SPEC CPU®2017 Integer Speed Result

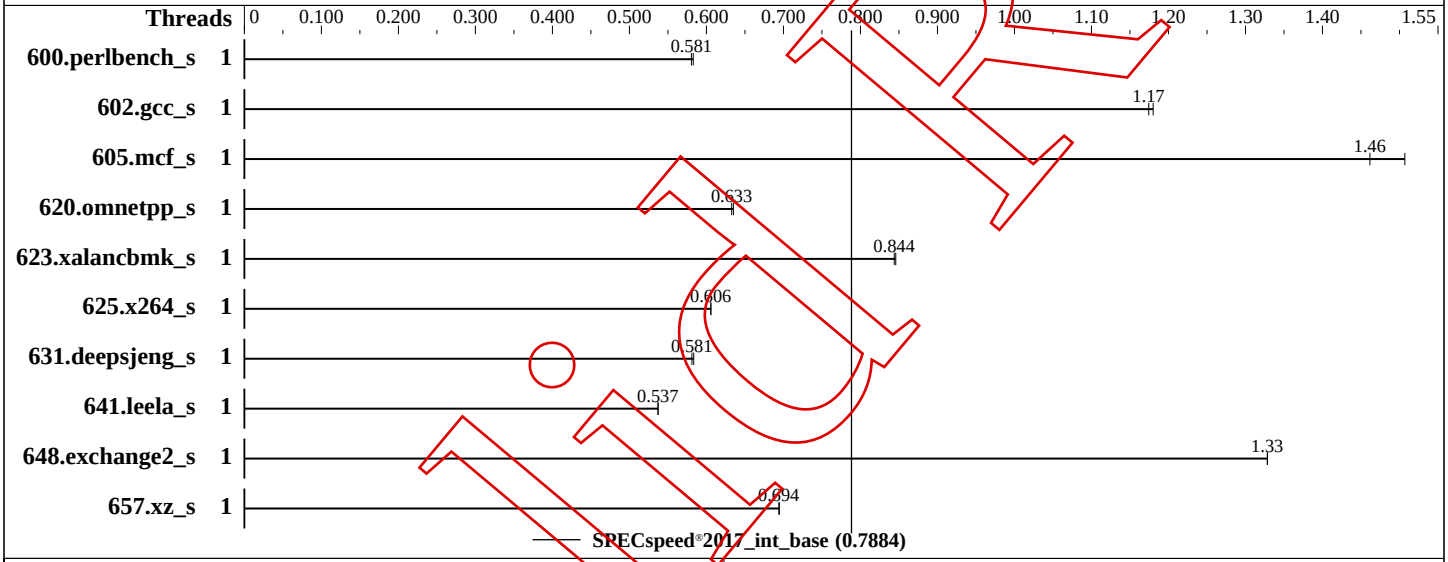
not applicable

SPECspeed®2017_int_base = 0.7884

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:



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: 5.5 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: No
Firmware:
File System: nfs
System State: Run level 5 (add definition here)
Base Pointers: 64-bit
Peak Pointers: Not Applicable
Other:
Power Management: --

Errors

Your run was marked invalid because it has one or more flags in the "unknown" category. You might be able to resolve this problem without re-running your test; see
https://www.spec.org/cpu2017/Docs/runcpu.html#flagsurl
for more information.

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Software Availability:

Results Table

Benchmark	Base							Peak						
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
600.perlbench_s	1	3045	0.583	**3058**	**0.581**									
602.gcc_s	1	**3391**	**1.17**	3374	1.18									
605.mcf_s	1	**3230**	**1.46**	3133	1.51									
620.omnetpp_s	1	**2577**	**0.633**	2568	0.635									
623.xalancbmk_s	1	**1679**	**0.844**	1675	0.846									
625.x264_s	1	**2912**	**0.606**	2912	0.606									
631.deepsjeng_s	1	**2466**	**0.581**	2456	0.583									
641.leela_s	1	3175	0.537	**3177**	**0.537**									
648.exchange2_s	1	**2213**	**1.33**	2213	1.33									
657.xz_s	1	**8907**	**0.694**	8899	0.695									

SPECspeed®2017_int_base = 0.7884

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 Sep 16 13:14:24 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.)
```

(Continued on next page)

Platform Notes (Continued)

```
       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:             1698.845
      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
     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.
```


(Continued on next page)

Platform Notes (Continued)

```
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

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   5.5T  4.1T  1.1T  79% /u/home
```


(Continued on next page)

Platform Notes (Continued)

```
 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)
        | 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
```


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Compiler Version Notes (Continued)

```
  --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)
"-static -fcommon" (in OPTIMIZE)
"-fno-openmp" (in EXTRA_OPTIMIZE)

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)
"-static -fcommon" (in OPTIMIZE)
"-fno-openmp" (in EXTRA_OPTIMIZE)

(Continued on next page)

Base Unknown Flags (Continued)

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)
"-static -fcommon" (in OPTIMIZE)
"-fno-openmp" (in EXTRA_OPTIMIZE)

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)
"-static -fcommon" (in OPTIMIZE)
"-fno-openmp" (in EXTRA_OPTIMIZE)

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)
"-static -fcommon" (in OPTIMIZE)
"-fno-openmp" (in EXTRA_OPTIMIZE)

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)
"-static -fcommon" (in OPTIMIZE)
"-fno-openmp" (in EXTRA_OPTIMIZE)

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)
"-static -fcommon" (in OPTIMIZE)
"-fno-openmp" (in EXTRA_OPTIMIZE)

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)
"-static -fcommon" (in OPTIMIZE)
"-fno-openmp" (in EXTRA_OPTIMIZE)

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)
"-static -fcommon" (in OPTIMIZE)
"-fno-openmp" (in EXTRA_OPTIMIZE)

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)
"-static -fcommon" (in OPTIMIZE)
"-fno-openmp" (in EXTRA_OPTIMIZE)

not applicable

SPECspeed®2017_int_base = 0.7884

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:

Base Compiler Invocation

C benchmarks:
gcc

C++ benchmarks:
g++

Fortran benchmarks:
gfortran

Base Portability Flags

600.perlbench_s: -DSPEC_LINUX_X64 -DSPEC_LP64
602.gcc_s: -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

Base Optimization Flags

C benchmarks:
-std=c99 -g -O3 -DSPEC_SUPPRESS_OPENMP -fno-unsafe-math-optimizations
-fno-tree-loop-vectorize -fno-strict-aliasing -fgnu89-inline

C++ benchmarks:
-std=c++03 -g -O3 -DSPEC_SUPPRESS_OPENMP
-fno-unsafe-math-optimizations -fno-tree-loop-vectorize

Fortran benchmarks:
-DSPEC_SUPPRESS_OPENMP -g -O3 -fno-unsafe-math-optimizations
-fno-tree-loop-vectorize

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 2020-09-16 13:14:23+0000.
Report generated on 2020-09-17 09:04:31 by CPU2017 PDF formatter v6255.