



# SPEC® CPU2017 Floating Point Speed Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

## Lenovo Global Technology

ThinkSystem SR860  
(3.60 GHz, Intel Xeon Platinum 8156)

SPECspeed2017\_fp\_base = 84.1

SPECspeed2017\_fp\_peak = 85.5

CPU2017 License: 9017

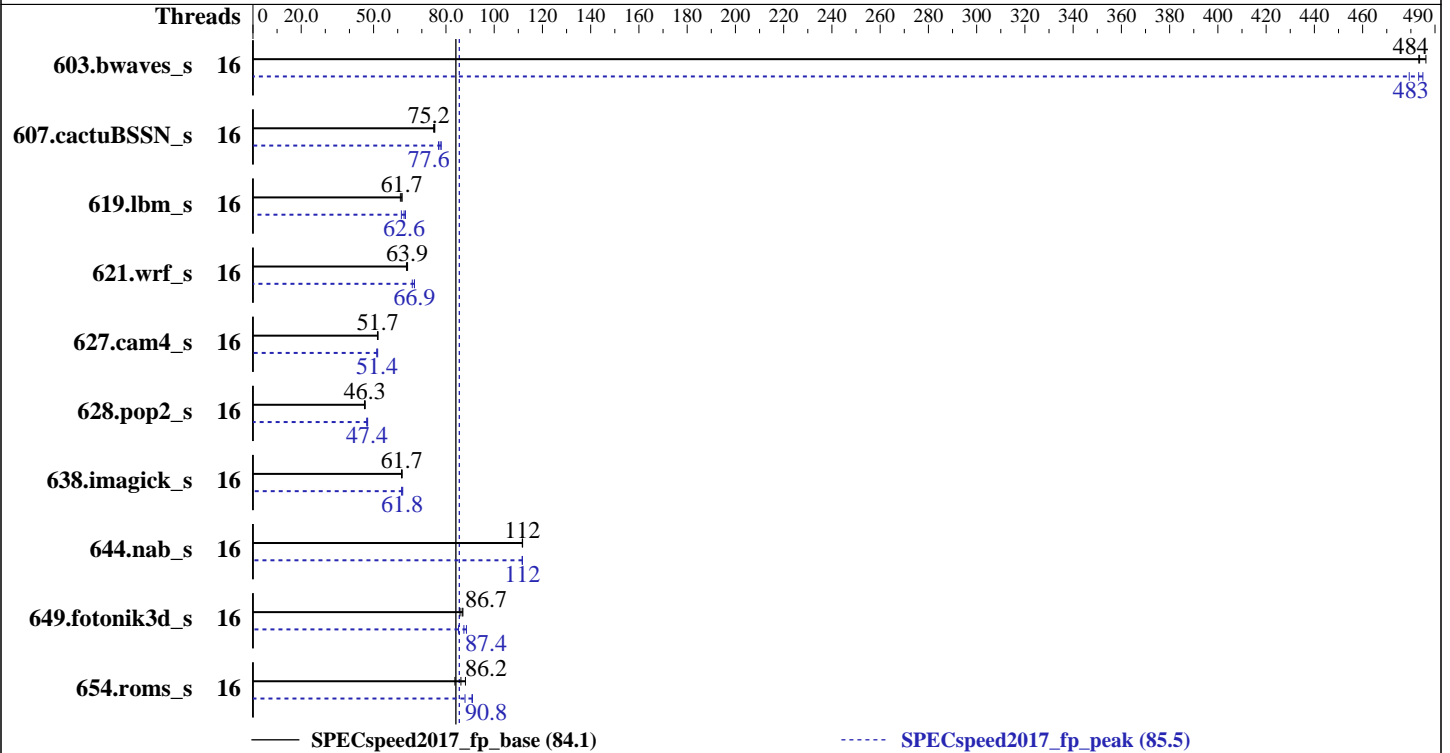
Test Sponsor: Lenovo Global Technology

Tested by: Lenovo Global Technology

Test Date: May-2018

Hardware Availability: Nov-2017

Software Availability: Jan-2018



### Hardware

CPU Name: Intel Xeon Platinum 8156  
 Max MHz.: 3700  
 Nominal: 3600  
 Enabled: 16 cores, 4 chips  
 Orderable: 2,4 chips  
 Cache L1: 32 KB I + 32 KB D on chip per core  
 L2: 1 MB I+D on chip per core  
 L3: 16.5 MB I+D on chip per chip  
 Other: None  
 Memory: 768 GB (48 x 16 GB 2Rx8 PC4-2666V-R)  
 Storage: 1 x 800 GB SAS SSD  
 Other: None

### Software

OS: Red Hat Enterprise Linux Server release 7.4 (Maipo)  
 Kernel 3.10.0-693.11.6.el7.x86\_64  
 Compiler: C/C++: Version 18.0.0.128 of Intel C/C++ Compiler for Linux;  
 Fortran: Version 18.0.0.128 of Intel Fortran Compiler for Linux  
 Parallel: Yes  
 Firmware: Lenovo BIOS Version TEE117P 1.13 released Feb-2018  
 File System: xfs  
 System State: Run level 3 (multi-user)  
 Base Pointers: 64-bit  
 Peak Pointers: 64-bit  
 Other: None



# SPEC CPU2017 Floating Point Speed Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

## Lenovo Global Technology

SPECSpeed2017\_fp\_base = 84.1

ThinkSystem SR860  
(3.60 GHz, Intel Xeon Platinum 8156)

SPECSpeed2017\_fp\_peak = 85.5

CPU2017 License: 9017  
Test Sponsor: Lenovo Global Technology  
Tested by: Lenovo Global Technology

Test Date: May-2018  
Hardware Availability: Nov-2017  
Software Availability: Jan-2018

## Results Table

Benchmark	Base							Peak						
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
603.bwaves_s	16	121	486	<u>122</u>	<u>484</u>	122	483	16	<u>122</u>	<u>483</u>	122	485	123	479
607.cactuBSSN_s	16	221	75.4	223	74.9	<u>222</u>	<u>75.2</u>	16	217	76.9	214	78.1	<u>215</u>	<u>77.6</u>
619.lbm_s	16	85.7	61.1	<u>84.9</u>	<u>61.7</u>	84.8	61.8	16	85.1	61.5	82.9	63.2	<u>83.6</u>	<u>62.6</u>
621.wrf_s	16	206	64.1	208	63.6	<u>207</u>	<u>63.9</u>	16	200	66.0	198	66.9	<u>198</u>	<u>66.9</u>
627.cam4_s	16	172	51.6	171	51.8	<u>171</u>	<u>51.7</u>	16	173	51.3	171	51.7	<u>172</u>	<u>51.4</u>
628.pop2_s	16	255	46.5	257	46.2	<u>256</u>	<u>46.3</u>	16	252	47.2	250	47.5	<u>251</u>	<u>47.4</u>
638.imagick_s	16	233	61.8	234	61.6	<u>234</u>	<u>61.7</u>	16	232	62.1	234	61.6	<u>233</u>	<u>61.8</u>
644.nab_s	16	156	112	156	112	<u>156</u>	<u>112</u>	16	<u>156</u>	<u>112</u>	156	112	157	112
649.fotonik3d_s	16	105	87.0	106	85.8	<u>105</u>	<u>86.7</u>	16	103	88.5	107	85.2	<u>104</u>	<u>87.4</u>
654.roms_s	16	<u>183</u>	<u>86.2</u>	188	83.7	179	88.1	16	173	91.0	<u>173</u>	<u>90.8</u>	179	87.9

SPECSpeed2017\_fp\_base = 84.1

SPECSpeed2017\_fp\_peak = 85.5

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:  
LD\_LIBRARY\_PATH = "/home/cpu2017.1.0.2.ic18.0/lib/ia32:/home/cpu2017.1.0.2.ic18.0/lib/intel64"  
LD\_LIBRARY\_PATH = "\$LD\_LIBRARY\_PATH:/home/cpu2017.1.0.2.ic18.0/je5.0.1-32:/home/cpu2017.1.0.2.ic18.0/je5.0.1-64"  
OMP\_STACKSIZE = "192M"

Binaries compiled on a system with 1x Intel Core i7-4790 CPU + 32GB RAM  
memory using Redhat Enterprise Linux 7.4  
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

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.

## Platform Notes

BIOS configuration:  
Choose Operating Mode set to Maximum Performance  
Hyper-Threading set to Disable

(Continued on next page)



# SPEC CPU2017 Floating Point Speed Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

## Lenovo Global Technology

ThinkSystem SR860  
(3.60 GHz, Intel Xeon Platinum 8156)

SPECspeed2017\_fp\_base = 84.1

SPECspeed2017\_fp\_peak = 85.5

**CPU2017 License:** 9017  
**Test Sponsor:** Lenovo Global Technology  
**Tested by:** Lenovo Global Technology

**Test Date:** May-2018  
**Hardware Availability:** Nov-2017  
**Software Availability:** Jan-2018

### Platform Notes (Continued)

Adjacent Cache Prefetch set to Disable  
MONITORMWAIT set to Enable  
Per Core P-state set to Disable  
StaleAtoS set to Enable  
LLC dead line alloc set to Disable  
UPI Prefetcher set to Disable  
Sysinfo program /home/cpu2017.1.0.2.ic18.0/bin/sysinfo  
Rev: r5797 of 2017-06-14 96c45e4568ad54c135fd618bcc091c0f  
running on SR860 Wed May 16 11:58:57 2018

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) Platinum 8156 CPU @ 3.60GHz  
4 "physical id"s (chips)  
16 "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 : 4  
physical 0: cores 1 5 9 13  
physical 1: cores 1 5 9 13  
physical 2: cores 1 5 9 13  
physical 3: cores 1 5 9 13

From lscpu:  
Architecture: x86\_64  
CPU op-mode(s): 32-bit, 64-bit  
Byte Order: Little Endian  
CPU(s): 16  
On-line CPU(s) list: 0-15  
Thread(s) per core: 1  
Core(s) per socket: 4  
Socket(s): 4  
NUMA node(s): 4  
Vendor ID: GenuineIntel  
CPU family: 6  
Model: 85  
Model name: Intel(R) Xeon(R) Platinum 8156 CPU @ 3.60GHz  
Stepping: 4  
CPU MHz: 3600.000  
BogoMIPS: 7200.00  
Virtualization: VT-x  
L1d cache: 32K  
L1i cache: 32K

(Continued on next page)



# SPEC CPU2017 Floating Point Speed Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

## Lenovo Global Technology

ThinkSystem SR860  
(3.60 GHz, Intel Xeon Platinum 8156)

SPECspeed2017\_fp\_base = 84.1

SPECspeed2017\_fp\_peak = 85.5

**CPU2017 License:** 9017

**Test Sponsor:** Lenovo Global Technology

**Tested by:** Lenovo Global Technology

**Test Date:** May-2018

**Hardware Availability:** Nov-2017

**Software Availability:** Jan-2018

### Platform Notes (Continued)

```

L2 cache:          1024K
L3 cache:          16896K
NUMA node0 CPU(s): 0-3
NUMA node1 CPU(s): 4-7
NUMA node2 CPU(s): 8-11
NUMA node3 CPU(s): 12-15

```

```

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
aperfmpperf eagerfpu pni pclmulqdq dtes64 monitor ds_cpl vmx smx est tm2 ssse3 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 epb cat_l3 cdp_l3 invpcid_single
intel_pt spec_ctrl ibpb_support 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 avx512cd avx512bw avx512vl xsaveopt xsavec xgetbv1
cqm_llc cqm_occup_llc cqm_mbm_total cqm_mbm_local dtherm ida arat pln pts

```

```

/proc/cpuinfo cache data
cache size : 16896 KB

```

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

```

available: 4 nodes (0-3)
node 0 cpus: 0 1 2 3
node 0 size: 196287 MB
node 0 free: 191750 MB
node 1 cpus: 4 5 6 7
node 1 size: 196608 MB
node 1 free: 192220 MB
node 2 cpus: 8 9 10 11
node 2 size: 196608 MB
node 2 free: 192267 MB
node 3 cpus: 12 13 14 15
node 3 size: 196608 MB
node 3 free: 192120 MB
node distances:
node  0  1  2  3
0:  10  21  21  31
1:  21  10  31  21
2:  21  31  10  21
3:  31  21  21  10

```

From /proc/meminfo

```

MemTotal:          792252988 kB
HugePages_Total:      0
Hugepagesize:       2048 kB

```

(Continued on next page)



# SPEC CPU2017 Floating Point Speed Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

## Lenovo Global Technology

SPECspeed2017\_fp\_base = 84.1

ThinkSystem SR860  
(3.60 GHz, Intel Xeon Platinum 8156)

SPECspeed2017\_fp\_peak = 85.5

CPU2017 License: 9017

Test Date: May-2018

Test Sponsor: Lenovo Global Technology

Hardware Availability: Nov-2017

Tested by: Lenovo Global Technology

Software Availability: Jan-2018

### Platform Notes (Continued)

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

os-release:

NAME="Red Hat Enterprise Linux Server"

VERSION="7.4 (Maipo)"

ID="rhel"

ID\_LIKE="fedora"

VARIANT="Server"

VARIANT\_ID="server"

VERSION\_ID="7.4"

PRETTY\_NAME="Red Hat Enterprise Linux Server 7.4 (Maipo)"

redhat-release: Red Hat Enterprise Linux Server release 7.4 (Maipo)

system-release: Red Hat Enterprise Linux Server release 7.4 (Maipo)

system-release-cpe: cpe:/o:redhat:enterprise\_linux:7.4:ga:server

uname -a:

Linux SR860 3.10.0-693.11.6.el7.x86\_64 #1 SMP Thu Dec 28 14:23:39 EST 2017 x86\_64  
x86\_64 x86\_64 GNU/Linux

run-level 3 May 16 11:56

SPEC is set to: /home/cpu2017.1.0.2.ic18.0

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
/dev/sda4	xf	686G	167G	519G	25%	/home

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 Lenovo -[TEE117P-1.13]- 02/06/2018

Memory:

48x Samsung M393A2K43BB1-CTD 16 GB 2 rank 2666

(End of data from sysinfo program)

### Compiler Version Notes

=====  
CC 619.lbm\_s(base) 638.imagick\_s(base, peak) 644.nab\_s(base, peak)  
=====

icc (ICC) 18.0.0 20170811

Copyright (C) 1985-2017 Intel Corporation. All rights reserved.  
=====

=====  
CC 619.lbm\_s(peak)  
=====

(Continued on next page)



# SPEC CPU2017 Floating Point Speed Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

## Lenovo Global Technology

ThinkSystem SR860  
(3.60 GHz, Intel Xeon Platinum 8156)

SPECspeed2017\_fp\_base = 84.1

SPECspeed2017\_fp\_peak = 85.5

**CPU2017 License:** 9017  
**Test Sponsor:** Lenovo Global Technology  
**Tested by:** Lenovo Global Technology

**Test Date:** May-2018  
**Hardware Availability:** Nov-2017  
**Software Availability:** Jan-2018

### Compiler Version Notes (Continued)

icc (ICC) 18.0.0 20170811  
Copyright (C) 1985-2017 Intel Corporation. All rights reserved.

=====  
FC 607.cactuBSSN\_s(base)

-----  
icpc (ICC) 18.0.0 20170811  
Copyright (C) 1985-2017 Intel Corporation. All rights reserved.  
icc (ICC) 18.0.0 20170811  
Copyright (C) 1985-2017 Intel Corporation. All rights reserved.  
ifort (IFORT) 18.0.0 20170811  
Copyright (C) 1985-2017 Intel Corporation. All rights reserved.

=====  
FC 607.cactuBSSN\_s(peak)

-----  
icpc (ICC) 18.0.0 20170811  
Copyright (C) 1985-2017 Intel Corporation. All rights reserved.  
icc (ICC) 18.0.0 20170811  
Copyright (C) 1985-2017 Intel Corporation. All rights reserved.  
ifort (IFORT) 18.0.0 20170811  
Copyright (C) 1985-2017 Intel Corporation. All rights reserved.

=====  
FC 603.bwaves\_s(base) 649.fotonik3d\_s(base) 654.roms\_s(base)

-----  
ifort (IFORT) 18.0.0 20170811  
Copyright (C) 1985-2017 Intel Corporation. All rights reserved.

=====  
FC 603.bwaves\_s(peak) 649.fotonik3d\_s(peak) 654.roms\_s(peak)

-----  
ifort (IFORT) 18.0.0 20170811  
Copyright (C) 1985-2017 Intel Corporation. All rights reserved.

=====  
CC 621.wrf\_s(base) 627.cam4\_s(base, peak) 628.pop2\_s(base)

-----  
ifort (IFORT) 18.0.0 20170811  
Copyright (C) 1985-2017 Intel Corporation. All rights reserved.  
icc (ICC) 18.0.0 20170811  
Copyright (C) 1985-2017 Intel Corporation. All rights reserved.

(Continued on next page)



# SPEC CPU2017 Floating Point Speed Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

**Lenovo Global Technology**

ThinkSystem SR860  
(3.60 GHz, Intel Xeon Platinum 8156)

SPECspeed2017\_fp\_base = 84.1

SPECspeed2017\_fp\_peak = 85.5

CPU2017 License: 9017

Test Sponsor: Lenovo Global Technology

Tested by: Lenovo Global Technology

Test Date: May-2018

Hardware Availability: Nov-2017

Software Availability: Jan-2018

## Compiler Version Notes (Continued)

-----  
=====  
CC 621.wrf\_s(peak) 628.pop2\_s(peak)  
-----

ifort (IFORT) 18.0.0 20170811

Copyright (C) 1985-2017 Intel Corporation. All rights reserved.

icc (ICC) 18.0.0 20170811

Copyright (C) 1985-2017 Intel Corporation. All rights reserved.  
-----

## Base Compiler Invocation

C benchmarks:

icc

Fortran benchmarks:

ifort

Benchmarks using both Fortran and C:

ifort icc

Benchmarks using Fortran, C, and C++:

icpc icc ifort

## 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



# SPEC CPU2017 Floating Point Speed Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

**Lenovo Global Technology**

ThinkSystem SR860  
(3.60 GHz, Intel Xeon Platinum 8156)

SPECspeed2017\_fp\_base = 84.1

SPECspeed2017\_fp\_peak = 85.5

**CPU2017 License:** 9017

**Test Sponsor:** Lenovo Global Technology

**Tested by:** Lenovo Global Technology

**Test Date:** May-2018

**Hardware Availability:** Nov-2017

**Software Availability:** Jan-2018

## Base Optimization Flags

C benchmarks:

```
-xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch
-ffinite-math-only -qopt-mem-layout-trans=3 -qopenmp -DSPEC_OPENMP
```

Fortran benchmarks:

```
-DSPEC_OPENMP -xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch
-ffinite-math-only -qopt-mem-layout-trans=3 -qopenmp
-nostandard-realloc-lhs -align array32byte
```

Benchmarks using both Fortran and C:

```
-xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch
-ffinite-math-only -qopt-mem-layout-trans=3 -qopenmp -DSPEC_OPENMP
-nostandard-realloc-lhs -align array32byte
```

Benchmarks using Fortran, C, and C++:

```
-xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch
-ffinite-math-only -qopt-mem-layout-trans=3 -qopenmp -DSPEC_OPENMP
-nostandard-realloc-lhs -align array32byte
```

## Base Other Flags

C benchmarks:

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

Fortran benchmarks:

```
-m64
```

Benchmarks using both Fortran and C:

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

Benchmarks using Fortran, C, and C++:

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

## Peak Compiler Invocation

C benchmarks:

```
icc
```

Fortran benchmarks:

```
ifort
```

(Continued on next page)





# SPEC CPU2017 Floating Point Speed Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

**Lenovo Global Technology**

ThinkSystem SR860  
(3.60 GHz, Intel Xeon Platinum 8156)

SPECspeed2017\_fp\_base = 84.1

SPECspeed2017\_fp\_peak = 85.5

CPU2017 License: 9017

Test Sponsor: Lenovo Global Technology

Tested by: Lenovo Global Technology

Test Date: May-2018

Hardware Availability: Nov-2017

Software Availability: Jan-2018

## Peak Compiler Invocation (Continued)

Benchmarks using both Fortran and C:

```
ifort icc
```

Benchmarks using Fortran, C, and C++:

```
icpc icc ifort
```

## Peak Portability Flags

Same as Base Portability Flags

## Peak Optimization Flags

C benchmarks:

```
619.lbm_s: -prof-gen(pass 1) -prof-use(pass 2) -O2 -xCORE-AVX512  
-qopt-prefetch -ipo -O3 -ffinite-math-only -no-prec-div  
-qopt-mem-layout-trans=3 -DSPEC_SUPPRESS_OPENMP -qopenmp  
-DSPEC_OPENMP
```

```
638.imagick_s: -xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch  
-ffinite-math-only -qopt-mem-layout-trans=3 -qopenmp  
-DSPEC_OPENMP
```

644.nab\_s: Same as 638.imagick\_s

Fortran benchmarks:

```
-prof-gen(pass 1) -prof-use(pass 2) -DSPEC_SUPPRESS_OPENMP  
-DSPEC_OPENMP -O2 -xCORE-AVX512 -qopt-prefetch -ipo -O3  
-ffinite-math-only -no-prec-div -qopt-mem-layout-trans=3 -qopenmp  
-nonstandard-realloc-lhs -align array32byte
```

Benchmarks using both Fortran and C:

```
621.wrf_s: -prof-gen(pass 1) -prof-use(pass 2) -O2 -xCORE-AVX512  
-qopt-prefetch -ipo -O3 -ffinite-math-only -no-prec-div  
-qopt-mem-layout-trans=3 -DSPEC_SUPPRESS_OPENMP -qopenmp  
-DSPEC_OPENMP -nonstandard-realloc-lhs -align array32byte
```

```
627.cam4_s: -xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch  
-ffinite-math-only -qopt-mem-layout-trans=3 -qopenmp  
-DSPEC_OPENMP -nonstandard-realloc-lhs -align array32byte
```

(Continued on next page)



# SPEC CPU2017 Floating Point Speed Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

**Lenovo Global Technology**

ThinkSystem SR860  
(3.60 GHz, Intel Xeon Platinum 8156)

SPECspeed2017\_fp\_base = 84.1

SPECspeed2017\_fp\_peak = 85.5

**CPU2017 License:** 9017

**Test Sponsor:** Lenovo Global Technology

**Tested by:** Lenovo Global Technology

**Test Date:** May-2018

**Hardware Availability:** Nov-2017

**Software Availability:** Jan-2018

## Peak Optimization Flags (Continued)

628.pop2\_s: Same as 621.wrf\_s

Benchmarks using Fortran, C, and C++:

```
-prof-gen(pass 1) -prof-use(pass 2) -O2 -xCORE-AVX512 -qopt-prefetch  
-ipo -O3 -ffinite-math-only -no-prec-div -qopt-mem-layout-trans=3  
-DSPEC_SUPPRESS_OPENMP -qopenmp -DSPEC_OPENMP -nostandard-realloc-lhs  
-align array32byte
```

## Peak Other Flags

C benchmarks:

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

Fortran benchmarks:

```
-m64
```

Benchmarks using both Fortran and C:

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

Benchmarks using Fortran, C, and C++:

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

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

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

<http://www.spec.org/cpu2017/flags/Lenovo-Platform-SPECcpu2017-Flags-V1.2-SKL-C.html>

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

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

<http://www.spec.org/cpu2017/flags/Lenovo-Platform-SPECcpu2017-Flags-V1.2-SKL-C.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](mailto:info@spec.org).

Tested with SPEC CPU2017 v1.0.2 on 2018-05-15 23:58:56-0400.

Report generated on 2018-10-31 17:47:47 by CPU2017 PDF formatter v6067.

Originally published on 2018-06-12.