

SPEC CPU®2017 Integer Rate Result

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Laptop Rubens

SPECrate®2017_int_base = 5.33

SPECrate®2017_int_peak = Not Run

CPU2017 License: nnn (Your SPEC license number)

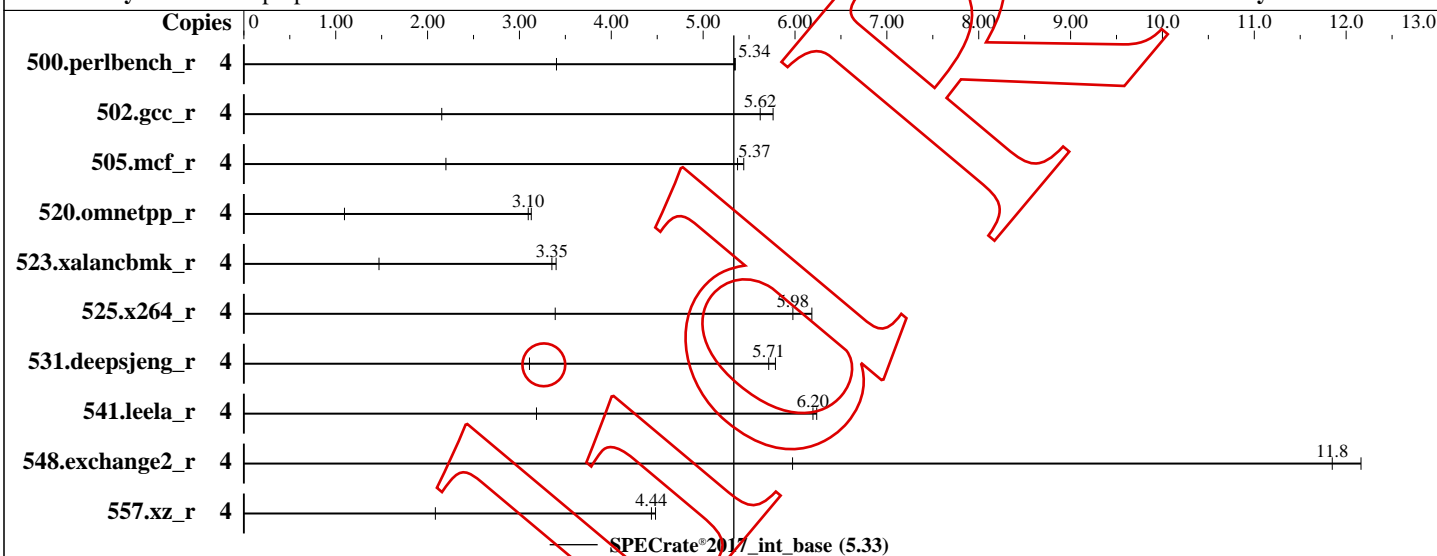
Test Sponsor: Laptop Rubens

Tested by: Laptop Rubens

Test Date: May-2023

Hardware Availability:

Software Availability:



Hardware

CPU Name: Intel Core i7-2620M

Max MHz:

Nominal:

Enabled: cores, 1 chip, threads/core

Orderable:

Cache L1:

L2:

L3:

Other:

Memory: 7.733 GB fixme: If using DDR4, the format is: 'N GB (N x N GB nRxn PC4-nnnnX-X)'

Storage: 1007 GB add more disk info here

Other:

OS:

Compiler:

Parallel:

Firmware:

File System:

System State:

Base Pointers:

Peak Pointers:

Other:

Power Management: --

Software

Ubuntu 22.04.2 LTS

5.15.90.1-microsoft-standard-WSL2

C/C++/Fortran: Version 7.2.1 of GCC, the GNU Compiler Collection

No

ext4

Run level 5 (add definition here)

64-bit

Not Applicable

Errors

'reportable' flag not set during run

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Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
500.perlbench_r	4	1871	3.40	1192	5.34	1190	5.35							
502.gcc_r	4	2629	2.15	1008	5.62	983	5.76							
505.mcf_r	4	2939	2.20	1188	5.44	1203	5.37							
520.omnetpp_r	4	4792	1.10	1677	3.13	1695	3.10							
523.xalancbmk_r	4	2871	1.47	1260	3.35	1243	3.40							
525.x264_r	4	2066	3.39	1133	6.18	1172	5.98							
531.deepsjeng_r	4	1474	3.11	802	5.71	792	5.79							
541.leela_r	4	2079	3.19	1069	6.20	1062	6.24							
548.exchange2_r	4	1754	5.97	884	11.8	862	12.2							
557.xz_r	4	2072	2.08	974	4.44	964	4.48							

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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 /usr/local/spec_cpu2017/bin/sysinfo
Rev: r6732 of 2022-11-07 fe91c89d7ed5c36ae2c92cc097bec197
running on NotebookRubens Sat May 20 16:56:41 2023

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 warning
9. /proc/meminfo
10. who -r
11. Systemd service manager version: systemd 249 (249.11-0ubuntu3.9)
12. Services, from systemctl list-unit-files
13. Linux kernel boot-time arguments, from /proc/cmdline
14. sysctl
15. /sys/kernel/mm/transparent_hugepage
16. /sys/kernel/mm/transparent_hugepage/khugepaged
17. OS release
18. Disk information

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Platform Notes (Continued)

19. dmidecode

```
1. uname -a
Linux NotebookRubens 5.15.90.1-microsoft-standard-WSL2 #1 SMP Fri Jan 27 02:56:13 UTC 2023 x86_64 x86_64
x86_64 GNU/Linux
```

```
2. w
16:56:41 up 22:38, 2 users, load average: 1.21, 1.13, 1.68
USER      TTY      FROM          LOGIN@   IDLE   JCPU   PCPU   WHAT
rubens    pts/1    -             Fri18    22:38m 0.07s  0.05s  bash
rubens    pts/2    -             Fri18    9.00s  3.89s  0.20s  sudo -i
```

```
3. Username
From environment variable $USER: root
From the command 'logname': rubens
```

```
4. ulimit -a
time(seconds)      unlimited
file(blocks)       unlimited
data(kbytes)       unlimited
stack(kbytes)      8192
coredump(blocks)   0
memory(kbytes)     unlimited
locked memory(kbytes) 1013600
process            31649
nofiles            1024
vmemory(kbytes)    unlimited
locks              unlimited
rtprio             0
```

```
5. sysinfo process ancestry
/sbin/init
/init
/init
/init
/init
-bash
sudo -i
sudo -i
-bash
runcpu --config=rubens-try1 --iterations=3 intrate
runcpu --configfile rubens-try1 --iterations 3 --noreportable --nopower --runmode rate --tune base --size
refrate intrate --nopreenv --note-preenv --logfile $SPEC/tmp/CPU2017.065/templogs/preenv.intrate.065.0.log
--lognum 065.0 --from_runcpu 2
specperl $SPEC/bin/sysinfo
$SPEC = /usr/local/spec_cpu2017
```

```
6. /proc/cpuinfo
model name      : Intel(R) Core(TM) i7-2620M CPU @ 2.70GHz
vendor_id       : GenuineIntel
cpu family      : 6
model           : 42
stepping        : 7
microcode       : 0xffffffff
```

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Platform Notes (Continued)

bugs : cpu_meltdown spectre_v1 spectre_v2 spec_store_bypass l1tf mds swapgs itlb_multihit
mmio_unknown

cpu cores : 2

siblings : 4

1 physical ids (chips)

4 processors (hardware threads)

physical id 0: core ids 0-1

physical id 0: apicids 0-3

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 2.37.2:

Architecture: x86_64

CPU op-mode(s): 32-bit, 64-bit

Address sizes: 36 bits physical, 48 bits virtual

Byte Order: Little Endian

CPU(s): 4

On-line CPU(s) list: 0-3

Vendor ID: GenuineIntel

Model name: Intel(R) Core(TM) i7-2620M CPU @ 2.70GHz

CPU family: 6

Model: 42

Thread(s) per core: 2

Core(s) per socket: 2

Socket(s): 1

Stepping: 7

BogoMIPS: 5387.75

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 rdtscp lm constant_tsc
arch_perfmon rep_good nopl xtopology cpuid pni pclmulqdq ssse3 cx16 pdcm
pcid sse4_1 sse4_2 popcnt aes xsave avx hypervisor lahf_lm pti ssbd ibrs
ibpb stibp xsaveopt flush_lld arch_capabilities

Hypervisor vendor: Microsoft

Virtualization type: full

L1d cache: 64 KiB (2 instances)

L1i cache: 64 KiB (2 instances)

L2 cache: 512 KiB (2 instances)

L3 cache: 4 MiB (1 instance)

Vulnerability Itlb multihit: KVM: Mitigation: VMX unsupported

Vulnerability L1tf: Mitigation; PTE Inversion

Vulnerability Mds: Vulnerable: Clear CPU buffers attempted, no microcode; SMT Host state unknown

Vulnerability Meltdown: Mitigation; PTI

Vulnerability Mmio stale data: Unknown: No mitigations

Vulnerability Retbleed: Not affected

Vulnerability Spec store bypass: Mitigation; Speculative Store Bypass disabled via prctl and seccomp

Vulnerability Spectre v1: Mitigation; usercopy/swapgs barriers and __user pointer sanitization

Vulnerability Spectre v2: Mitigation; Retpolines, IBPB conditional, IBRS_FW, STIBP conditional, RSB filling, PBRSE-eIBRS 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		32K	64K	8	Data	1	64	1	64
L1i		32K	64K	8	Instruction	1	64	1	64
L2		256K	512K	8	Unified	2	512	1	64

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Software Availability:

Platform Notes (Continued)

L3 4M 4M 16 Unified 3 4096 1 64

8. numactl warning

Unable to get information from 'numactl --hardware'. Please consider installing numactl.

9. /proc/meminfo

MemTotal: 8108808 kB

10. who -r

run-level 5 May 19 18:18

11. Systemd service manager version: systemd 249 (249.11-0ubuntu3.9)

Default Target	Status
graphical	running

12. Services, from systemctl list-unit-files

STATE	UNIT FILES
enabled	apparmor console-setup cron dmccg e2scrub_reap getty@ irqbalance keyboard-setup networkd-dispatcher rsyslog setvtrgb snapd systemd-pstore systemd-resolved systemd-timesyncd ua-reboot-cmds ubuntu-advantage ufw unattended-upgrades
enabled-runtime	console-getty netplan-cfg-cleanup systemd-remount-fs
disabled	debug-shell nftables rsync serial-getty@ systemd-boot-check-no-failures systemd-network-generator systemd-networkd systemd-networkd-wait-online systemd-sysext systemd-time-wait-sync
generated	apport walp-mount
indirect	uidd
masked	cryptdisks cryptdisks-early hwclock rc rcS screen-cleanup sudo systemd-binfmt x11-common

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

initrd=\initrd.img
WSL_ROOT_INIT=1
panic=1
nr_cpus=4
bonding.max_bonds=0
dummy.numdummies=0
fb_tunnels=none
swiotlb=force
console=hvc0
debug
pty.legacy_count=0

14. sysctl

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

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Platform Notes (Continued)

```
vm.nr_hugepages          0
vm.nr_overcommit_hugepages 0
vm.swappiness             60
vm.watermark_boost_factor 15000
vm.watermark_scale_factor 10
```

```
-----
15. /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
-----
```

```
-----
16. /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
-----
```

```
-----
17. OS release
From /etc/*-release /etc/*-version
os-release Ubuntu 22.04.2 LTS
-----
```

```
-----
18. Disk information
SPEC is set to: /usr/local/spec_cpu2017
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sdc        ext4  100G   44G   913G   5% /
-----
```

```
-----
19. dmidecode
Additional information from dmidecode 3.3 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.
-----
```

BIOS: (could not find information)

Compiler Version Notes

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

Using built-in specs.

COLLECT_GCC=/usr/bin/gcc

COLLECT_LTO_WRAPPER=/usr/lib/gcc/x86_64-linux-gnu/11/lto-wrapper

OFFLOAD_TARGET_NAMES=nvptx-none:amdgc-n-amdhsa

OFFLOAD_TARGET_DEFAULT=1

Target: x86_64-linux-gnu

Configured with: ../src/configure -v --with-pkgversion='Ubuntu 11.3.0-1ubuntu1~22.04'

--with-bugurl=file:///usr/share/doc/gcc-11/README.Bugs

--enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++,m2 --prefix=/usr

--with-gcc-major-version-only --program-suffix=-11 --program-prefix=x86_64-linux-gnu- --enable-shared

--enable-linker-build-id --libexecdir=/usr/lib --without-included-gettext --enable-threads=posix

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Compiler Version Notes (Continued)

```
--libdir=/usr/lib --enable-nls --enable-bootstrap --enable-clocale=gnu --enable-libstdcxx-debug
--enable-libstdcxx-time=yes --with-default-libstdcxx-abi=new --enable-gnu-unique-object
--disable-vtable-verify --enable-plugin --enable-default-pie --with-system-zlib
--enable-libphobos-checking=release --with-target-system-zlib=auto --enable-objc-gc=auto
--enable-multiarch --disable-werror --enable-cet --with-arch=32=i686 --with-abi=m64
--with-multilib-list=m32,m64,mx32 --enable-multilib --with-tune=generic
--enable-offload-targets=nvptx-none=/build/gcc-11-xKiWfi/gcc-11-11.3.0/debian/tmp-nvptx/usr,amdgc
n-amdhsa=/build/gcc-11-xKiWfi/gcc-11-11.3.0/debian/tmp-gcn/usr
--without-cuda-driver --enable-checking=release --build=x86_64-linux-gnu --host=x86_64-lin
ux-gnu --target=x86_64-linux-gnu --with-build-config=bootstrap-lto-lean --enable-link-seria
lization=2
Thread model: posix
Supported LTO compression algorithms: zlib zstd
gcc version 11.3.0 (Ubuntu 11.3.0-lubuntul~22.04)
```

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

Using built-in specs.

COLLECT_GCC=/usr/bin/g++

COLLECT_LTO_WRAPPER=/usr/lib/gcc/x86_64-linux-gnu/11/lto-wrapper

OFFLOAD_TARGET_NAMES=nvptx-none:amdgc

OFFLOAD_TARGET_DEFAULT=1

Target: x86_64-linux-gnu

Configured with: ../src/configure -v --with-pkgversion='Ubuntu 11.3.0-lubuntul~22.04'

```
--with-bugurl=file:///usr/share/doc/gcc-11/README.Bugs
--enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++,m2 --prefix=/usr
--with-gcc-major-version-only --program-suffix=-11 --program-prefix=x86_64-linux-gnu- --enable-shared
--enable-linker-build-id --libexecdir=/usr/lib --without-included-gettext --enable-threads=posix
--libdir=/usr/lib --enable-nls --enable-bootstrap --enable-clocale=gnu --enable-libstdcxx-debug
--enable-libstdcxx-time=yes --with-default-libstdcxx-abi=new --enable-gnu-unique-object
--disable-vtable-verify --enable-plugin --enable-default-pie --with-system-zlib
--enable-libphobos-checking=release --with-target-system-zlib=auto --enable-objc-gc=auto
--enable-multiarch --disable-werror --enable-cet --with-arch=32=i686 --with-abi=m64
--with-multilib-list=m32,m64,mx32 --enable-multilib --with-tune=generic
--enable-offload-targets=nvptx-none=/build/gcc-11-xKiWfi/gcc-11-11.3.0/debian/tmp-nvptx/usr,amdgc
n-amdhsa=/build/gcc-11-xKiWfi/gcc-11-11.3.0/debian/tmp-gcn/usr
--without-cuda-driver --enable-checking=release --build=x86_64-linux-gnu --host=x86_64-lin
ux-gnu --target=x86_64-linux-gnu --with-build-config=bootstrap-lto-lean --enable-link-seria
lization=2
Thread model: posix
Supported LTO compression algorithms: zlib zstd
gcc version 11.3.0 (Ubuntu 11.3.0-lubuntul~22.04)
```

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

Using built-in specs.

COLLECT_GCC=/usr/bin/gfortran

COLLECT_LTO_WRAPPER=/usr/lib/gcc/x86_64-linux-gnu/11/lto-wrapper

OFFLOAD_TARGET_NAMES=nvptx-none:amdgc

OFFLOAD_TARGET_DEFAULT=1

Target: x86_64-linux-gnu

Configured with: ../src/configure -v --with-pkgversion='Ubuntu 11.3.0-lubuntul~22.04'

```
--with-bugurl=file:///usr/share/doc/gcc-11/README.Bugs
--enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++,m2 --prefix=/usr
--with-gcc-major-version-only --program-suffix=-11 --program-prefix=x86_64-linux-gnu- --enable-shared
--enable-linker-build-id --libexecdir=/usr/lib --without-included-gettext --enable-threads=posix
--libdir=/usr/lib --enable-nls --enable-bootstrap --enable-clocale=gnu --enable-libstdcxx-debug
--enable-libstdcxx-time=yes --with-default-libstdcxx-abi=new --enable-gnu-unique-object
--disable-vtable-verify --enable-plugin --enable-default-pie --with-system-zlib
--enable-libphobos-checking=release --with-target-system-zlib=auto --enable-objc-gc=auto
```

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Compiler Version Notes (Continued)

```
--enable-multiarch --disable-werror --enable-cet --with-arch=32=1686 --with-abi=m64
--with-multilib-list=m32,m64,mx32 --enable-multilib --with-tune=generic
--enable-offload-targets=nvptx-none=/build/gcc-11-xKiWfi/gcc-11-11.3.0/debian/tmp-nvptx/usr,amdgc-ndhs=/build/gcc-11-xKiWfi/gcc-11-11.3.0/debian/tmp-gcn/usr
--without-cuda-driver --enable-checking=release --build=x86_64-linux-gnu --host=x86_64-linux-gnu
--target=x86_64-linux-gnu --with-build-config=bootstrap-lto-lean --enable-link-serialization=2
Thread model: posix
Supported LTO compression algorithms: zlib zstd
gcc version 11.3.0 (Ubuntu 11.3.0-1ubuntu1~22.04)
-----
```

Base Compiler Invocation

C benchmarks:

gcc

C++ benchmarks:

g++

Fortran benchmarks:

gfortran

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 -std=c99 -g -O3 -march=native -fno-unsafe-math-optimizations
-fno-tree-loop-vectorize -fno-strict-aliasing -fgnu89-inline
```

C++ benchmarks:

```
-m64 -std=c++03 -g -O3 -march=native -fno-unsafe-math-optimizations
-fno-tree-loop-vectorize
```

(Continued on next page)

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Base Optimization Flags (Continued)

Fortran benchmarks:

-m64 -g -O3 -march=native -fno-unsafe-math-optimizations
-fno-tree-loop-vectorize

Base Other Flags

C benchmarks (except as noted below):

-fallow-argument-mismatch

525.x264_r: -fallow-argument-mismatch -fcommon

557.xz_r: -fallow-argument-mismatch -fcommon

C++ benchmarks:

-fallow-argument-mismatch

Fortran benchmarks:

-fallow-argument-mismatch

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For questions about this result, please contact the tester. For other inquiries, please contact info@spec.org.

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