

SPEC CPU®2017 Integer Speed Result

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not applicable

SPECspeed®2017_int_base = 1.11

SPECspeed®2017_int_peak = Not Run

CPU2017 License: nnn (Your SPEC license number)

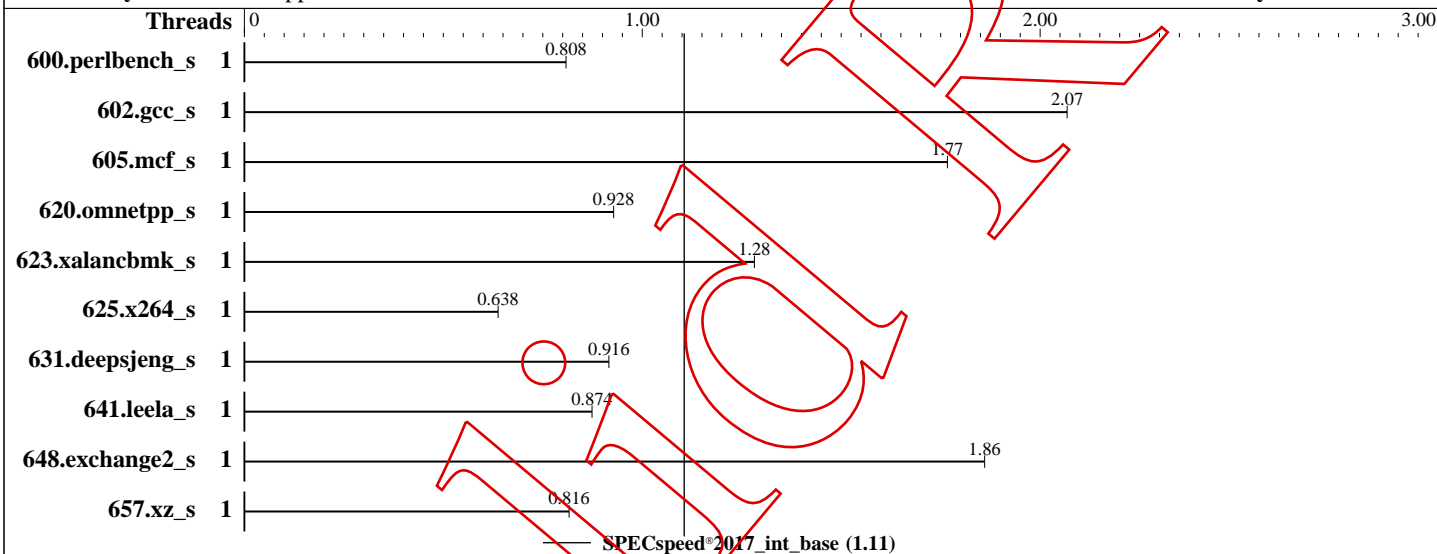
Test Sponsor: not applicable

Tested by: not applicable

Test Date: Oct-2020

Hardware Availability:

Software Availability:



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
623.xalancbmk_s (base) did not have enough runs!
625.x264_s (base) did not have enough runs!
600.perlbench_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!
641.leela_s (base) did not have enough runs!
602.gcc_s (base) did not have enough runs!
657.xz_s (base) did not have enough runs!
631.deepsjeng_s (base) did not have enough runs!
648.exchange2_s (base) did not have enough runs!

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Errors (Continued)

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	<u>2196</u>	<u>0.808</u>											
602.gcc_s	1	<u>1926</u>	<u>2.07</u>											
605.mcf_s	1	<u>2672</u>	<u>1.77</u>											
620.omnetpp_s	1	<u>1757</u>	<u>0.928</u>											
623.xalancbmk_s	1	<u>1105</u>	<u>1.28</u>											
625.x264_s	1	<u>2766</u>	<u>0.638</u>											
631.deepsjeng_s	1	<u>1564</u>	<u>0.916</u>											
641.leela_s	1	<u>1952</u>	<u>0.874</u>											
648.exchange2_s	1	<u>1580</u>	<u>1.86</u>											
657.xz_s	1	<u>7575</u>	<u>0.816</u>											

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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.

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 295195f888a3d7edble6e46a485a0011
running on sksmall Fri Oct 16 16:24:12 2020

SUT (System Under Test) info as seen by some common utilities.
For more information on this section, see

(Continued on next page)

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Platform Notes (Continued)

<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: 1698.128

CPU max MHz: 1700.0000

CPU min MHz: 800.0000

BogoMIPS: 3400.00

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

aperfmpperf 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 ibpb stibp tpr_shadow vnmi flexpriority

ept vpid fsgsbase tsc_adjust bml hle avx2 smep bmi2 erms invpcid rtm cqm mpx rdt_a

avx512f avx512dq rdseed adx smap clflushopt clwb intel_pt avx512cd avx512bw avx512vl

xsavesopt xsavec xgetbv1 xsaves cqm_llc cqm_occup_llc cqm_mbm_total cqm_mbm_local

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Platform Notes (Continued)

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

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:

KVM: Mitigation: Split huge pages

Mitigation: PTE Inversion; VMX: conditional cache flushes, SMT disabled

Mitigation: Clear CPU buffers; SMT disabled
Mitigation: PTI

Mitigation: Speculative Store Bypass disabled via prctl and seccomp

Mitigation: usercopy/swapgs barriers and __user pointer sanitization

Mitigation: Full generic retpoline, IBPB: conditional, IBRS_FW, STIBP: disabled, RSB filling

Mitigation: Clear CPU buffers; SMT disabled

(Continued on next page)

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Software Availability:

Platform Notes (Continued)

run-level 5 Nov 28 09:46

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

Filesystem

Type Size Used Avail Use% Mounted

on

nasill0.informatik.tu-muenchen.de:/srv/ill0/home nfs 6.9T 4.4T 2.3T 67% /u/home

From /sys/devices/virtual/dmi/id

BIOS: HPE U32 11/13/2019

Vendor: HPE

Product: ProLiant DL360 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

--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

-mcmmodel=medlow' 'CXXFLAGS_FOR_TARGET=-O2 -mcmmodel=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)
=====
```

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Software Availability:

Compiler Version Notes (Continued)

| 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

-mmodel=medlow' 'CXXFLAGS_FOR_TARGET=-O2 -mmodel=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

--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

-mmodel=medlow' 'CXXFLAGS_FOR_TARGET=-O2 -mmodel=medlow'

Thread model: posix

Supported LTO compression algorithms: zlib

gcc version 10.1.0 (GCC)

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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.omnettp_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)

Base Compiler Invocation

C benchmarks:

gcc

C++ benchmarks:

g++

Fortran benchmarks:

gfortran

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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.xalanchmk_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 -O3 -DSPEC_SUPPRESS_OPENMP -fno-unsafe-math-optimizations
-fno-openmp -fno-strict-aliasing -fgnu89-inline

C++ benchmarks:

-std=c++03 -O3 -DSPEC_SUPPRESS_OPENMP -fno-unsafe-math-optimizations
-fno-openmp

Fortran benchmarks:

-DSPEC_SUPPRESS_OPENMP -O3 -fno-unsafe-math-optimizations -fno-openmp

Base Other Flags

C benchmarks:

-fcommon -fallow-argument-mismatch

C++ benchmarks:

-fcommon -fallow-argument-mismatch

Fortran benchmarks:

-fcommon -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 v1.1.0 on 2020-10-16 16:24:10+0000.

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