

# SPEC CPU®2017 Floating Point Speed Result

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My Corporation

SPECspeed®2017\_fp\_base = 30.9

SPECspeed®2017\_fp\_peak = Not Run

CPU2017 License: nnn (Your SPEC license number)

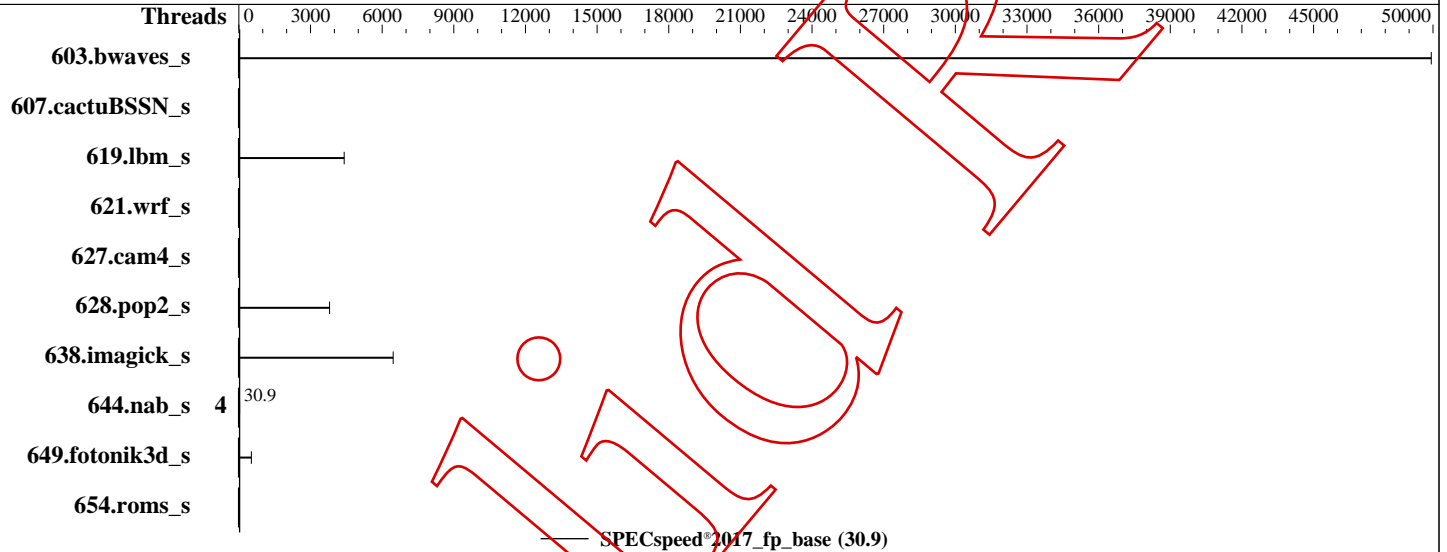
Test Sponsor: My Corporation

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 N 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: Yes  
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  
628.pop2\_s (base) did not have enough runs!  
627.cam4\_s (base) did not have enough runs!  
638.imagick\_s (base) did not have enough runs!  
649.fotonik3d\_s (base) did not have enough runs!  
603.bwaves\_s (base) did not have enough runs!  
607.cactuBSSN\_s (base) did not have enough runs!  
621.wrf\_s (base) did not have enough runs!  
619.lbm\_s (base) did not have enough runs!  
644.nab\_s (base) did not have enough runs!  
654.roms\_s (base) did not have enough runs!

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## Errors (Continued)

628.pop2\_s (base) had invalid runs!  
627.cam4\_s (base) had invalid runs!  
638.imagick\_s (base) had invalid runs!  
649.fotonik3d\_s (base) had invalid runs!  
603.bwaves\_s (base) had invalid runs!  
607.cactuBSSN\_s (base) had invalid runs!  
621.wrf\_s (base) had invalid runs!  
619.lbm\_s (base) had invalid runs!  
654.roms\_s (base) had invalid runs!  
Run of 603.bwaves\_s (base) was not valid; status is RE  
Run of 607.cactuBSSN\_s (base) was not valid; status is CE  
Run of 619.lbm\_s (base) was not valid; status is RE  
Run of 621.wrf\_s (base) was not valid; status is CE  
Run of 627.cam4\_s (base) was not valid; status is CE  
Run of 628.pop2\_s (base) was not valid; status is RE  
Run of 638.imagick\_s (base) was not valid; status is RE  
Run of 649.fotonik3d\_s (base) was not valid; status is RE  
Run of 654.roms\_s (base) was not valid; status is CE

## Results Table

Benchmark	Base				Peak			
	Threads	Seconds	Ratio	Ratio	Threads	Seconds	Ratio	Ratio
603.bwaves_s	4	1.18	0.00					
607.cactuBSSN_s	1	0.00	0.00					
619.lbm_s	4	1.19	0.00					
621.wrf_s	1	0.00	0.00					
627.cam4_s	1	0.00	0.00					
628.pop2_s	4	3.13	0.00					
638.imagick_s	4	2.23	0.00					
644.nab_s	4	<b>566</b>	<b>30.9</b>					
649.fotonik3d_s	4	17.4	0.00					
654.roms_s	1	0.00	0.00					

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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"  
OMP\_STACKSIZE = "120M"

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## Platform Notes

Sysinfo program /home/tdx/speccpu2017/bin/sysinfo  
Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197  
running on tdx-guest Wed Oct 23 12:33:06 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. 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 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  
12:33:06 up 1:08, 1 user, load average: 1.00, 1.00, 1.48  
USER TTY FROM LOGIN@ IDLE JCPU PCPU WHAT  
root hvc0 - 11:24 58:09 2.43s 0.02s w

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  
nofiles 1024

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## Platform Notes (Continued)

vmemory(kbytes) unlimited  
locks unlimited  
rtprio 0

### 5. sysinfo process ancestry

```
/sbin/init
/bin/login -p --
-bash
runcpu --config=tdx.cfg --tune=base --size=ref all
runcpu --configfile tdx.cfg --tune base --size ref --noreportable --nopower --runmode speed --tune base
--size refspeed fpspeed --nopreenv --note-preenv --logfile
$SPEC/tmp/CPU2017.010/temlogs/preenv.fpspeed.010.1.log --login 010.1 --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       : 0x2b000561
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
                  tsc_known_freq pni pclmulqdq dtes64 ds_cpl ssse3 fma cx16 pdcm pcid
```

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## Platform Notes (Continued)

Hypervisor vendor:  
Virtualization type:

L1d cache:

L1i cache:

L2 cache:

L3 cache:

NUMA node(s):

NUMA node0 CPU(s):

Vulnerability Gather data sampling:

Vulnerability Itlb multihit:

Vulnerability L1tf:

Vulnerability Mds:

Vulnerability Meltdown:

Vulnerability Mmio stale data:

Vulnerability Reg file data sampling:

Vulnerability Retbleed:

Vulnerability Spec rstack overflow:

Vulnerability Spec store bypass:

Vulnerability Spectre v1:

Vulnerability Spectre v2:

Vulnerability Synds:

Vulnerability Tex async abort:

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 fgsgsbase bmi1 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 avx512vbmi 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

KVM

Full

512 KiB (16 instances)

512 KiB (16 instances)

64 MiB (16 instances)

16 MiB (1 instance)

1

0-15

Not affected

Not affected

Not affected

Not affected

Not affected

Not affected

Not affected

Not affected

Not affected

Mitigation; Speculative Store Bypass disabled via prctl

Mitigation; usercopy/swapgs barriers and \_\_user pointer sanitization

Mitigation; Enhanced / Automatic IBRS; IBPB conditional; RSB filling;

PBRSE-eIBRS SW sequence; BHI BHI\_DIS\_S

Not affected

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: 943 MB

node distances:

node  
0: 10

9. /proc/meminfo

MemTotal: 1871284 kB

10. who -r

run-level 5 Oct 23 11:24

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## Platform Notes (Continued)

11. Systemd service manager version: systemd 255 (255.4-1ubuntu8.1)

Default Target Status  
graphical running

12. Services, from systemctl list-unit-files

STATE UNIT FILES

enabled

ModemManager apparmor apport 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-cleanups 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

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

BOOT\_IMAGE=/vmlinuz-6.8.0-35-generic

root=UUID=41106c9c-977c-4396-8622-4f632c8c5bb1

ro

console=tty1

console=ttyS0

14. cpupower frequency-info

analyzing CPU 2:

Unable to determine current policy

boost state support:

Supported: no

Active: no

15. 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  
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

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## Platform Notes (Continued)

vm.watermark\_scale\_factor 10  
vm.zone\_reclaim\_mode 0

-----  
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 Ubuntu 24.04 LTS  
-----

-----  
19. Disk information  
SPEC is set to: /home/tdx/speccpu2017  
Filesystem Type Size Used Avail Use% Mounted on  
/dev/vda1 ext4 51G 11G 41G 20% /  
-----

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

-----  
21. 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  
-----

-----  
22. BIOS  
(This section combines info from /sys/devices and dmidecode.)  
BIOS Vendor: Ubuntu distribution of EDK II  
BIOS Version: 2024.02-3+tdx1.0  
BIOS Date: 07/03/2024  
BIOS Revision: 0.0  
-----

## Compiler Version Notes

-----  
C | 619.lbm\_s(base) 638.imagick\_s(base) 644.nab\_s(base)  
-----

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## Compiler Version Notes (Continued)

gcc (Ubuntu 13.2.0-23ubuntu4) 13.2.0

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Fortran | 603.bwaves\_s(base) 649.fotonik3d\_s(base)

GNU Fortran (Ubuntu 13.2.0-23ubuntu4) 13.2.0

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Fortran, C | 628.pop2\_s(base)

GNU Fortran (Ubuntu 13.2.0-23ubuntu4) 13.2.0

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gcc (Ubuntu 13.2.0-23ubuntu4) 13.2.0

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## Base Runtime Environment

Benchmarks using both Fortran and C:

628.pop2\_s: No flags used

## Base Compiler Invocation

C benchmarks:

gcc

Fortran benchmarks (except as noted below):

gfortran

Benchmarks using both Fortran and C:

628.pop2\_s: gfortran gcc



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## Base Portability Flags

603.bwaves\_s: -DSPEC\_LP64  
619.lbm\_s: -DSPEC\_LP64  
628.pop2\_s: -DSPEC\_CASE\_FLAG -fconvert=big-endian -DSPEC\_LP64  
638.imagick\_s: -DSPEC\_LP64  
644.nab\_s: -DSPEC\_LP64  
649.fotonik3d\_s: -DSPEC\_LP64

## Base Optimization Flags

C benchmarks:

-m64 -std=c99 -g -O3 -march=native -fno-strict-aliasing -fopenmp  
-DSPEC\_OPENMP

Fortran benchmarks:

603.bwaves\_s: -m64 -g -O3 -march=native -DSPEC\_OPENMP -fopenmp

649.fotonik3d\_s: Same as 603.bwaves\_s

Benchmarks using both Fortran and C:

628.pop2\_s: -m64 -std=c99 -g -O3 -march=native -fno-strict-aliasing  
-DSPEC\_OPENMP -fopenmp

## Base Other Flags

Fortran benchmarks (except as noted below):

-fallow-argument-mismatch

Benchmarks using both Fortran and C:

628.pop2\_s: -fallow-argument-mismatch

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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 2024-10-23 12:33:05+0000.

Report generated on 2024-10-23 13:05:24 by CPU2017 PDF formatter v6716.