-wait-online systemd-pstore systemd-resolved systemd-timesyncd ua-reboot-cmds ubuntu-advantage udisks2 ufw unattended-upgrades vgauth
enabled-runtime	netplan-ovs-cleanrp systemd-fsck-root systemd-remount-fs
disabled	console-getty debug-shell iscsid nftables rsync 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
indirect	serial-getty@ systemd-sysupdate systemd-sysupdate-reboot uidd
masked	cryptdisks cryptdisks-early hwclock multipath-tools-boot pollinate screen-cleanup sudo x11-common

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

BOOT_IMAGE=/vmlinuz-6.8.0-35-generic
root=UUID=41106c9e-97fc-4396-8622-4f692c8c5bb1
ro
console=tty1
console=ttyS0

15. cpupower frequency-info

analyzing CPU 12:
Unable to determine current policy
boost state support:
Supported: no
Active: no

16. sysctl

kernel.numa_balancing	0
kernel.randomize_va_space	2
vm.compaction_proactiveness	20
vm.dirty_background_bytes	0
vm.dirty_background_ratio	10
vm.dirty_bytes	0
vm.dirty_expire_centisecs	3000

(Continued on next page)

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Platform Notes (Continued)

```
vm.dirty_ratio          20
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            60
vm.watermark_boost_factor 15000
vm.watermark_scale_factor 10
vm.zone_reclaim_mode     0
```

```
-----
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 LTS
-----
```

```
-----
20. Disk information
SPEC is set to: /home/tdx/speccpu2017
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/vda1       ext4   51G   18G   33G   36% /
-----
```

```
-----
21. /sys/devices/virtual/dmi/id
Vendor: QEMU
Product: Standard PC (Q35 + ICH9, 2009)
-----
```

```
-----
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:
1x QEMU Not Specified 2 GB
-----
```

```
-----
23. BIOS
(This section combines info from /sys/devices and dmidecode.)
BIOS Vendor: Ubuntu distribution of EDK II
-----
```

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Platform Notes (Continued)

BIOS Version: 2024.02-3+tdx1.0
BIOS Date: 07/03/2024
BIOS Revision: 0.0

Compiler Version Notes

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

gcc (Ubuntu 13.2.0-23ubuntu4) 13.2.0
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warranty; not even for MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.
=====

=====
C++ | 508.namd_r(base)
=====

g++ (Ubuntu 13.2.0-23ubuntu4) 13.2.0
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warranty; not even for MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.
=====

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

g++ (Ubuntu 13.2.0-23ubuntu4) 13.2.0
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warranty; not even for MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.
=====

=====
Fortran | 503.bwaves_r(base) 549.fotonik3d_r(base) 554.roms_r(base)
=====

GNU Fortran (Ubuntu 13.2.0-23ubuntu4) 13.2.0
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warranty; not even for MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.
=====

=====
Fortran, C | 527.cam4_r(base)
=====

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Software Availability:

Base Runtime Environment

C++ benchmarks:

508.namd_r: No flags used

Benchmarks using both Fortran and C:

527.cam4_r: No flags used

Base Compiler Invocation

C benchmarks:

gcc

C++ benchmarks:

508.namd_r: g++

Fortran benchmarks:

gfortran

Benchmarks using both Fortran and C:

527.cam4_r: gfortran gcc

Benchmarks using both C and C++:

g++ gcc

Base Portability Flags

503.bwaves_r: -DSPEC_LP64

508.namd_r: -DSPEC_LP64

511.povray_r: -DSPEC_LP64

519.lbm_r: -DSPEC_LP64

526.blender_r: -funsigned-char -DSPEC_LINUX -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

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Base Optimization Flags

C benchmarks:

-m64 -std=c99 -g -O3 -march=native -fno-strict-aliasing

C++ benchmarks:

508.namd_r: -m64 -std=c++03 -g -O3 -march=native

Fortran benchmarks:

-m64 -g -O3 -march=native

Benchmarks using both Fortran and C:

527.cam4_r: -m64 -std=c99 -g -O3 -march=native -fno-strict-aliasing

Benchmarks using both C and C++:

-m64 -std=c++03 -std=c99 -g -O3 -march=native -fno-strict-aliasing

Base Other Flags

C++ benchmarks:

508.namd_r: No flags used

Fortran benchmarks:

-fallow-argument-mismatch

Benchmarks using both Fortran and C:

527.cam4_r: -fallow-argument-mismatch

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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 2024-10-24 15:51:35+0000.

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