SPEC® CPU2017 Integer Speed Result

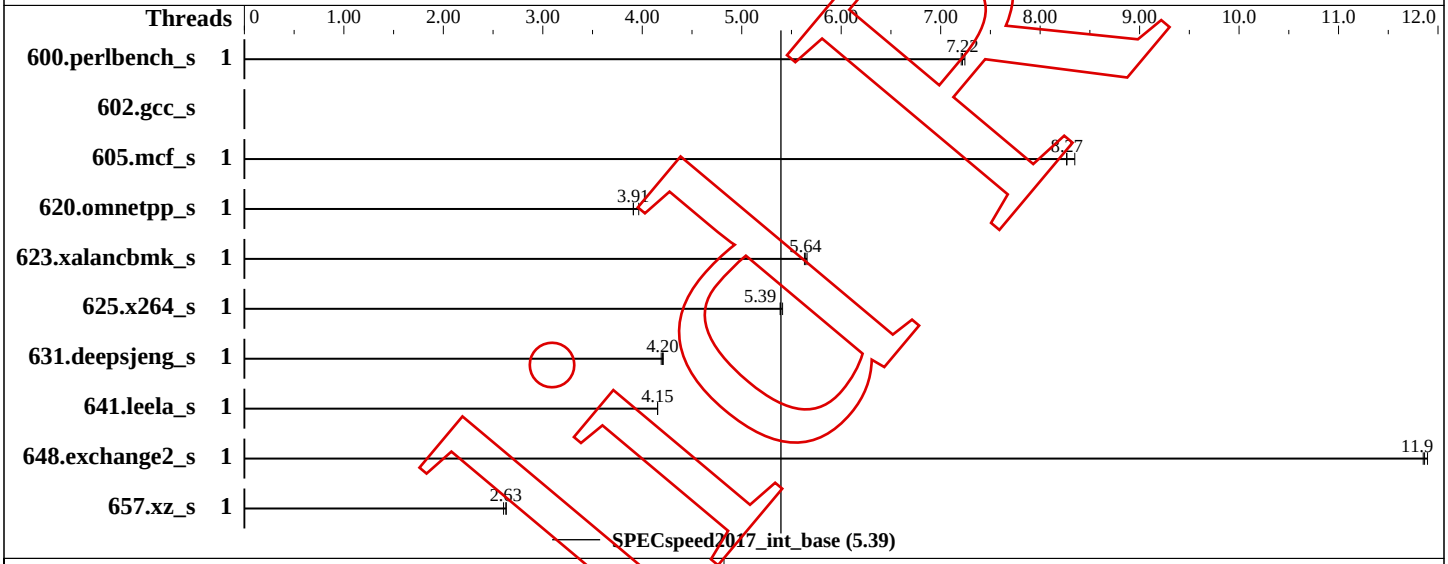
My Corporation
(Test Sponsor: Intel Corporation)

SPECspeed2017_int_base = 5.39

SPECspeed2017_int_peak = Not Run

CPU2017 License: 13
Test Sponsor: Intel Corporation
Tested by: Intel Corporation

Test Date: Apr-2020
Hardware Availability:
Software Availability: Sep-2017



Hardware

CPU Name: Genuine Intel 0000
Max MHz.:
Nominal:
Enabled: cores, 1 chip, threads/core
Orderable:
Cache L1:
L2:
L3:
Other:
Memory: 15.431 GB fixme: If using DDR3, format is: 'N GB (M x N GB nRxn PCn-nnnnnR-n, ECC)'
Storage: 391 GB add more disk info here
Other:

Software

OS: Fedora release 31 (Thirty One) 5.5.0-cet+
Compiler: C/C++: Version 8.1.0 of GNU C/C++ Compiler for Linux; Fortran: Version 8.1.0 of GNU Fortran Compiler for Linux
Parallel: Yes
Firmware: --
File System: ext4
System State: Run level 3 (add definition here)
Base Pointers: 64-bit
Peak Pointers: Not Applicable
Other: --

Errors

'reportable' flag not set during run
602.gcc_s (base) did not have enough runs!
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	1	**246**	**7.22**	246	7.21	245	7.24							
602.gcc_s														
605.mcf_s	1	**571**	**8.27**	571	8.27	565	8.35							
620.omnetpp_s	1	417	3.91	**417**	**3.91**	411	3.96							
623.xalancbmk_s	1	250	5.66	252	5.63	**251**	**5.64**							
625.x264_s	1	326	5.41	327	5.39	**327**	**5.39**							
631.deepsjeng_s	1	342	4.19	340	4.21	**341**	**4.20**							
641.leela_s	1	**411**	**4.15**	411	4.15	411	4.16							
648.exchange2_s	1	247	11.9	248	11.9	**248**	**11.9**							
657.xz_s	1	2373	2.61	**2352**	**2.63**	2348	2.63							

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

Operating System Notes

```
Stack size set to unlimited using "ulimit -s unlimited"
```

General Notes

```
Environment variables set by runcpu before the start of the run:
KMP_AFFINITY = "granularity=fine,compact"
LD_LIBRARY_PATH = "/home/rlsahita/spec2017/lib/ia32:/home/rlsahita/spec2017/lib/intel64"
OMP_STACKSIZE = "192M"

 Binaries compiled on a system with Intel(R) Core(TM) i9-7900X CPU + 32GB RAM
 memory using Redhat Enterprise Linux 7.5
 Transparent Huge Pages enabled by default
```

Platform Notes

```
 Sysinfo program /home/rlsahita/spec2017/bin/sysinfo
 Rev: r5797 of 2017-06-14 96c45e4568ad54c135fd618bcc091c0f
 running on tigerlake1-ravi Sat Apr 11 09:31:18 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 : Genuine Intel(R) CPU 0000 @ 2.30GHz
       1  "physical id"s (chips)
       8 "processors"
```

(Continued on next page)

Platform Notes (Continued)

```
    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 : 4
       siblings  : 8
       physical 0: cores 0 1 2 3

 From lscpu:
      Architecture:                    x86_64
      CPU op-mode(s):                  32-bit, 64-bit
      Byte Order:                      Little Endian
      Address sizes:                   39 bits physical, 48 bits virtual
      CPU(s):                          8
      On-line CPU(s) list:             0-7
      Thread(s) per core:              2
      Core(s) per socket:              4
      Socket(s):                       1
      NUMA node(s):                    1
      Vendor ID:                       GenuineIntel
      CPU family:                      6
      Model:                           140
      Model name:                      Genuine Intel(R) CPU 0000 @ 2.30GHz
      Stepping:                        0
      CPU MHz:                         1797.669
      CPU max MHz:                     4200.0000
      CPU min MHz:                     400.0000
      BogoMIPS:                        4608.00
      Virtualization:                  VT-x
      L1d cache:                       192 KiB
      L1i cache:                       128 KiB
      L2 cache:                        5 MiB
      L3 cache:                        12 MiB
      NUMA node0 CPU(s):               0-7
      Vulnerability Itlb multihit:     KVM: Mitigation: Split huge pages
      Vulnerability L1tf:              Not affected
      Vulnerability Mds:               Vulnerable: Clear CPU buffers attempted, no
      microcode; SMT vulnerable
      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; Enhanced IBRS, IBPB conditional, RSB
      filling
      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 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
```

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Platform Notes (Continued)

```
      nonstop_tsc cpuid aperfmperf tsc_known_freq pni pclmulqdq dtes64 monitor ds_cpl vmx
      smx est tm2 ssse3 sdbg fma cx16 xtpr pdcm pcid sse4_1 sse4_2 x2apic movbe popcnt
      tsc_deadline_timer aes xsave avx f16c rdrand lahf_lm abm 3dnowprefetch cpuid_fault
      epb invpcid_single ssbd ibrs ibpb stibp ibrs_enhanced tpr_shadow vnmi flexpriority
      ept vpid ept_ad fsgsbase tsc_adjust bmi1 avx2 smep bmi2 erms invpcid avx512f
      avx512dq rdseed adx smap avx512ifma clflushopt clwb intel_pt avx512cd sha_ni
      avx512bw avx512vl xsaveopt xsavec xgetbv1 xsaves dtherm ida arat pln pts hwp
      hwp_notify hwp_act_window hwp_epp hwp_pkg_req avx512vbmi umip pku ospke avx512_vbmi2
      shstk gfni vaes vpclmulqdq avx512_vnni avx512_bitalg tme avx512_vpopcntdq rdpid
      movdiri movdir64b avx512_vp2intersect ibt flush_l1d arch_capabilities

 /proc/cpuinfo cache data
    cache size : 12288 KB

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

 From /proc/meminfo
    MemTotal:       16180852 kB
    HugePages_Total:       0
    Hugepagesize:       2048 kB

 From /etc/*release* /etc/*version*
    fedora-release: Fedora release 31 (Thirty One)
    os-release:
       NAME=Fedora
       VERSION="31 (Workstation Edition)"
       ID=fedora
       VERSION_ID=31
       VERSION_CODENAME=""
       PLATFORM_ID="platform:f31"
       PRETTY_NAME="Fedora 31 (Workstation Edition)"
       ANSI_COLOR="0;34"
    redhat-release: Fedora release 31 (Thirty One)
    system-release: Fedora release 31 (Thirty One)
    system-release-cpe: cpe:/o:fedoraproject:fedora:31

 uname -a:
    Linux tigerlake1-ravi 5.5.0-cet+ #2 SMP Tue Feb 4 10:34:12 PST 2020 x86_64 x86_64
    x86_64 GNU/Linux

 run-level 3 Mar 10 17:08

 SPEC is set to: /home/rlsahita/spec2017
    Filesystem                              Type  Size  Used Avail Use% Mounted on
    /dev/mapper/fedora_localhost--live-home ext4  391G   54G  318G  15% /home
```

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Platform Notes (Continued)

```
Additional information from dmidecode follows.  WARNING: Use caution when you interpret
this section. The 'dmidecode' program reads system data which is "intended to allow
hardware to be accurately determined", but the intent may not be met, as there are
frequent changes to hardware, firmware, and the "DMTF SMBIOS" standard.

(End of data from sysinfo program)
```

Compiler Version Notes

```
==============================================================================
 FC  648.exchange2_s(base)
------------------------------------------------------------------------------
GNU Fortran (GCC) 9.2.1 20200123 (Red Hat 9.2.1-3)
Copyright (C) 2019 Free Software Foundation, Inc.
This is free software; see the source for copying conditions.  There is NO
warranty; not even for MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.
------------------------------------------------------------------------------

==============================================================================
 CXXC 620.omnetpp_s(base) 623.xalancbmk_s(base) 631.deepsjeng_s(base)
      641.leela_s(base)
------------------------------------------------------------------------------
g++ (GCC) 9.2.1 20200123 (Red Hat 9.2.1-3)
Copyright (C) 2019 Free Software Foundation, Inc.
This is free software; see the source for copying conditions.  There is NO
warranty; not even for MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.
------------------------------------------------------------------------------

==============================================================================
 CC  600.perlbench_s(base) 605.mcf_s(base) 625.x264_s(base) 657.xz_s(base)
------------------------------------------------------------------------------
gcc (GCC) 9.2.1 20200123 (Red Hat 9.2.1-3)
Copyright (C) 2019 Free Software Foundation, Inc.
This is free software; see the source for copying conditions.  There is NO
warranty; not even for MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.
------------------------------------------------------------------------------
```

Base Unknown Flags

600.perlbench_s: "-I/include -I/usr/includeARRAY(0x8c5f9d0)
"-I/include -I/usr/includeARRAY(0x8c80028)

605.mcf_s: "-I/include -I/usr/includeARRAY(0x8c7cd20)
"-I/include -I/usr/includeARRAY(0x8c7d068)

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Base Unknown Flags (Continued)

620.omnetpp_s: "-I/include -I/usr/includeARRAY(0x8c77650)
"-I/include -I/usr/includeARRAY(0x8c8bc08)

623.xalancbmk_s: "-I/include -I/usr/includeARRAY(0x8c7c7f8)
"-I/include -I/usr/includeARRAY(0x8da8a18)

625.x264_s: "-I/include -I/usr/includeARRAY(0x8c82cb8)
"-I/include -I/usr/includeARRAY(0x8da7748)

631.deepsjeng_s: "-I/include -I/usr/includeARRAY(0x8c89c58)
"-I/include -I/usr/includeARRAY(0x8da8808)

641.leela_s: "-I/include -I/usr/includeARRAY(0x8c82bb0)
"-I/include -I/usr/includeARRAY(0x8d2ccc0)

648.exchange2_s: "-I/include -I/usr/includeARRAY(0x8da93a0)
"-I/include -I/usr/includeARRAY(0x8d31e18)

657.xz_s: "-I/include -I/usr/includeARRAY(0x8daa388)
"-I/include -I/usr/includeARRAY(0x8da9d78)

Base Compiler Invocation

C benchmarks (except as noted below):
gcc

C++ benchmarks:
g++

Fortran benchmarks:
gfortran

Base Portability Flags

600.perlbench_s: -DSPEC_LINUX_X64 -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

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Base Portability Flags (Continued)

648.exchange2_s: `-DSPEC_LP64`
657.xz_s: `-DSPEC_LP64`

Base Optimization Flags

C benchmarks:

600.perlbench_s: `-m64 -std=c99 -Wl,-z,muldefs -O2 -fno-strict-aliasing -fopenmp -DSPEC_OPENMP`

605.mcf_s: `Same as 600.perlbench_s`

625.x264_s: `Same as 600.perlbench_s`

657.xz_s: `Same as 600.perlbench_s`

C++ benchmarks:
`-m64 -std=c++03 -Wl,-z,muldefs -O2 -fno-strict-aliasing`

Fortran benchmarks:
`-m64 -O2 -fno-strict-aliasing`

For questions about this result, please contact the tester. For other inquiries, please contact info@spec.org.

Tested with SPEC CPU2017 v1.0.2 on 2020-04-11 09:31:17-0700.
Report generated on 2020-04-11 13:52:39 by CPU2017 PDF formatter v5748.