SPEC CPU®2017 Integer Speed Result

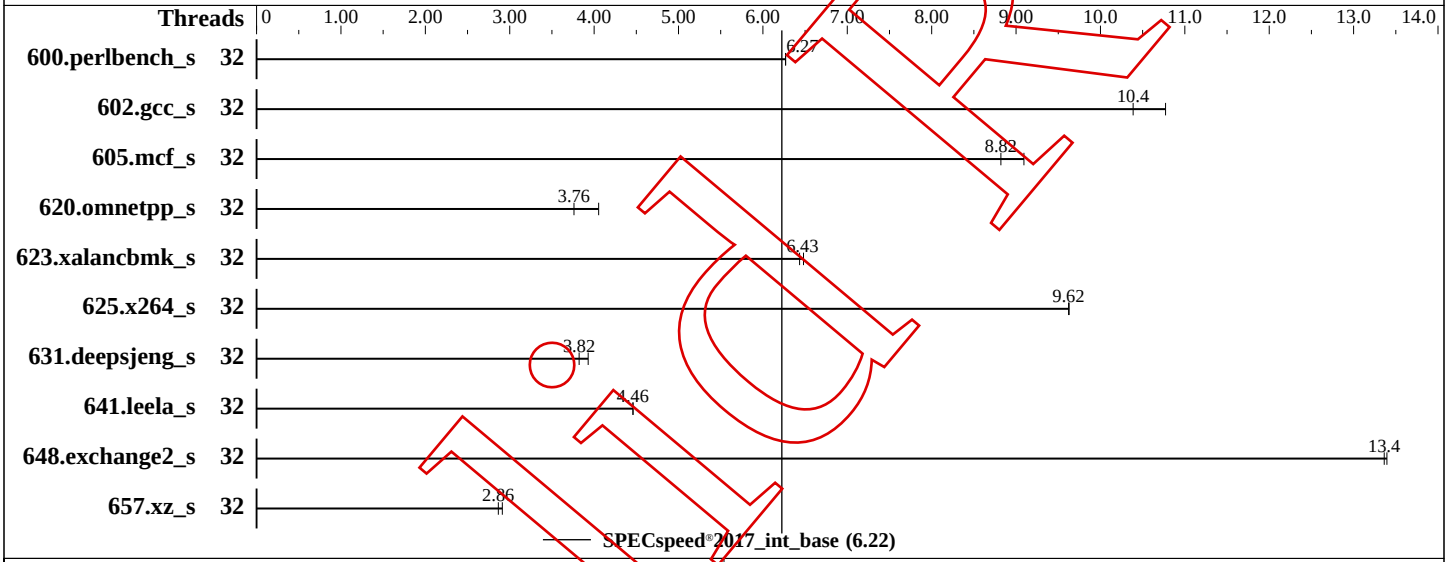
My Corporation

SPECspeed®2017_int_base = 6.22

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:

Software

OS: Ubuntu 20.04.2 LTS 5.10.0-1044-oem
Compiler: C/C++/Fortran: Version 9.3.0 (Ubuntu 9.3.0-17ubuntu1~20.04) 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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Results Table

Benchmark	Base							Peak						
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
600.perlbench_s	32	**283**	**6.27**	283	6.27									
602.gcc_s	32	**383**	**10.4**	370	10.8									
605.mcf_s	32	519	9.09	**535**	**8.82**									
620.omnetpp_s	32	**434**	**3.76**	402	4.05									
623.xalancbmk_s	32	**220**	**6.43**	219	6.48									
625.x264_s	32	**183**	**9.62**	183	9.63									
631.deepsjeng_s	32	365	3.93	**375**	**3.82**									
641.leela_s	32	382	4.46	**383**	**4.46**									
648.exchange2_s	32	**220**	**13.4**	219	13.4									
657.xz_s	32	**2158**	**2.86**	2123	2.91									

SPECspeed®2017_int_base = 6.22

SPECspeed®2017_int_peak = Not Run

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

Environment Variables Notes

```
Environment variables set by runcpu before the start of the run:
LD_LIBRARY_PATH = "/usr/lib64/:/usr/lib/:/lib64"
```

Platform Notes

```
 Sysinfo program /u/home/hettwer/cpu2017/bin/sysinfo
 Rev: r6365 of 2019-08-21 295195f888a3d7edb1e6e46a485a0011
 running on time-x Sat Oct  9 01:25:38 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
    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
```

(Continued on next page)

Platform Notes (Continued)

```
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:                         1915.744
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/swapgs 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
aperfmperf 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
```

(Continued on next page)

Platform Notes (Continued)

```
      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/lsb_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
                                          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 AMD retpoline, IBPB:
                                          conditional, STIBP: conditional, RSB filling
 srbds:                                  Not affected
 tsx_async_abort:                        Not affected
```

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Platform Notes (Continued)

```
 run-level 5 Aug 26 10:31

 SPEC is set to: /u/home/hettwer/cpu2017
    Filesystem                                     Type  Size  Used Avail Use% Mounted
    on
    nasil10.informatik.tu-muenchen.de:/srv/il10/home nfs   6.9T  5.2T  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=/usr/bin/gcc
COLLECT_LTO_WRAPPER=/usr/lib/gcc/x86_64-linux-gnu/9/lto-wrapper
OFFLOAD_TARGET_NAMES=nvptx-none:hsa
OFFLOAD_TARGET_DEFAULT=1
Target: x86_64-linux-gnu
Configured with: ../src/configure -v --with-pkgversion='Ubuntu
  9.3.0-17ubuntu1~20.04'
  --with-bugurl=file:///usr/share/doc/gcc-9/README.Bugs
  --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++,gm2
  --prefix=/usr --with-gcc-major-version-only --program-suffix=-9
  --program-prefix=x86_64-linux-gnu- --enable-shared --enable-linker-build-id
  --libexecdir=/usr/lib --without-included-gettext --enable-threads=posix
  --libdir=/usr/lib --enable-nls --enable-clocale=gnu
  --enable-libstdcxx-debug --enable-libstdcxx-time=yes
  --with-default-libstdcxx-abi=new --enable-gnu-unique-object
  --disable-vtable-verify --enable-plugin --enable-default-pie
  --with-system-zlib --with-target-system-zlib=auto --enable-objc-gc=auto
  --enable-multiarch --disable-werror --with-arch-32=i686 --with-abi=m64
  --with-multilib-list=m32,m64,mx32 --enable-multilib --with-tune=generic
  --enable-offload-targets=nvptx-none=/build/gcc-9-HskZEa/gcc-9-9.3.0/debian/tmp-nvptx/usr,hsa
  --without-cuda-driver --enable-checking=release --build=x86_64-linux-gnu
```

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Compiler Version Notes (Continued)

```
  --host=x86_64-linux-gnu --target=x86_64-linux-gnu
Thread model: posix
gcc version 9.3.0 (Ubuntu 9.3.0-17ubuntu1~20.04)
------------------------------------------------------------------------------

==============================================================================
C++     | 620.omnetpp_s(base) 623.xalancbmk_s(base) 631.deepsjeng_s(base)
        | 641.leela_s(base)
------------------------------------------------------------------------------
Using built-in specs.
COLLECT_GCC=/usr/bin/g++
COLLECT_LTO_WRAPPER=/usr/lib/gcc/x86_64-linux-gnu/9/lto-wrapper
OFFLOAD_TARGET_NAMES=nvptx-none:hsa
OFFLOAD_TARGET_DEFAULT=1
Target: x86_64-linux-gnu
Configured with: ../src/configure -v --with-pkgversion='Ubuntu
  9.3.0-17ubuntu1~20.04'
  --with-bugurl=file:///usr/share/doc/gcc-9/README.Bugs
  --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++,gm2
  --prefix=/usr --with-gcc-major-version-only --program-suffix=-9
  --program-prefix=x86_64-linux-gnu- --enable-shared --enable-linker-build-id
  --libexecdir=/usr/lib --without-included-gettext --enable-threads=posix
  --libdir=/usr/lib --enable-nls --enable-clocale=gnu
  --enable-libstdcxx-debug --enable-libstdcxx-time=yes
  --with-default-libstdcxx-abi=new --enable-gnu-unique-object
  --disable-vtable-verify --enable-plugin --enable-default-pie
  --with-system-zlib --with-target-system-zlib=auto --enable-objc-gc=auto
  --enable-multiarch --disable-werror --with-arch-32=i686 --with-abi=m64
  --with-multilib-list=m32,m64,mx32 --enable-multilib --with-tune=generic
  --enable-offload-targets=nvptx-none=/build/gcc-9-HskZEa/gcc-9-9.3.0/debian/tmp-nvptx/usr,hsa
  --without-cuda-driver --enable-checking=release --build=x86_64-linux-gnu
  --host=x86_64-linux-gnu --target=x86_64-linux-gnu
Thread model: posix
gcc version 9.3.0 (Ubuntu 9.3.0-17ubuntu1~20.04)
------------------------------------------------------------------------------

==============================================================================
Fortran | 648.exchange2_s(base)
------------------------------------------------------------------------------
Using built-in specs.
COLLECT_GCC=/usr/bin/gfortran
COLLECT_LTO_WRAPPER=/usr/lib/gcc/x86_64-linux-gnu/9/lto-wrapper
OFFLOAD_TARGET_NAMES=nvptx-none:hsa
OFFLOAD_TARGET_DEFAULT=1
Target: x86_64-linux-gnu
Configured with: ../src/configure -v --with-pkgversion='Ubuntu
  9.3.0-17ubuntu1~20.04'
```

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Compiler Version Notes (Continued)

```
  --with-bugurl=file:///usr/share/doc/gcc-9/README.Bugs
  --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++,gm2
  --prefix=/usr --with-gcc-major-version-only --program-suffix=-9
  --program-prefix=x86_64-linux-gnu- --enable-shared --enable-linker-build-id
  --libexecdir=/usr/lib --without-included-gettext --enable-threads=posix
  --libdir=/usr/lib --enable-nls --enable-clocale=gnu
  --enable-libstdcxx-debug --enable-libstdcxx-time=yes
  --with-default-libstdcxx-abi=new --enable-gnu-unique-object
  --disable-vtable-verify --enable-plugin --enable-default-pie
  --with-system-zlib --with-target-system-zlib=auto --enable-objc-gc=auto
  --enable-multiarch --disable-werror --with-arch-32=i686 --with-abi=m64
  --with-multilib-list=m32,m64,mx32 --enable-multilib --with-tune=generic
  --enable-offload-targets=nvptx-none=/build/gcc-9-HskZEa/gcc-9-9.3.0/debian/tmp-nvptx/usr,hsa
  --without-cuda-driver --enable-checking=release --build=x86_64-linux-gnu
  --host=x86_64-linux-gnu --target=x86_64-linux-gnu
Thread model: posix
gcc version 9.3.0 (Ubuntu 9.3.0-17ubuntu1~20.04)
------------------------------------------------------------------------------
```

Base Unknown Flags

600.perlbench_s: "-fcommon -static" (in OPTIMIZE)
"-fno-openmp" (in EXTRA_OPTIMIZE)

602.gcc_s: "-fcommon -static" (in OPTIMIZE)
"-fno-openmp" (in EXTRA_OPTIMIZE)

605.mcf_s: "-fcommon -static" (in OPTIMIZE)
"-fno-openmp" (in EXTRA_OPTIMIZE)

620.omnetpp_s: "-fcommon -static" (in OPTIMIZE)
"-fno-openmp" (in EXTRA_OPTIMIZE)

623.xalancbmk_s: "-fcommon -static" (in OPTIMIZE)
"-fno-openmp" (in EXTRA_OPTIMIZE)

625.x264_s: "-fcommon -static" (in OPTIMIZE)
"-fno-openmp" (in EXTRA_OPTIMIZE)

631.deepsjeng_s: "-fcommon -static" (in OPTIMIZE)
"-fno-openmp" (in EXTRA_OPTIMIZE)

641.leela_s: "-fcommon -static" (in OPTIMIZE)
"-fno-openmp" (in EXTRA_OPTIMIZE)

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Base Unknown Flags (Continued)

648.exchange2_s: "-fcommon -static" (in OPTIMIZE)
"-fno-openmp" (in EXTRA_OPTIMIZE)

657.xz_s: "-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

Base Optimization Flags

C benchmarks:
-m64 -std=c99 -O3 -fno-unsafe-math-optimizations
-DSPEC_SUPPRESS_OPENMP -fno-strict-aliasing -fgnu89-inline

C++ benchmarks:
-m64 -std=c++03 -O3 -fno-unsafe-math-optimizations
-DSPEC_SUPPRESS_OPENMP

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Base Optimization Flags (Continued)

Fortran benchmarks:
`-m64 -O3 -fno-unsafe-math-optimizations -DSPEC_SUPPRESS_OPENMP`

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 2021-10-09 01:25:37+0200.
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