

SPEC CPU®2017 Integer Speed Result

Copyright 2017-2021 Standard Performance Evaluation Corporation

My Corporation

SPECSpeed®2017_int_base = 2.13

SPECSpeed®2017_int_peak = Not Run

CPU2017 License: nnn (Your SPEC license number)

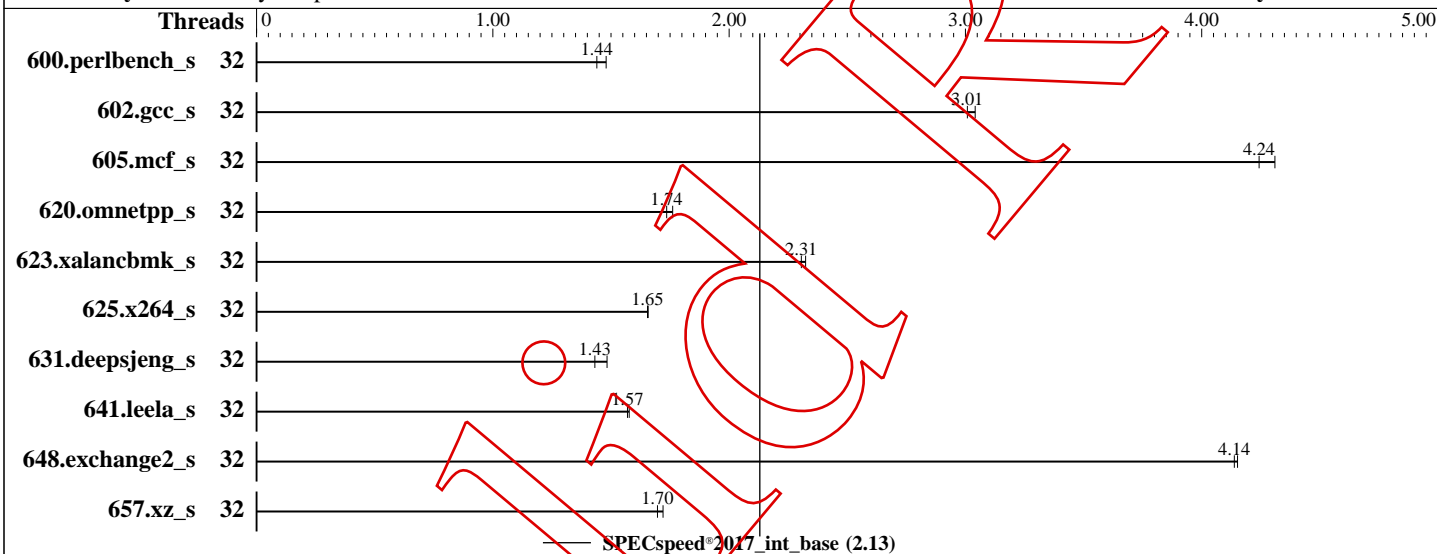
Test Sponsor: My Corporation

Tested by: My Corporation

Test Date: Oct-2021

Hardware Availability:

Software Availability:



Hardware

CPU Name: AMD Ryzen Threadripper PRO 3955WX 16-Cores

Max MHz:

Nominal:

Enabled: cores, 1 chip, threads/core

Orderable:

Cache L1:

L2:

L3:

Other:

Memory: 31.188 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:

OS:

Compiler:

Parallel:

Firmware:

File System:

System State:

Base Pointers:

Peak Pointers:

Other:

Power Management: --

Software

Ubuntu 20.04.2 LTS

5.10.0-1044-oem

C/C++/Fortran: Version 9.3.0 (Ubuntu

9.3.0-17ubuntu1~20.04) of GCC, the

GNU Compiler Collection

No

nfs

Run level 5 (add definition here)

64-bit

Not Applicable

Errors

'reportable' flag not set during run

Unknown flags were used! See

<https://www.spec.org/cpu2017/Docs/runcpu.html#flagsurl>

for information about how to get rid of this error.

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Results Table

Benchmark	Base							Peak						
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
600.perlbench_s	32	1200	1.48	<u>1233</u>	<u>1.44</u>									
602.gcc_s	32	<u>1324</u>	<u>3.01</u>	1309	3.04									
605.mcf_s	32	1095	4.31	<u>1113</u>	<u>4.24</u>									
620.omnetpp_s	32	<u>940</u>	<u>1.74</u>	926	1.76									
623.xalancbmk_s	32	<u>615</u>	<u>2.31</u>	610	2.32									
625.x264_s	32	1064	1.66	<u>1066</u>	<u>1.65</u>									
631.deepsjeng_s	32	<u>1001</u>	<u>1.43</u>	966	1.48									
641.leela_s	32	<u>1087</u>	<u>1.57</u>	1082	1.58									
648.exchange2_s	32	<u>710</u>	<u>4.14</u>	708	4.15									
657.xz_s	32	3594	1.72	<u>3644</u>	<u>1.70</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/hettwer/toolchains/rv64g/lib64:/u/home/hettwer/toolchains/rv64g/lib/./lib64"

Platform Notes

Sysinfo program /u/home/hettwer/cpu2017/bin/sysinfo
Rev: r6365 of 2019-08-21 295195f888a3d7edble6e46a485a0011
running on time-x Mon Oct 11 00:25:16 2021

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 : AMD Ryzen Threadripper PRO 3955WX 16-Cores

1 "physical id"s (chips)

32 "processors"

cores, siblings (Caution: counting these is hw and system dependent. The following

(Continued on next page)

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Platform Notes (Continued)

excerpts from /proc/cpuinfo might not be reliable. Use with caution.)

cpu cores : 16

siblings : 32

physical 0: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

From lscpu:

Architecture:

x86_64

CPU op-mode(s):

32-bit, 64-bit

Byte Order:

Little Endian

Address sizes:

43 bits physical, 48 bits virtual

CPU(s):

32

On-line CPU(s) list:

0-31

Thread(s) per core:

2

Core(s) per socket:

16

Socket(s):

1

NUMA node(s):

1

Vendor ID:

AuthenticAMD

CPU family:

23

Model:

49

Model name:

AMD Ryzen Threadripper PRO 3955WX 16-Cores

Stepping:

0

Frequency boost:

enabled

CPU MHz:

1915.387

CPU max MHz:

4402.7339

CPU min MHz:

2200.0000

BogoMIPS:

7785.19

Virtualization:

AMD-V

L1d cache:

512 KiB

L1i cache:

512 KiB

L2 cache:

8 MiB

L3 cache:

64 MiB

NUMA node0 CPU(s):

0-31

Vulnerability Itlb multihit:

Not affected

Vulnerability L1tf:

Not affected

Vulnerability Mds:

Not affected

Vulnerability Meltdown:

Not affected

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

Vulnerability Spectre v1:

Mitigation; usercopy/swaps barriers and __user

pointer sanitization

Vulnerability Spectre v2:

Mitigation; Full AMD retpoline, IBPB conditional,

STIBP conditional, RSB filling

Vulnerability Srbds:

Not affected

Vulnerability Tsx async abort:

Not affected

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 mmxext fxsr_opt

pdpe1gb rdtscp lm constant_tsc rep_good nopl nonstop_tsc cpuid extd_apicid

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Platform Notes (Continued)

aperfmpperf pni pclmulqdq monitor ssse3 fma cx16 sse4_1 sse4_2 movbe popcnt aes xsave
avx f16c rdrand lahf_lm cmp_legacy svm extapic cr8_legacy abm sse4a misalignsse
3dnowprefetch osvw ibs skinit wdt tce topoext perfctr_core perfctr_nb bpext
perfctr_llc mwaitx cpb cat_l3 cdp_l3 hw_pstate sme ssbd mba sev ibpb stibp vmmcall
sev_es fsgsbase bmi1 avx2 smep bmi2 cqm rdt_a rdseed adx smap clflushopt clwb sha_ni
xsaveopt xsavec xgetbv1 xsaves cqm_llc cqm_occup_llc cqm_mbm_total cqm_mbm_local
clzero irperf xsaveerptr rdpru wbnoinvd arat npt lbrv svm_lock nrip_save tsc_scale
vmcb_clean flushbyasid decodeassists pausefilter pfthreshold avic v_vmsave_vmload
vgif umip rdpid overflow_recov succor smca

/proc/cpuinfo cache data
cache size : 512 KB

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

From /proc/meminfo
MemTotal: 32703484 KB
HugePages_Total: 0
Hugepagesize: 2048 KB

/usr/bin/lsc_release -d
Ubuntu 20.04.2 LTS

From /etc/*release* /etc/*version*
debian_version: bullseye/sid
os-release:
NAME="Ubuntu"
VERSION="20.04.2 LTS (Focal Fossa)"
ID=ubuntu
ID_LIKE=debian
PRETTY_NAME="Ubuntu 20.04.2 LTS"
VERSION_ID="20.04"
HOME_URL="https://www.ubuntu.com/"
SUPPORT_URL="https://help.ubuntu.com/"

uname -a:
Linux time-x 5.10.0-1044-oem #46-Ubuntu SMP Wed Aug 11 09:50:57 UTC 2021 x86_64 x86_64
x86_64 GNU/Linux

Kernel self-reported vulnerability status:

itlb_multihit:	Not affected
CVE-2018-3620 (L1 Terminal Fault):	Not affected
Microarchitectural Data Sampling:	Not affected
CVE-2017-5754 (Meltdown):	Not affected
CVE-2018-3639 (Speculative Store Bypass):	Mitigation: Speculative Store Bypass disabled

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Software Availability:

Platform Notes (Continued)

via prctl and seccomp
CVE-2017-5753 (Spectre variant 1): Mitigation: usercopy/swaps barriers and __user pointer sanitization
CVE-2017-5715 (Spectre variant 2): Mitigation: Full AMD retpoline, IBPB: conditional, STIBP: conditional, RSB filling
srbds: Not affected
tsx_async_abort: Not affected
run-level 5 Aug 26 10:31
SPEC is set to: /u/home/hettwer/cpu2017
Filesystem Type Size Used Avail Use% Mounted on
nasill10.informatik.tu-muenchen.de:/srv/ill10/home nfs 6.9T 5.3T 1.4T 80% /u/home
From /sys/devices/virtual/dmi/id
BIOS: LENOVO S07KT1FA 05/19/2021
Vendor: LENOVO
Product Family: ThinkStation P620
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/hettwer/toolchains/rv64g/bin/riscv64-unknown-linux-gnu-gcc

COLLECT_LTO_WRAPPER=/u/home/hettwer/toolchains/rv64g/libexec/gcc/riscv64-unknown-linux-gnu/11.1.0/lto-wrapper

Target: riscv64-unknown-linux-gnu

Configured with:

/u/home/hettwer/build-rv64g/./riscv-gnu-toolchain/riscv-gcc/configure

--target=riscv64-unknown-linux-gnu

--prefix=/u/home/hettwer/toolchains/rv64g

--with-sysroot=/u/home/hettwer/toolchains/rv64g/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-gnu-toolchain/riscv-gcc --disable-multilib

--with-abi=lp64d --with-arch=rv64imafdc --with-tune=rocket

'CFLAGS_FOR_TARGET=-O2 -mcmmodel=medlow' 'CXXFLAGS_FOR_TARGET=-O2

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Software Availability:

Compiler Version Notes (Continued)

```
-mcmmodel=medlow'  
Thread model: posix  
Supported LTO compression algorithms: zlib  
gcc version 11.1.0 (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/hettwer/toolchains/rv64g/bin/riscv64-unknown-linux-gnu-g++

COLLECT_LTO_WRAPPER=/u/home/hettwer/toolchains/rv64g/libexec/gcc/riscv64-unknown-linux-gnu/11.1.0/lto-wrapper

Target: riscv64-unknown-linux-gnu

Configured with:

```
/u/home/hettwer/build-rv64g/./riscv-gnu-toolchain/riscv-gcc/configure  
--target=riscv64-unknown-linux-gnu  
--prefix=/u/home/hettwer/toolchains/rv64g  
--with-sysroot=/u/home/hettwer/toolchains/rv64g/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-gnu-toolchain/riscv-gcc --disable-multilib  
--with-abi=lp64d --with-arch=rv64imafdc --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 11.1.0 (GCC)

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

Using built-in specs.

COLLECT_GCC=/u/home/hettwer/toolchains/rv64g/bin/riscv64-unknown-linux-gnu-gfortran

COLLECT_LTO_WRAPPER=/u/home/hettwer/toolchains/rv64g/libexec/gcc/riscv64-unknown-linux-gnu/11.1.0/lto-wrapper

Target: riscv64-unknown-linux-gnu

Configured with:

```
/u/home/hettwer/build-rv64g/./riscv-gnu-toolchain/riscv-gcc/configure  
--target=riscv64-unknown-linux-gnu  
--prefix=/u/home/hettwer/toolchains/rv64g  
--with-sysroot=/u/home/hettwer/toolchains/rv64g/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-gnu-toolchain/riscv-gcc --disable-multilib
```

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Compiler Version Notes (Continued)

```
--with-abi=lp64d --with-arch=rv64imafdc --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 11.1.0 (GCC)
```

Base Unknown Flags

```
600.perlbench_s: "/u/home/hettwer/toolchains/rv64g/bin/riscv64-unknown-linux-gnu-" (in CC)  
"/u/home/hettwer/toolchains/rv64g/bin/riscv64-unknown-linux-gnu-" (in LD)  
"-fcommon -static" (in OPTIMIZE)  
"-fno-openmp" (in EXTRA_OPTIMIZE)
```

```
602.gcc_s: "/u/home/hettwer/toolchains/rv64g/bin/riscv64-unknown-linux-gnu-" (in CC)  
"/u/home/hettwer/toolchains/rv64g/bin/riscv64-unknown-linux-gnu-" (in LD)  
"-fcommon -static" (in OPTIMIZE)  
"-fno-openmp" (in EXTRA_OPTIMIZE)
```

```
605.mcf_s: "/u/home/hettwer/toolchains/rv64g/bin/riscv64-unknown-linux-gnu-" (in CC)  
"/u/home/hettwer/toolchains/rv64g/bin/riscv64-unknown-linux-gnu-" (in LD)  
"-fcommon -static" (in OPTIMIZE)  
"-fno-openmp" (in EXTRA_OPTIMIZE)
```

```
620.omnetpp_s: "/u/home/hettwer/toolchains/rv64g/bin/riscv64-unknown-linux-gnu-" (in CXX)  
"/u/home/hettwer/toolchains/rv64g/bin/riscv64-unknown-linux-gnu-" (in LD)  
"-fcommon -static" (in OPTIMIZE)  
"-fno-openmp" (in EXTRA_OPTIMIZE)
```

```
623.xalanbmk_s: "/u/home/hettwer/toolchains/rv64g/bin/riscv64-unknown-linux-gnu-" (in CXX)  
"/u/home/hettwer/toolchains/rv64g/bin/riscv64-unknown-linux-gnu-" (in LD)  
"-fcommon -static" (in OPTIMIZE)  
"-fno-openmp" (in EXTRA_OPTIMIZE)
```

```
625.x264_s: "/u/home/hettwer/toolchains/rv64g/bin/riscv64-unknown-linux-gnu-" (in CC)  
"/u/home/hettwer/toolchains/rv64g/bin/riscv64-unknown-linux-gnu-" (in LD)  
"-fcommon -static" (in OPTIMIZE)  
"-fno-openmp" (in EXTRA_OPTIMIZE)
```

```
631.deepsjeng_s: "/u/home/hettwer/toolchains/rv64g/bin/riscv64-unknown-linux-gnu-" (in CXX)  
"/u/home/hettwer/toolchains/rv64g/bin/riscv64-unknown-linux-gnu-" (in LD)  
"-fcommon -static" (in OPTIMIZE)  
"-fno-openmp" (in EXTRA_OPTIMIZE)
```

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Base Unknown Flags (Continued)

641.leela_s: "/u/home/hettwer/toolchains/rv64g/bin/riscv64-unknown-linux-gnu-" (in CXX)
"/u/home/hettwer/toolchains/rv64g/bin/riscv64-unknown-linux-gnu-" (in LD)
"-fcommon -static" (in OPTIMIZE)
"-fno-openmp" (in EXTRA_OPTIMIZE)

648.exchange2_s: "/u/home/hettwer/toolchains/rv64g/bin/riscv64-unknown-linux-gnu-" (in FC)
"/u/home/hettwer/toolchains/rv64g/bin/riscv64-unknown-linux-gnu-" (in LD)
"-fcommon -static" (in OPTIMIZE)
"-fno-openmp" (in EXTRA_OPTIMIZE)

657.xz_s: "/u/home/hettwer/toolchains/rv64g/bin/riscv64-unknown-linux-gnu-" (in CC)
"/u/home/hettwer/toolchains/rv64g/bin/riscv64-unknown-linux-gnu-" (in LD)
"-fcommon -static" (in OPTIMIZE)
"-fno-openmp" (in EXTRA_OPTIMIZE)

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

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Base Optimization Flags

C benchmarks:

-std=c99 -O3 -fno-unsafe-math-optimizations -DSPEC_SUPPRESS_OPENMP
-fno-strict-aliasing -fgnu89-inline

C++ benchmarks:

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

Fortran benchmarks:

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

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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 2021-10-11 00:25:15+0200.

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