



SPEC® CPU2017 Floating Point Speed Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

ASUSTeK Computer Inc.

ASUS RS300-E10(P11C-C/4L) Server System
(3.50 GHz, Intel Xeon E-2134)

SPECspeed2017_fp_base = 27.7

SPECspeed2017_fp_peak = 28.0

CPU2017 License: 9016

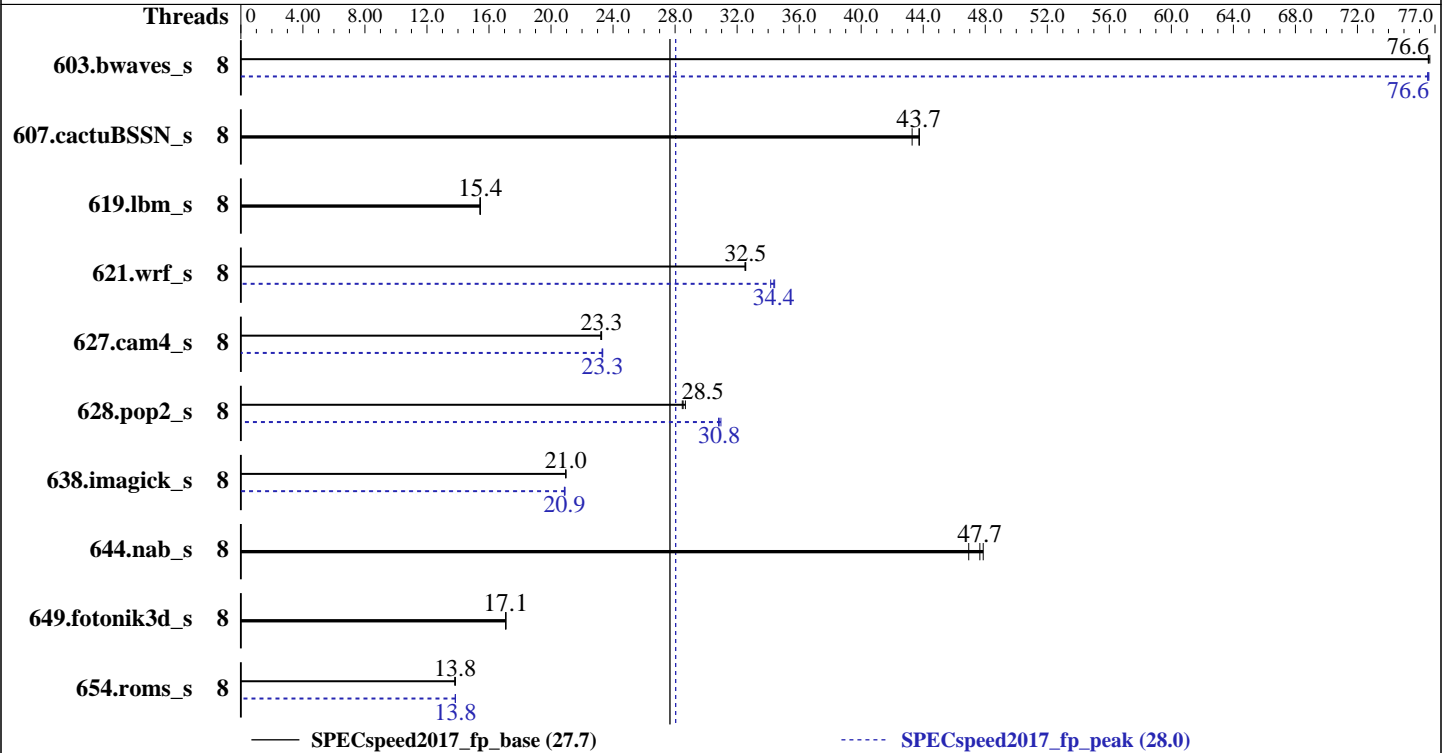
Test Sponsor: ASUSTeK Computer Inc.

Tested by: ASUSTeK Computer Inc.

Test Date: May-2019

Hardware Availability: Dec-2018

Software Availability: Nov-2018



Hardware

CPU Name: Intel Xeon E-2134
 Max MHz.: 4500
 Nominal: 3500
 Enabled: 4 cores, 1 chip, 2 threads/core
 Orderable: 1 chip
 Cache L1: 32 KB I + 32 KB D on chip per core
 L2: 256 KB I+D on chip per core
 L3: 8 MB I+D on chip per chip
 Other: None
 Memory: 64 GB (4 x 16 GB 2Rx8 PC4-2666V-E)
 Storage: 1 x 500 GB SATA HDD, 7200RPM
 Other: None

Software

OS: SUSE Linux Enterprise Server 12 (x86_64) SP3
 Kernel 4.4.120-94.17-default
 Compiler: C/C++: Version 19.0.1.144 of Intel C/C++
 Compiler Build 20181018 for Linux;
 Fortran: Version 19.0.1.144 of Intel Fortran
 Compiler Build 20181018 for Linux
 Parallel: Yes
 Firmware: Version 0502 released Nov-2018
 File System: btrfs
 System State: Run level 3 (multi-user)
 Base Pointers: 64-bit
 Peak Pointers: 64-bit
 Other: jemalloc: jemalloc memory allocator library
 V5.0.1



SPEC CPU2017 Floating Point Speed Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

ASUSTeK Computer Inc.

ASUS RS300-E10(P11C-C/4L) Server System
(3.50 GHz, Intel Xeon E-2134)

SPECspeed2017_fp_base = 27.7

SPECspeed2017_fp_peak = 28.0

CPU2017 License: 9016

Test Sponsor: ASUSTeK Computer Inc.

Tested by: ASUSTeK Computer Inc.

Test Date: May-2019

Hardware Availability: Dec-2018

Software Availability: Nov-2018

Results Table

Benchmark	Base							Peak						
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
603.bwaves_s	8	770	76.7	<u>770</u>	<u>76.6</u>	771	76.6	8	771	76.5	770	76.6	<u>771</u>	<u>76.6</u>
607.cactuBSSN_s	8	385	43.3	381	43.8	<u>381</u>	<u>43.7</u>	8	385	43.3	381	43.8	<u>381</u>	<u>43.7</u>
619.lbm_s	8	340	15.4	<u>339</u>	<u>15.4</u>	339	15.4	8	340	15.4	<u>339</u>	<u>15.4</u>	339	15.4
621.wrf_s	8	<u>406</u>	<u>32.5</u>	406	32.6	407	32.5	8	384	34.4	387	34.2	<u>385</u>	<u>34.4</u>
627.cam4_s	8	382	23.2	<u>381</u>	<u>23.3</u>	381	23.3	8	380	23.3	381	23.3	<u>380</u>	<u>23.3</u>
628.pop2_s	8	<u>416</u>	<u>28.5</u>	414	28.7	417	28.5	8	<u>385</u>	<u>30.8</u>	384	31.0	385	30.8
638.imagick_s	8	689	20.9	<u>689</u>	<u>21.0</u>	688	21.0	8	691	20.9	<u>691</u>	<u>20.9</u>	690	20.9
644.nab_s	8	365	47.9	372	46.9	<u>367</u>	<u>47.7</u>	8	365	47.9	372	46.9	<u>367</u>	<u>47.7</u>
649.fotonik3d_s	8	534	17.1	<u>534</u>	<u>17.1</u>	533	17.1	8	534	17.1	<u>534</u>	<u>17.1</u>	533	17.1
654.roms_s	8	1141	13.8	<u>1140</u>	<u>13.8</u>	1138	13.8	8	1138	13.8	1139	13.8	<u>1138</u>	<u>13.8</u>

SPECspeed2017_fp_base = 27.7

SPECspeed2017_fp_peak = 28.0

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 = "/spec2017_2019u1/lib/ia32:/spec2017_2019u1/lib/intel64:/spec2017_2019u1/je5.0.1-32:/spec2017_2019u1/je5.0.1-64"

OMP_STACKSIZE = "192M"

Binaries compiled on a system with 1x Intel Core i7-6700K CPU + 32GB RAM

memory using Redhat Enterprise Linux 7.5

Transparent Huge Pages enabled by default

Prior to runcpu invocation

Filesystem page cache synced and cleared with:

```
sync; echo 3> /proc/sys/vm/drop_caches
```

jemalloc: configured and built at default for

32bit (i686) and 64bit (x86_64) targets;

jemalloc: built with the RedHat Enterprise 7.4,

and the system compiler gcc 4.8.5;

jemalloc: sources available from jemalloc.net or

<https://github.com/jemalloc/jemalloc/releases>

Yes: The test sponsor attests, as of date of publication, that CVE-2017-5754 (Meltdown) is mitigated in the system as tested and documented.

Yes: The test sponsor attests, as of date of publication, that CVE-2017-5753 (Spectre variant 1) is mitigated in the system as tested and documented.

Yes: The test sponsor attests, as of date of publication, that CVE-2017-5715 (Spectre variant 2) is mitigated in the system as tested and documented.



SPEC CPU2017 Floating Point Speed Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

ASUSTeK Computer Inc.

ASUS RS300-E10(P11C-C/4L) Server System
(3.50 GHz, Intel Xeon E-2134)

SPECspeed2017_fp_base = 27.7

SPECspeed2017_fp_peak = 28.0

CPU2017 License: 9016

Test Sponsor: ASUSTeK Computer Inc.

Tested by: ASUSTeK Computer Inc.

Test Date: May-2019

Hardware Availability: Dec-2018

Software Availability: Nov-2018

Platform Notes

BIOS Configuration:

VT-d = Disabled

AES = Disabled

Sysinfo program /spec2017_2019ul/bin/sysinfo

Rev: r5974 of 2018-05-19 9bcde8f2999c33d61f64985e45859ea9

running on linux-pmm5 Thu May 23 10:17:35 2019

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) E-2134 CPU @ 3.50GHz

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 : 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

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: 158

Model name: Intel(R) Xeon(R) E-2134 CPU @ 3.50GHz

Stepping: 10

CPU MHz: 4298.984

CPU max MHz: 4500.0000

CPU min MHz: 800.0000

BogoMIPS: 7007.98

Virtualization: VT-x

L1d cache: 32K

L1i cache: 32K

L2 cache: 256K

L3 cache: 8192K

NUMA node0 CPU(s): 0-7

Flags: fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov

(Continued on next page)



SPEC CPU2017 Floating Point Speed Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

ASUSTeK Computer Inc.

ASUS RS300-E10(P11C-C/4L) Server System
(3.50 GHz, Intel Xeon E-2134)

SPECspeed2017_fp_base = 27.7

SPECspeed2017_fp_peak = 28.0

CPU2017 License: 9016

Test Sponsor: ASUSTeK Computer Inc.

Tested by: ASUSTeK Computer Inc.

Test Date: May-2019

Hardware Availability: Dec-2018

Software Availability: Nov-2018

Platform Notes (Continued)

```

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
aperfperf eagerfpu 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 xsave
avx f16c rdrand lahf_lm abm 3dnowprefetch ida arat epb invpcid_single pln pts dtherm
hwp hwp_notify hwp_act_window hwp_epp intel_pt rsb_ctxsw spec_ctrl stibp retpoline
kaiser tpr_shadow vnmi flexpriority ept vpid fsgsbase tsc_adjust bmi1 hle avx2 smep
bmi2 erms invpcid rtm mpx rdseed adx smap clflushopt xsaveopt xsavec xgetbv1

```

```

/proc/cpuinfo cache data
cache size : 8192 KB

```

```

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

```

```

available: 1 nodes (0)
node 0 cpus: 0 1 2 3 4 5 6 7
node 0 size: 64315 MB
node 0 free: 63777 MB
node distances:
node 0
0: 10

```

```

From /proc/meminfo

```

```

MemTotal: 65859064 kB
HugePages_Total: 0
Hugepagesize: 2048 kB

```

```

From /etc/*release* /etc/*version*

```

```

SuSE-release:

```

```

SUSE Linux Enterprise Server 12 (x86_64)
VERSION = 12
PATCHLEVEL = 3
# This file is deprecated and will be removed in a future service pack or release.
# Please check /etc/os-release for details about this release.

```

```

os-release:

```

```

NAME="SLES"
VERSION="12-SP3"
VERSION_ID="12.3"
PRETTY_NAME="SUSE Linux Enterprise Server 12 SP3"
ID="sles"
ANSI_COLOR="0;32"
CPE_NAME="cpe:/o:suse:sles:12:sp3"

```

```

uname -a:

```

```

Linux linux-pmm5 4.4.120-94.17-default #1 SMP Wed Mar 14 17:23:00 UTC 2018 (cf3a7bb)
x86_64 x86_64 x86_64 GNU/Linux

```

(Continued on next page)



SPEC CPU2017 Floating Point Speed Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

ASUSTeK Computer Inc.

ASUS RS300-E10(P11C-C/4L) Server System
(3.50 GHz, Intel Xeon E-2134)

SPECspeed2017_fp_base = 27.7

SPECspeed2017_fp_peak = 28.0

CPU2017 License: 9016

Test Sponsor: ASUSTeK Computer Inc.

Tested by: ASUSTeK Computer Inc.

Test Date: May-2019

Hardware Availability: Dec-2018

Software Availability: Nov-2018

Platform Notes (Continued)

Kernel self-reported vulnerability status:

CVE-2017-5754 (Meltdown): Mitigation: PTI
CVE-2017-5753 (Spectre variant 1): Mitigation: __user pointer sanitization
CVE-2017-5715 (Spectre variant 2): Mitigation: IBRS+IBPB

run-level 3 May 23 10:09

SPEC is set to: /spec2017_2019u1

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
/dev/sda2	btrfs	445G	129G	316G	29%	/

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.

BIOS American Megatrends Inc. 0502 11/15/2018

Memory:

4x Samsung M391A2K43BB1-CTD 16 GB 2 rank 2667, configured at 2666

(End of data from sysinfo program)

Compiler Version Notes

=====
CC 619.lbm_s(base, peak) 638.imagick_s(base, peak) 644.nab_s(base, peak)
=====

icc (ICC) 19.0.1.144 20181018
Copyright (C) 1985-2018 Intel Corporation. All rights reserved.
=====

=====
FC 607.cactuBSSN_s(base, peak)
=====

icpc (ICC) 19.0.1.144 20181018
Copyright (C) 1985-2018 Intel Corporation. All rights reserved.
icc (ICC) 19.0.1.144 20181018
Copyright (C) 1985-2018 Intel Corporation. All rights reserved.
ifort (IFORT) 19.0.1.144 20181018
Copyright (C) 1985-2018 Intel Corporation. All rights reserved.
=====

=====
FC 603.bwaves_s(base) 649.fotonik3d_s(base, peak) 654.roms_s(base, peak)
=====

ifort (IFORT) 19.0.1.144 20181018

(Continued on next page)



SPEC CPU2017 Floating Point Speed Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

ASUSTeK Computer Inc.

ASUS RS300-E10(P11C-C/4L) Server System
(3.50 GHz, Intel Xeon E-2134)

SPECspeed2017_fp_base = 27.7

SPECspeed2017_fp_peak = 28.0

CPU2017 License: 9016

Test Sponsor: ASUSTeK Computer Inc.

Tested by: ASUSTeK Computer Inc.

Test Date: May-2019

Hardware Availability: Dec-2018

Software Availability: Nov-2018

Compiler Version Notes (Continued)

Copyright (C) 1985-2018 Intel Corporation. All rights reserved.

FC 603.bwaves_s(peak)

ifort (IFORT) 19.0.1.144 20181018

Copyright (C) 1985-2018 Intel Corporation. All rights reserved.

CC 621.wrf_s(base) 627.cam4_s(base, peak) 628.pop2_s(base)

ifort (IFORT) 19.0.1.144 20181018

Copyright (C) 1985-2018 Intel Corporation. All rights reserved.

icc (ICC) 19.0.1.144 20181018

Copyright (C) 1985-2018 Intel Corporation. All rights reserved.

CC 621.wrf_s(peak) 628.pop2_s(peak)

ifort (IFORT) 19.0.1.144 20181018

Copyright (C) 1985-2018 Intel Corporation. All rights reserved.

icc (ICC) 19.0.1.144 20181018

Copyright (C) 1985-2018 Intel Corporation. All rights reserved.

Base Compiler Invocation

C benchmarks:

icc -m64 -std=c11

Fortran benchmarks:

ifort -m64

Benchmarks using both Fortran and C:

ifort -m64 icc -m64 -std=c11

Benchmarks using Fortran, C, and C++:

icpc -m64 icc -m64 -std=c11 ifort -m64



SPEC CPU2017 Floating Point Speed Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

ASUSTeK Computer Inc.

ASUS RS300-E10(P11C-C/4L) Server System
(3.50 GHz, Intel Xeon E-2134)

SPECspeed2017_fp_base = 27.7

SPECspeed2017_fp_peak = 28.0

CPU2017 License: 9016

Test Sponsor: ASUSTeK Computer Inc.

Tested by: ASUSTeK Computer Inc.

Test Date: May-2019

Hardware Availability: Dec-2018

Software Availability: Nov-2018

Base Portability Flags

```

603.bwaves_s: -DSPEC_LP64
607.cactuBSSN_s: -DSPEC_LP64
619.lbm_s: -DSPEC_LP64
621.wrf_s: -DSPEC_LP64 -DSPEC_CASE_FLAG -convert big_endian
627.cam4_s: -DSPEC_LP64 -DSPEC_CASE_FLAG
628.pop2_s: -DSPEC_LP64 -DSPEC_CASE_FLAG -convert big_endian
-assume byterecl
638.imagick_s: -DSPEC_LP64
644.nab_s: -DSPEC_LP64
649.fotonik3d_s: -DSPEC_LP64
654.roms_s: -DSPEC_LP64

```

Base Optimization Flags

C benchmarks:

```

-Wl,-z,muldefs -xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch
-ffinite-math-only -qopt-mem-layout-trans=3 -qopenmp -DSPEC_OPENMP
-L/usr/local/je5.0.1-64/lib -ljemalloc

```

Fortran benchmarks:

```

-Wl,-z,muldefs -DSPEC_OPENMP -xCORE-AVX2 -ipo -O3 -no-prec-div
-qopt-prefetch -ffinite-math-only -qopt-mem-layout-trans=3 -qopenmp
-nostandard-realloc-lhs -L/usr/local/je5.0.1-64/lib -ljemalloc

```

Benchmarks using both Fortran and C:

```

-Wl,-z,muldefs -xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch
-ffinite-math-only -qopt-mem-layout-trans=3 -qopenmp -DSPEC_OPENMP
-nostandard-realloc-lhs -L/usr/local/je5.0.1-64/lib -ljemalloc

```

Benchmarks using Fortran, C, and C++:

```

-Wl,-z,muldefs -xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch
-ffinite-math-only -qopt-mem-layout-trans=3 -qopenmp -DSPEC_OPENMP
-nostandard-realloc-lhs -L/usr/local/je5.0.1-64/lib -ljemalloc

```

Peak Compiler Invocation

C benchmarks:

```
icc -m64 -std=c11
```

Fortran benchmarks:

```
ifort -m64
```

(Continued on next page)



SPEC CPU2017 Floating Point Speed Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

ASUSTeK Computer Inc.

ASUS RS300-E10(P11C-C/4L) Server System
(3.50 GHz, Intel Xeon E-2134)

SPECspeed2017_fp_base = 27.7

SPECspeed2017_fp_peak = 28.0

CPU2017 License: 9016

Test Sponsor: ASUSTeK Computer Inc.

Tested by: ASUSTeK Computer Inc.

Test Date: May-2019

Hardware Availability: Dec-2018

Software Availability: Nov-2018

Peak Compiler Invocation (Continued)

Benchmarks using both Fortran and C:

```
ifort -m64 icc -m64 -std=c11
```

Benchmarks using Fortran, C, and C++:

```
icpc -m64 icc -m64 -std=c11 ifort -m64
```

Peak Portability Flags

Same as Base Portability Flags

Peak Optimization Flags

C benchmarks:

```
619.lbm_s: basepeak = yes
```

```
638.imagick_s: -xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch
-ffinite-math-only -qopt-mem-layout-trans=3 -qopenmp
-DSPEC_OPENMP
```

```
644.nab_s: basepeak = yes
```

Fortran benchmarks:

```
603.bwaves_s: -prof-gen(pass 1) -prof-use(pass 2) -DSPEC_SUPPRESS_OPENMP
-DSPEC_OPENMP -O2 -xCORE-AVX2 -qopt-prefetch -ipo -O3
-ffinite-math-only -no-prec-div -qopt-mem-layout-trans=3
-qopenmp -nostandard-realloc-lhs
```

```
649.fotonik3d_s: basepeak = yes
```

```
654.roms_s: -DSPEC_OPENMP -xCORE-AVX2 -ipo -O3 -no-prec-div
-qopt-prefetch -ffinite-math-only -qopt-mem-layout-trans=3
-qopenmp -nostandard-realloc-lhs
```

Benchmarks using both Fortran and C:

```
621.wrf_s: -prof-gen(pass 1) -prof-use(pass 2) -O2 -xCORE-AVX2
-qopt-prefetch -ipo -O3 -ffinite-math-only -no-prec-div
-qopt-mem-layout-trans=3 -DSPEC_SUPPRESS_OPENMP -qopenmp
-DSPEC_OPENMP -nostandard-realloc-lhs
```

(Continued on next page)



SPEC CPU2017 Floating Point Speed Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

ASUSTeK Computer Inc.

ASUS RS300-E10(P11C-C/4L) Server System
(3.50 GHz, Intel Xeon E-2134)

SPECspeed2017_fp_base = 27.7

SPECspeed2017_fp_peak = 28.0

CPU2017 License: 9016

Test Sponsor: ASUSTeK Computer Inc.

Tested by: ASUSTeK Computer Inc.

Test Date: May-2019

Hardware Availability: Dec-2018

Software Availability: Nov-2018

Peak Optimization Flags (Continued)

```
627.cam4_s: -xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch  
-ffinite-math-only -qopt-mem-layout-trans=3 -qopenmp  
-DSPEC_OPENMP -nostandard-realloc-lhs
```

628.pop2_s: Same as 621.wrf_s

Benchmarks using Fortran, C, and C++:

```
607.cactuBSSN_s: basepeak = yes
```

The flags files that were used to format this result can be browsed at

<http://www.spec.org/cpu2017/flags/ASUSTekPlatform-Settings-p11-V2.0-revA.html>

<http://www.spec.org/cpu2017/flags/Intel-ic18.0-official-linux64.2019-04-02.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2017/flags/ASUSTekPlatform-Settings-p11-V2.0-revA.xml>

<http://www.spec.org/cpu2017/flags/Intel-ic18.0-official-linux64.2019-04-02.xml>

SPEC is a registered trademark of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

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

Tested with SPEC CPU2017 v1.0.5 on 2019-05-22 22:17:34-0400.

Report generated on 2019-06-25 18:49:52 by CPU2017 PDF formatter v6067.

Originally published on 2019-06-25.