

# SPEC CPU®2017 Integer Speed Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

not applicable

SPECspeed®2017\_int\_base = 0.00

SPECspeed®2017\_int\_peak = Not Run

CPU2017 License: nnn (Your SPEC license number)

Test Sponsor: not applicable

Tested by: not applicable

Test Date: Sep-2020

Hardware Availability:

Software Availability:

## Threads

600.perlbench\_s

602.gcc\_s

605.mcf\_s

620.omnetpp\_s

623.xalancbmk\_s

625.x264\_s

631.deepsjeng\_s

641.leela\_s

648.exchange2\_s

657.xz\_s

## Hardware

CPU Name: Intel Xeon Bronze 3106

Max MHz:

Nominal:

Enabled: cores, 1 chip, threads/core

Orderable:

Cache L1:

L2:

L3:

Other:

Memory: 78.334 GB fixme: If using DDR4, the format is:  
'N GB (N x N GB nRxn PC4-nnnnX-X)'

Storage: 6.9 TB add more disk info here

Other:

## Software

OS:

Ubuntu 18.04.3 LTS

4.15.0-70-generic

Compiler:

C/C++/Fortran: Version 10.1.0 of GCC, the  
GNU Compiler Collection

Parallel:

Yes

Firmware:

File System:

nfs

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

641.leela\_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!

602.gcc\_s (base) did not have enough runs!

605.mcf\_s (base) did not have enough runs!

620.omnetpp\_s (base) did not have enough runs!

625.x264\_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!

657.xz\_s (base) did not have enough runs!

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## Errors (Continued)

641.leela\_s (base) had invalid runs!

631.deepsjeng\_s (base) had invalid runs!

602.gcc\_s (base) had invalid runs!

620.omnetpp\_s (base) had invalid runs!

600.perlbench\_s (base) had invalid runs!

657.xz\_s (base) had invalid runs!

Input set must be 'refspeed' for a valid run (set to 'test' for this run)

Run of 600.perlbench\_s (base) was not valid; status is RE

Run of 602.gcc\_s (base) was not valid; status is RE

Run of 620.omnetpp\_s (base) was not valid; status is RE

Run of 631.deepsjeng\_s (base) was not valid; status is VE

Run of 641.leela\_s (base) was not valid; status is VE

Run of 657.xz\_s (base) was not valid; status is VE

Unknown flags were used! See

<https://www.spec.org/cpu2017/Docs/runcpu.html#flagsurl>  
for information about how to get rid of this error.

## Results Table

Benchmark	Base							Peak						
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
600.perlbench_s	1	0.316	0.00											
602.gcc_s	1	0.280	0.00											
605.mcf_s	1	77.1	0.00											
620.omnetpp_s	1	0.411	0.00											
623.xalancbmk_s	1	93.3	0.00											
625.x264_s	1	718	0.00											
631.deepsjeng_s	1	225	0.00											
641.leela_s	1	108	0.00											
648.exchange2_s	1	133	0.00											
657.xz_s	1	63.9	0.00											

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

## Submit Notes

The config file option 'submit' was used.

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## Environment Variables Notes

Environment variables set by runcpu before the start of the run:

LD\_LIBRARY\_PATH =

"/u/home/schmidt/riscv-gnu-toolchain/build/lib64:/u/home/schmidt/riscv-gnu-toolchain/build/lib:/lib64"

## Platform Notes

Sysinfo program /u/home/schmidt/spec/bin/sysinfo  
Rev: r6365 of 2019-08-21 295195f888a3d7ed81e6e46a485a0011  
running on sksmall Fri Sep 18 11:45:03 2020

SUT (System Under Test) info as seen by some common utilities.  
For more information on this section, see  
<https://www.spec.org/cpu2017/Docs/config.html#sysinfo>

From /proc/cpuinfo

model name : Intel(R) Xeon(R) Bronze 3106 CPU @ 1.70GHz

1 "physical id"s (chips)

8 "processors"

cores, siblings (Caution: counting these is hw and system dependent. The following excerpts from /proc/cpuinfo might not be reliable. Use with caution.)

cpu cores : 8

siblings : 8

physical 0: cores 0 1 2 3 4 5 6 7

From lscpu:

Architecture: x86\_64

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

Byte Order: Little Endian

CPU(s): 8

On-line CPU(s) list: 0-7

Thread(s) per core: 1

Core(s) per socket: 8

Socket(s): 1

NUMA node(s): 1

Vendor ID: GenuineIntel

CPU family: 6

Model: 85

Model name: Intel(R) Xeon(R) Bronze 3106 CPU @ 1.70GHz

Stepping: 4

CPU MHz: 1657.165

CPU max MHz: 1700.0000

CPU min MHz: 800.0000

BogoMIPS: 3400.00

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## Platform Notes (Continued)

Virtualization: VT-x  
L1d cache: 32K  
L1i cache: 32K  
L2 cache: 1024K  
L3 cache: 11264K  
NUMA node0 CPU(s): 0-7  
Flags: fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov  
pat pse36 clflush dts acpi mmx fxsr sse sse2 ss ht tm pbe syscall nx pdpe1gb rdtscp  
lm constant\_tsc art arch\_perfmon pebs bts rep\_good nopl xtopology nonstop\_tsc cpuid  
aperfperf pni pclmulqdq dtes64 monitor ds\_cpl vmx smx est tm2 ssse3 sdbg fma cx16  
xtpr pdcm pcid dca sse4\_1 sse4\_2 x2apic movbe popcnt tsc\_deadline\_timer aes xsave  
avx fl6c rdrand lahf\_lm abm 3dnowprefetch cpuid\_fault epb cat\_l3 cdp\_l3  
invpcid\_single pti intel\_ppin ssbd mba ibrs lpbp stibp tpr\_shadow vnmi flexpriority  
ept vpid fsgsbase tsc\_adjust bmi1 hle avx2 smep bmi2 erms invpcid rtm cqm mpx rdt\_a  
avx512f avx512dq rdseed adx snap clflushopt clwb intel\_pt avx512cd avx512bw avx512vl  
xsaveopt xsavec xgetbv1 xsaves cqm\_llc cqm\_occup\_llc cqm\_mbm\_total cqm\_mbm\_local  
dtherm arat pln pts hwp hwp\_act\_window hwp\_pkg\_req pku ospke md\_clear flush\_lld

```
/proc/cpuinfo cache data  
cache size : 11264 KB
```

From numactl --hardware WARNING: a numactl 'node' might or might not correspond to a physical chip.

```
From /proc/meminfo  
MemTotal: 82139464 kB  
HugePages_Total: 0  
Hugepagesize: 2048 kB
```

```
/usr/bin/lsb_release -d  
Ubuntu 18.04.3 LTS
```

```
From /etc/*release* /etc/*version*  
debian_version: buster/sid  
os-release:  
NAME="Ubuntu"  
VERSION="18.04.3 LTS (Bionic Beaver)"  
ID=ubuntu  
ID_LIKE=debian  
PRETTY_NAME="Ubuntu 18.04.3 LTS"  
VERSION_ID="18.04"  
HOME_URL="https://www.ubuntu.com/"  
SUPPORT_URL="https://help.ubuntu.com/"
```

```
uname -a:  
Linux sksmall 4.15.0-70-generic #79-Ubuntu SMP Tue Nov 12 10:36:11 UTC 2019 x86_64  
x86_64 x86_64 GNU/Linux
```

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## Platform Notes (Continued)

Kernel self-reported vulnerability status:

itlb\_multihit:

CVE-2018-3620 (L1 Terminal Fault):

Microarchitectural Data Sampling:

CVE-2017-5754 (Meltdown):

CVE-2018-3639 (Speculative Store Bypass):

CVE-2017-5753 (Spectre variant 1):

CVE-2017-5715 (Spectre variant 2):

tsx\_async\_abort:

run-level 5 Nov 28 09:46

SPEC is set to: /u/home/schmidt/spe

Filesystem

on

nasill0.informatik.tu-muenchen.de:/srv/ill0/home nfs 6.9T 4.1T 2.6T 62% /u/home

From /sys/devices/virtual/dmi/id

BIOS: HPE U32 11/13/2019

Vendor: HPE

Product: ProLiant DL300 Gen10

Product Family: ProLiant

Cannot run dmidecode, consider saying (as root)

chmod +s /usr/sbin/dmidecode

(End of data from sysinfo program)

## Compiler Version Notes

```
=====
C      600.perlbench_s(base) 602.gcc_s(base) 605.mcf_s(base)
      | 625.x264_s(base) 657.xz_s(base)
=====
```

Using built-in specs.

COLLECT\_GCC=/u/home/schmidt/riscv-gnu-toolchain/build/bin/riscv64-unknown-linux-gnu-gcc

COLLECT\_LTO\_WRAPPER=/u/home/schmidt/riscv-gnu-toolchain/build/libexec/gcc/riscv64-unknown-linux-gnu/10.1.0/lto-wrapper

Target: riscv64-unknown-linux-gnu

Configured with: /u/home/schmidt/riscv-gnu-toolchain/riscv-gcc/configure

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## Compiler Version Notes (Continued)

```
--target=riscv64-unknown-linux-gnu
--prefix=/u/home/schmidt/riscv-gnu-toolchain/build
--with-sysroot=/u/home/schmidt/riscv-gnu-toolchain/build/sysroot
--with-system-zlib --enable-shared --enable-tls
--enable-languages=c,c++,fortran --disable-libmudflap --disable-libssp
--disable-libquadmath --disable-lsanitizer --disable-nls
--disable-bootstrap --src=../riscv-gcc --disable-multilib --with-abi=lp64
--with-arch=rv64ima --with-tune=rocket 'CFLAGS_FOR_TARGET=-O2
-mcmodel=medlow' 'CXXFLAGS_FOR_TARGET=-O2 -mcmodel=medlow'
```

Thread model: posix

Supported LTO compression algorithms: zlib

gcc version 10.1.0 (GCC)

```
====
C++      | 620.omnetpp_s(base) 623.xalancbmk_s(base) 631.deepsjeng_s(base)
          | 641.leela_s(base)
=====
```

Using built-in specs.

COLLECT\_GCC=/u/home/schmidt/riscv-gnu-toolchain/build/bin/riscv64-unknown-linux-gnu-g++

COLLECT\_LTO\_WRAPPER=/u/home/schmidt/riscv-gnu-toolchain/build/libexec/gcc/riscv64-unknown-linux-gnu/10.1.0/lto-wrapper

Target: riscv64-unknown-linux-gnu

Configured with: /u/home/schmidt/riscv-gnu-toolchain/riscv-gcc/configure

```
--target=riscv64-unknown-linux-gnu
--prefix=/u/home/schmidt/riscv-gnu-toolchain/build
--with-sysroot=/u/home/schmidt/riscv-gnu-toolchain/build/sysroot
--with-system-zlib --enable-shared --enable-tls
--enable-languages=c,c++,fortran --disable-libmudflap --disable-libssp
--disable-libquadmath --disable-lsanitizer --disable-nls
--disable-bootstrap --src=../riscv-gcc --disable-multilib --with-abi=lp64
--with-arch=rv64ima --with-tune=rocket 'CFLAGS_FOR_TARGET=-O2
-mcmodel=medlow' 'CXXFLAGS_FOR_TARGET=-O2 -mcmodel=medlow'
```

Thread model: posix

Supported LTO compression algorithms: zlib

gcc version 10.1.0 (GCC)

```
====
Fortran  | 648.exchange2_s(base)
=====
```

Using built-in specs.

COLLECT\_GCC=/u/home/schmidt/riscv-gnu-toolchain/build/bin/riscv64-unknown-linux-gnu-gfortran

COLLECT\_LTO\_WRAPPER=/u/home/schmidt/riscv-gnu-toolchain/build/libexec/gcc/riscv64-unknown-linux-gnu/10.1.0/lto-wrapper

Target: riscv64-unknown-linux-gnu

Configured with: /u/home/schmidt/riscv-gnu-toolchain/riscv-gcc/configure

```
--target=riscv64-unknown-linux-gnu
--prefix=/u/home/schmidt/riscv-gnu-toolchain/build
```

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## Compiler Version Notes (Continued)

```
--with-sysroot=/u/home/schmidt/riscv-gnu-toolchain/build/sysroot
--with-system-zlib --enable-shared --enable-tls
--enable-languages=c,c++,fortran --disable-libmudflap --disable-libssp
--disable-libquadmath --disable-lsanitizer --disable-nls
--disable-bootstrap --src=../riscv-gcc --disable-multilib --with-abi=lp64
--with-arch=rv64ima --with-tune=rocket 'CFLAGS_FOR_TARGET=-O2
-mcmodel=medlow' 'CXXFLAGS_FOR_TARGET=-O2 -mcmodel=medlow'
Thread model: posix
Supported LTO compression algorithms: zlib
gcc version 10.1.0 (GCC)
```

## Base Unknown Flags

```
600.perlbench_s: "/u/home/schmidt/riscv-gnu-toolchain/build/bin/riscv64-unknown-linux-gnu-" (in CC)
"/u/home/schmidt/riscv-gnu-toolchain/build/bin/riscv64-unknown-linux-gnu-" (in LD)

602.gcc_s: "/u/home/schmidt/riscv-gnu-toolchain/build/bin/riscv64-unknown-linux-gnu-" (in CC)
"/u/home/schmidt/riscv-gnu-toolchain/build/bin/riscv64-unknown-linux-gnu-" (in LD)

605.mcf_s: "/u/home/schmidt/riscv-gnu-toolchain/build/bin/riscv64-unknown-linux-gnu-" (in CC)
"/u/home/schmidt/riscv-gnu-toolchain/build/bin/riscv64-unknown-linux-gnu-" (in LD)

620.omnetpp_s: "/u/home/schmidt/riscv-gnu-toolchain/build/bin/riscv64-unknown-linux-gnu-" (in CXX)
"/u/home/schmidt/riscv-gnu-toolchain/build/bin/riscv64-unknown-linux-gnu-" (in LD)

623.xalancbmk_s: "/u/home/schmidt/riscv-gnu-toolchain/build/bin/riscv64-unknown-linux-gnu-" (in CXX)
"/u/home/schmidt/riscv-gnu-toolchain/build/bin/riscv64-unknown-linux-gnu-" (in LD)

625.x264_s: "/u/home/schmidt/riscv-gnu-toolchain/build/bin/riscv64-unknown-linux-gnu-" (in CC)
"/u/home/schmidt/riscv-gnu-toolchain/build/bin/riscv64-unknown-linux-gnu-" (in LD)

631.deepsjeng_s: "/u/home/schmidt/riscv-gnu-toolchain/build/bin/riscv64-unknown-linux-gnu-" (in CXX)
"/u/home/schmidt/riscv-gnu-toolchain/build/bin/riscv64-unknown-linux-gnu-" (in LD)

641.leela_s: "/u/home/schmidt/riscv-gnu-toolchain/build/bin/riscv64-unknown-linux-gnu-" (in CXX)
"/u/home/schmidt/riscv-gnu-toolchain/build/bin/riscv64-unknown-linux-gnu-" (in LD)

648.exchange2_s: "/u/home/schmidt/riscv-gnu-toolchain/build/bin/riscv64-unknown-linux-gnu-" (in FC)
"/u/home/schmidt/riscv-gnu-toolchain/build/bin/riscv64-unknown-linux-gnu-" (in LD)

657.xz_s: "/u/home/schmidt/riscv-gnu-toolchain/build/bin/riscv64-unknown-linux-gnu-" (in CC)
"/u/home/schmidt/riscv-gnu-toolchain/build/bin/riscv64-unknown-linux-gnu-" (in LD)
```

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## Base Compiler Invocation

C benchmarks:

gcc

C++ benchmarks:

g++

Fortran benchmarks:

gfortran

## Base Portability Flags

```
600.perlbench_s: -static(*) -DSPEC_LINUX_X64 -DSPEC_LP64
602.gcc_s: -static(*) -DSPEC_LP64
605.mcf_s: -static(*) -DSPEC_LP64
620.omnetpp_s: -static(*) -DSPEC_LP64
623.xalancbmk_s: -static(*) -DSPEC_LINUX -DSPEC_LP64
625.x264_s: -static(*) -DSPEC_LP64
631.deepsjeng_s: -static(*) -DSPEC_LP64
641.leela_s: -static(*) -DSPEC_LP64
648.exchange2_s: -static(*) -DSPEC_LP64
657.xz_s: -static(*) -DSPEC_LP64
```

(\*) Indicates a portability flag that was found in a non-portability variable.

## Base Optimization Flags

C benchmarks:

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

C++ benchmarks:

```
-std=c++03 -g -O3 -DSPEC_SUPPRESS_OPENMP
-fno-unsafe-math-optimizations -fno-tree-loop-vectorize -fno-openmp
```

Fortran benchmarks:

```
-DSPEC_SUPPRESS_OPENMP -g -O3 -fno-unsafe-math-optimizations
-fno-tree-loop-vectorize -fno-openmp
```



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## Base Other Flags

C benchmarks:

-fcommon

C++ benchmarks:

-fcommon

Fortran benchmarks:

-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 v1.1.0 on 2020-09-18 11:45:01+0000.

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