

# SPEC CPU®2017 Integer Speed Result

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My Corporation

SPECspeed®2017\_int\_base = 8.71

SPECspeed®2017\_int\_peak = Not Run

CPU2017 License: nnn (Your SPEC license number)

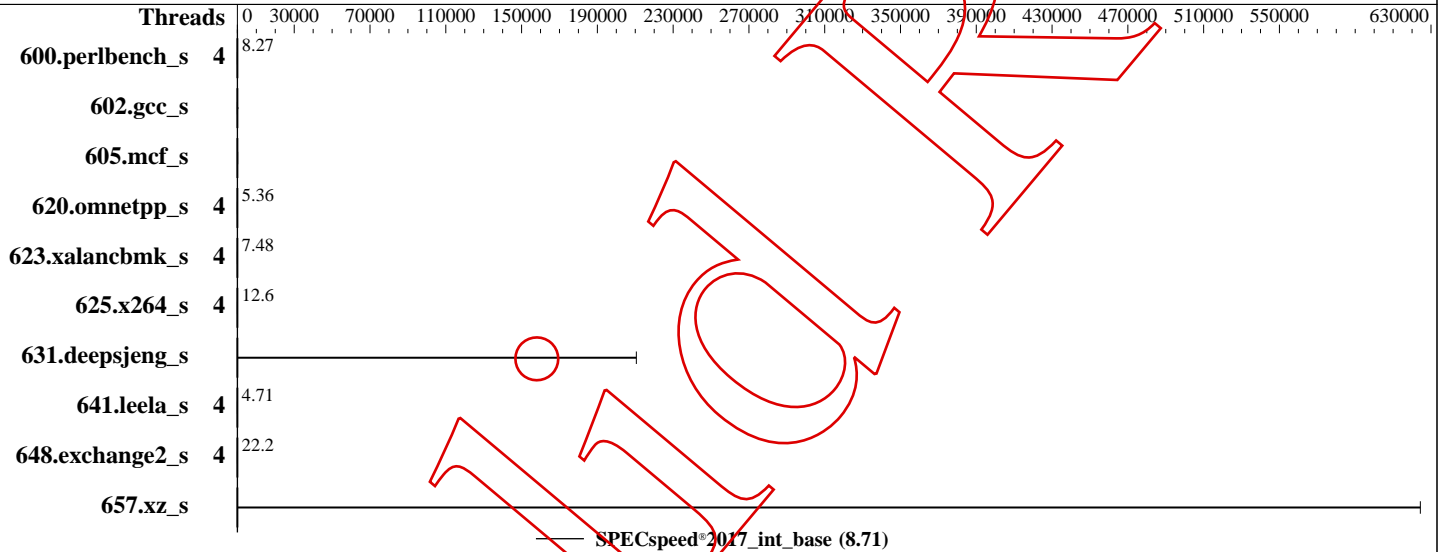
Test Sponsor: My Corporation

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  
602.gcc\_s (base) did not have enough runs!  
625.x264\_s (base) did not have enough runs!  
648.exchange2\_s (base) did not have enough runs!  
631.deepsjeng\_s (base) did not have enough runs!  
623.xalancbmk\_s (base) did not have enough runs!  
600.perlbench\_s (base) did not have enough runs!  
620.omnetpp\_s (base) did not have enough runs!  
641.leela\_s (base) did not have enough runs!  
605.mcf\_s (base) did not have enough runs!  
657.xz\_s (base) did not have enough runs!

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## Errors (Continued)

602.gcc\_s (base) had invalid runs!  
631.deepsjeng\_s (base) had invalid runs!  
605.mcf\_s (base) had invalid runs!  
657.xz\_s (base) had invalid runs!  
Run of 602.gcc\_s (base) was not valid; status is CE  
Run of 605.mcf\_s (base) was not valid; status is RE  
Run of 631.deepsjeng\_s (base) was not valid; status is RE  
Run of 657.xz\_s (base) was not valid; status is RE

## Results Table

Benchmark	Base							Peak						
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
600.perlbench_s	4	<u>215</u>	<u>8.27</u>											
602.gcc_s	1	0.00	0.00											
605.mcf_s	4	31.2	0.00											
620.omnetpp_s	4	<u>304</u>	<u>5.36</u>											
623.xalancbmk_s	4	<u>190</u>	<u>7.48</u>											
625.x264_s	4	<u>140</u>	<u>12.6</u>											
631.deepsjeng_s	4	0.00681	0.00											
641.leela_s	4	<u>362</u>	<u>4.71</u>											
648.exchange2_s	4	<u>133</u>	<u>22.2</u>											
657.xz_s	4	0.00996	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"

## Platform Notes

Sysinfo program /home/tdx/speccpu2017/bin/sysinfo  
Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197  
running on tdx-guest Thu Oct 24 18:53:31 2024

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

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

1. uname -a
2. w

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## Platform Notes (Continued)

```
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 (255.4-1ubuntu8.1)
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/dmi/id
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
18:53:32 up 6:46, 1 user, load average: 1.00, 1.00, 1.52
USER   TTY      FROM          LOGIN@   IDLE   JCPU   PCPU   WHAT
root   hvc0    -             12:07    3:02m  2.55s  ?      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
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 speed --tune base
```

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## Platform Notes (Continued)

```
--size refspeed intspeed --nopreenv --note-preenv --logfile
$SPEC/tmp/CPU2017.014/temlogs/preenv.intspeed.014.3.log --lognum 014.3 --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
                        tsc_known_freq pni pclmulqdq dtes64 ds_cpl sse3 fma cx16 pdcm 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 fsgsbase 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
                        rdpid 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
```

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## Platform Notes (Continued)

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 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; RSB filling; PBRSE-eIBRS SW sequence; BHI BHI\_DIS\_S  
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	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: 839 MB  
node distances:  
node 0  
0: 10

9. /proc/meminfo

MemTotal: 1871276 kB

10. who -r

run-level 5 Oct 24 12:07

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
* user@0.service	loaded	failed	failed	User Manager for UID 0

Legend: LOAD -> Reflects whether the unit definition was properly loaded.

ACTIVE -> The high-level unit activation state, i.e. generalization of SUB.

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## Platform Notes (Continued)

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 dmccg 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

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

BOOT\_IMAGE=/vmlinuz-6.8.0-35-generic  
root=UUID=41106c9c-97fc-4396-8622-4f692c8c5bb1  
ro  
console=tty1  
console=ttyS0

### 15. cpupower frequency-info

analyzing CPU 11:  
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
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

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## Platform Notes (Continued)

```
-----
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/vdal       ext4   51G   19G   33G   37% /
-----
```

```
-----
21. /sys/devices/virtual/dmideid
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
BIOS Version: 2024.02-3+tdx1.0
BIOS Date: 07/03/2024
BIOS Revision: 0.0
-----
```

## Compiler Version Notes

```
=====
C | 600.perlbench_s(base) 605.mcf_s(base) 625.x264_s(base) 657.xz_s(base)
=====
```

gcc (Ubuntu 13.2.0-23ubuntu4) 13.2.0  
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## Compiler Version Notes (Continued)

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

g++ (Ubuntu 13.2.0-23ubuntu4) 13.2.0

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

GNU Fortran (Ubuntu 13.2.0-23ubuntu4) 13.2.0

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## Base Compiler Invocation

C benchmarks (except as noted below):

gcc

C++ benchmarks:

g++

Fortran benchmarks:

gfortran

## Base Portability Flags

600.perlbench\_s: -DSPEC\_LINUX\_X64 -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



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## Base Optimization Flags

C benchmarks:

600.perlbench\_s: -m64 -std=c99 -g -O3 -march=native -fno-strict-aliasing  
-fno-unsafe-math-optimizations -fno-finite-math-only  
-fgnu89-inline -fopenmp -DSPEC\_OPENMP

605.mcf\_s: Same as 600.perlbench\_s

625.x264\_s: Same as 600.perlbench\_s

657.xz\_s: Same as 600.perlbench\_s

C++ benchmarks:

-m64 -std=c++03 -g -O3 -march=native -fopenmp -DSPEC\_OPENMP

Fortran benchmarks:

-m64 -g -O3 -march=native -DSPEC\_OPENMP -fopenmp

## Base Other Flags

C benchmarks (except as noted below):

-fcommon

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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 2024-10-24 18:53:30+0000.

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