SPEC CPU®2017 Integer Speed Result

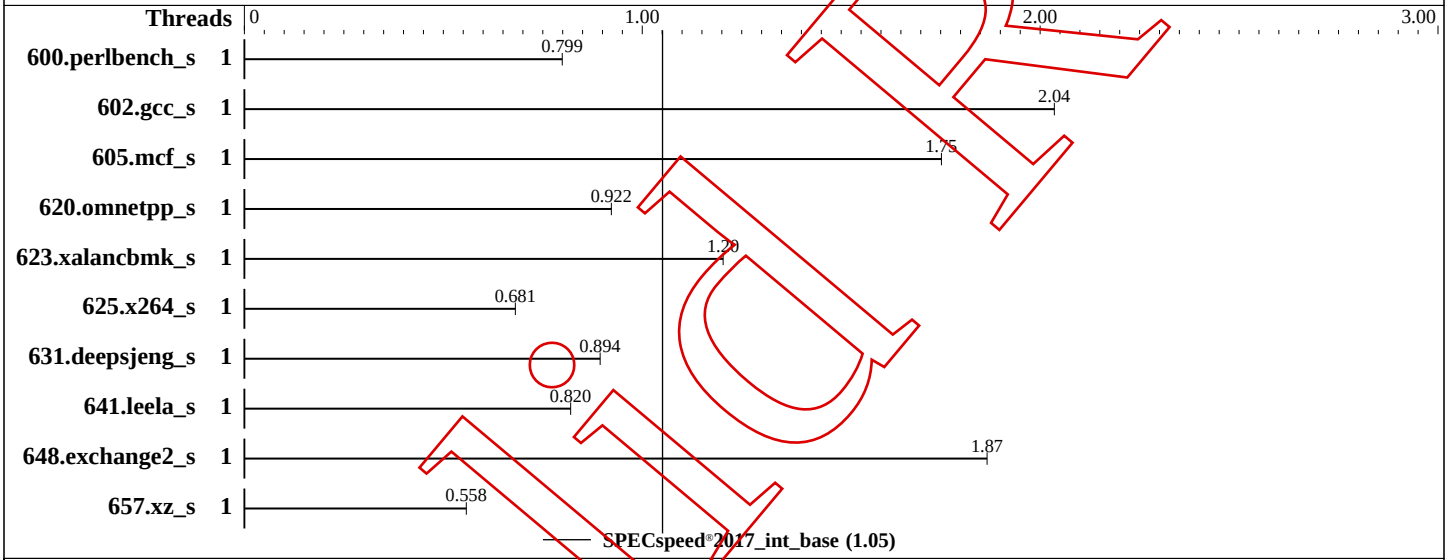
not applicable

SPECspeed®2017_int_base = 1.05

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!
641.leela_s (base) did not have enough runs!
657.xz_s (base) did not have enough runs!
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!
600.perlbench_s (base) did not have enough runs!
631.deepsjeng_s (base) did not have enough runs!
620.omnetpp_s (base) did not have enough runs!
605.mcf_s (base) did not have enough runs!

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Software Availability:

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	**2222**	**0.799**											
602.gcc_s	1	**1956**	**2.04**											
605.mcf_s	1	**2695**	**1.75**											
620.omnetpp_s	1	**1768**	**0.922**											
623.xalancbmk_s	1	**1178**	**1.20**											
625.x264_s	1	**2590**	**0.681**											
631.deepsjeng_s	1	**1603**	**0.894**											
641.leela_s	1	**2080**	**0.820**											
648.exchange2_s	1	**1575**	**1.87**											
657.xz_s	1	**11083**	**0.558**											

SPECspeed®2017_int_base = 1.05

SPECspeed®2017_int_peak = Not Run

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/schmidtf/riscv-gnu-toolchain/build/lib64/:/u/home/schmidtf/risc
      v-gnu-toolchain/build/lib/:/lib64"
```

Platform Notes

```
Sysinfo program /u/home/schmidtf/spec/bin/sysinfo
Rev: r6365 of 2019-08-21 295195f888a3d7edb1e6e46a485a0011
running on sksmall Wed Oct 14 18:44:12 2020

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

(Continued on next page)

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:               1700.003
       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
       aperfmperf 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 f16c 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 bmi1 hle avx2 smep bmi2 erms invpcid rtm cqm mpx rdt_a
       avx512f avx512dq rdseed adx smap clflushopt clwb intel_pt avx512cd avx512bw avx512vl
       xsaveopt 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_l1d

  /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:                          KVM: Mitigation: Split huge pages
  CVE-2018-3620 (L1 Terminal Fault):      Mitigation: PTE Inversion; VMX: conditional
                                          cache flushes, SMT disabled
  Microarchitectural Data Sampling:       Mitigation: Clear CPU buffers; SMT disabled
  CVE-2017-5754 (Meltdown):               Mitigation: PTI
  CVE-2018-3639 (Speculative Store Bypass): Mitigation: Speculative Store Bypass disabled
                                          via prctl and seccomp
  CVE-2017-5753 (Spectre variant 1):      Mitigation: usercopy/swapgs barriers and __user
                                          pointer sanitization
  CVE-2017-5715 (Spectre variant 2):      Mitigation: Full generic retpoline, IBPB:
                                          conditional, IBRS_FW, STIBP: disabled, RSB
                                          filling
  tsx_async_abort:                        Mitigation: Clear CPU buffers; SMT disabled
```

(Continued on next page)

Platform Notes (Continued)

```
 run-level 5 Nov 28 09:46

 SPEC is set to: /u/home/schmidtf/spec
    Filesystem                                     Type  Size  Used Avail Use% Mounted
    on
    nasil10.informatik.tu-muenchen.de:/srv/il10/home nfs   6.9T  4.2T  2.4T  64% /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/schmidtf/riscv-gnu-toolchain/build/bin/riscv64-unknown-linux-gnu-gcc
COLLECT_LTO_WRAPPER=/u/home/schmidtf/riscv-gnu-toolchain/build/libexec/gcc/riscv64-unknown-linux-gnu/10.1.0/lto-wrapper
Target: riscv64-unknown-linux-gnu
Configured with: /u/home/schmidtf/riscv-gnu-toolchain/riscv-gcc/configure
  --target=riscv64-unknown-linux-gnu
  --prefix=/u/home/schmidtf/riscv-gnu-toolchain/build
  --with-sysroot=/u/home/schmidtf/riscv-gnu-toolchain/build/sysroot
  --with-system-zlib --enable-shared --enable-tls
  --enable-languages=c,c++,fortran --disable-libmudflap --disable-libssp
  --disable-libquadmath --disable-libsanitizer --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)
```


(Continued on next page)

Compiler Version Notes (Continued)

```
        | 641.leela_s(base)
------------------------------------------------------------------------------
Using built-in specs.
COLLECT_GCC=/u/home/schmidtf/riscv-gnu-toolchain/build/bin/riscv64-unknown-linux-gnu-g++
COLLECT_LTO_WRAPPER=/u/home/schmidtf/riscv-gnu-toolchain/build/libexec/gcc/riscv64-unknown-linux-gnu/10.1.0/lto-wrapper
Target: riscv64-unknown-linux-gnu
Configured with: /u/home/schmidtf/riscv-gnu-toolchain/riscv-gcc/configure
  --target=riscv64-unknown-linux-gnu
  --prefix=/u/home/schmidtf/riscv-gnu-toolchain/build
  --with-sysroot=/u/home/schmidtf/riscv-gnu-toolchain/build/sysroot
  --with-system-zlib --enable-shared --enable-tls
  --enable-languages=c,c++,fortran --disable-libmudflap --disable-libssp
  --disable-libquadmath --disable-libsanitizer --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/schmidtf/riscv-gnu-toolchain/build/bin/riscv64-unknown-linux-gnu-gfortran
COLLECT_LTO_WRAPPER=/u/home/schmidtf/riscv-gnu-toolchain/build/libexec/gcc/riscv64-unknown-linux-gnu/10.1.0/lto-wrapper
Target: riscv64-unknown-linux-gnu
Configured with: /u/home/schmidtf/riscv-gnu-toolchain/riscv-gcc/configure
  --target=riscv64-unknown-linux-gnu
  --prefix=/u/home/schmidtf/riscv-gnu-toolchain/build
  --with-sysroot=/u/home/schmidtf/riscv-gnu-toolchain/build/sysroot
  --with-system-zlib --enable-shared --enable-tls
  --enable-languages=c,c++,fortran --disable-libmudflap --disable-libssp
  --disable-libquadmath --disable-libsanitizer --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/schmidtf/riscv-gnu-toolchain/build/bin/riscv64-unknown-linux-gnu-" (in CC)
"/u/home/schmidtf/riscv-gnu-toolchain/build/bin/riscv64-unknown-linux-gnu-" (in LD)

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

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

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

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

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

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

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

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

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

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 -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`

not applicable

SPECspeed®2017_int_base = 1.05

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:

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 2020-10-14 18:44:11+0000.
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