



# SPEC® CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

## Lenovo Global Technology

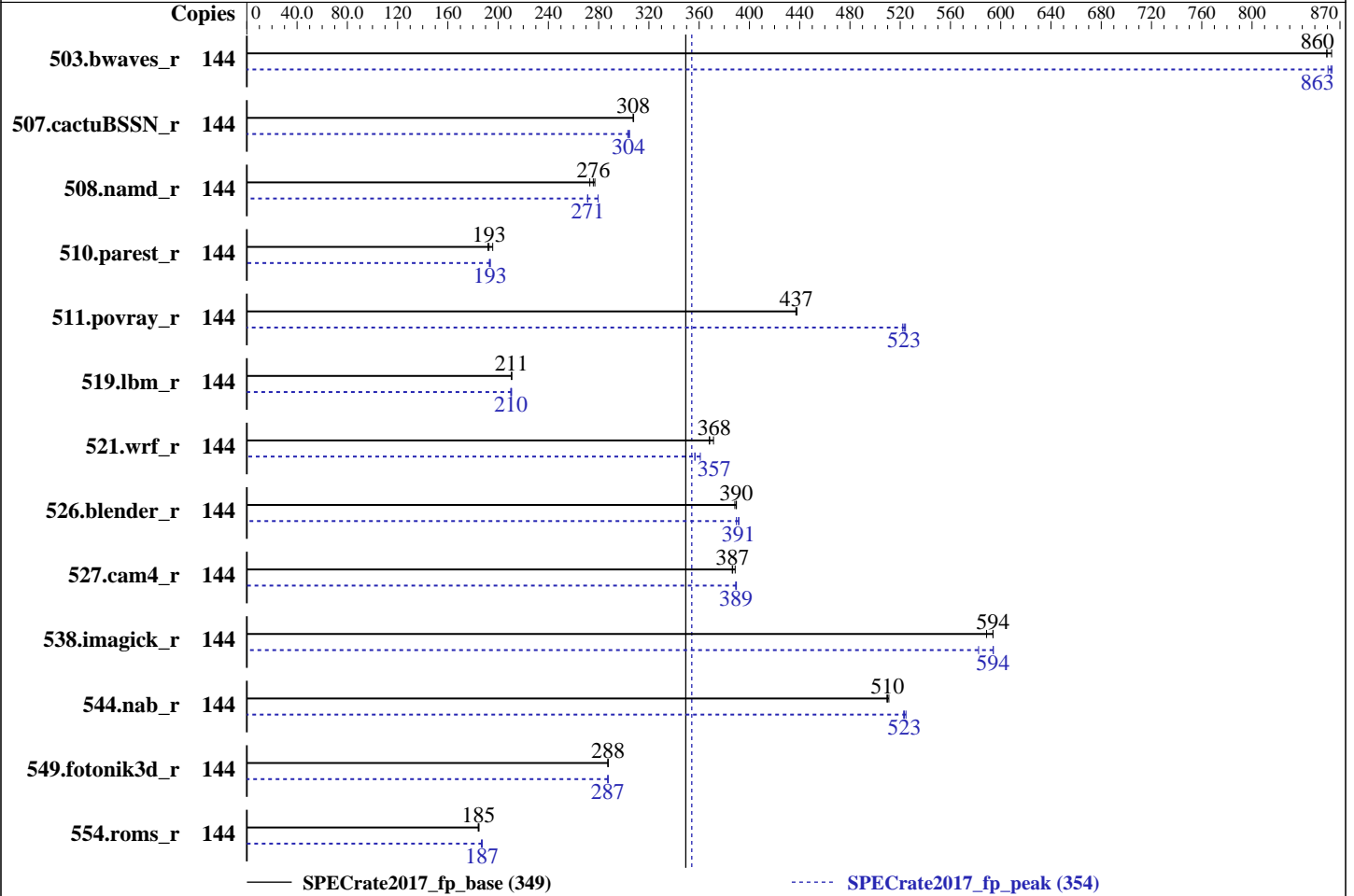
ThinkSystem SR850  
(2.30 GHz, Intel Xeon Gold 6140)

SPECrate2017\_fp\_base = 349

SPECrate2017\_fp\_peak = 354

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

Test Date: Oct-2017  
Hardware Availability: Aug-2017  
Software Availability: Sep-2017



### Hardware

CPU Name: Intel Xeon Gold 6140  
Max MHz.: 3700  
Nominal: 2300  
Enabled: 72 cores, 4 chips, 2 threads/core  
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: 24.75 MB I+D on chip per chip  
Other: None  
Memory: 1536 GB (48 x 32 GB 2Rx4 PC4-2666V-R)  
Storage: 1 x 800 GB SAS SSD  
Other: None

### Software

OS: SUSE Linux Enterprise Server 12 SP2 (x86\_64)  
Kernel 4.4.21-69-default  
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: No  
Firmware: Lenovo BIOS Version TEE115E 1.01 released Aug-2017  
File System: xfs  
System State: Run level 3 (multi-user)  
Base Pointers: 64-bit  
Peak Pointers: 64-bit  
Other: None



# SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

## Lenovo Global Technology

ThinkSystem SR850  
(2.30 GHz, Intel Xeon Gold 6140)

SPECrate2017\_fp\_base = 349

SPECrate2017\_fp\_peak = 354

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

Test Date: Oct-2017  
Hardware Availability: Aug-2017  
Software Availability: Sep-2017

## Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
503.bwaves_r	144	1680	859	1673	863	<b>1680</b>	<b>860</b>	144	1672	864	<b>1674</b>	<b>863</b>	1678	860
507.cactuBSSN_r	144	593	308	<b>593</b>	<b>308</b>	592	308	144	<b>600</b>	<b>304</b>	601	303	598	305
508.namd_r	144	501	273	<b>496</b>	<b>276</b>	494	277	144	<b>504</b>	<b>271</b>	489	280	505	271
510.parest_r	144	1925	196	<b>1955</b>	<b>193</b>	1963	192	144	1952	193	1944	194	<b>1947</b>	<b>193</b>
511.povray_r	144	<b>769</b>	<b>437</b>	768	438	769	437	144	644	522	641	524	<b>643</b>	<b>523</b>
519.lbm_r	144	<b>720</b>	<b>211</b>	720	211	720	211	144	<b>722</b>	<b>210</b>	722	210	720	211
521.wrf_r	144	868	371	<b>876</b>	<b>368</b>	876	368	144	894	361	<b>904</b>	<b>357</b>	905	357
526.blender_r	144	<b>563</b>	<b>390</b>	563	390	565	388	144	563	390	<b>560</b>	<b>391</b>	560	392
527.cam4_r	144	648	389	652	386	<b>651</b>	<b>387</b>	144	646	390	647	389	<b>647</b>	<b>389</b>
538.imagick_r	144	603	594	608	589	<b>603</b>	<b>594</b>	144	<b>603</b>	<b>594</b>	615	582	603	594
544.nab_r	144	474	511	476	509	<b>475</b>	<b>510</b>	144	<b>463</b>	<b>523</b>	462	525	464	523
549.fotonik3d_r	144	1953	287	<b>1952</b>	<b>288</b>	1951	288	144	1953	287	<b>1953</b>	<b>287</b>	1952	288
554.roms_r	144	1238	185	<b>1240</b>	<b>185</b>	1243	184	144	1225	187	1222	187	<b>1223</b>	<b>187</b>

SPECrate2017\_fp\_base = 349

SPECrate2017\_fp\_peak = 354

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

## Submit Notes

The numactl mechanism was used to bind copies to processors. The config file option 'submit' was used to generate numactl commands to bind each copy to a specific processor. For details, please see the config file.

## 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



# SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

## Lenovo Global Technology

ThinkSystem SR850  
(2.30 GHz, Intel Xeon Gold 6140)

SPECrate2017\_fp\_base = 349

SPECrate2017\_fp\_peak = 354

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

**Test Date:** Oct-2017  
**Hardware Availability:** Aug-2017  
**Software Availability:** Sep-2017

### Platform Notes

BIOS configuration:  
Choose Operating Mode set to Maximum Performance  
SNC set to Enable  
Hardware Prefetcher set to Disable  
MONITORMWAIT set to Enable  
Execute Disable Bit set to Disable  
Intel Virtualization Technology set to Disable  
DCA set to Enable  
Sysinfo program /home/cpu2017.1.0.2.icl8.0/bin/sysinfo  
Rev: r5797 of 2017-06-14 96c45e4568ad54c135fd618bcc091c0f  
running on Electron-02 Fri Oct 27 12:43:53 2017

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) Gold 6140 CPU @ 2.30GHz  
4 "physical id"s (chips)  
144 "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 : 18  
siblings : 36  
physical 0: cores 0 1 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27  
physical 1: cores 0 1 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27  
physical 2: cores 0 1 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27  
physical 3: cores 0 1 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27

From lscpu:  
Architecture: x86\_64  
CPU op-mode(s): 32-bit, 64-bit  
Byte Order: Little Endian  
CPU(s): 144  
On-line CPU(s) list: 0-143  
Thread(s) per core: 2  
Core(s) per socket: 18  
Socket(s): 4  
NUMA node(s): 8  
Vendor ID: GenuineIntel  
CPU family: 6  
Model: 85  
Model name: Intel(R) Xeon(R) Gold 6140 CPU @ 2.30GHz  
Stepping: 4  
CPU MHz: 2294.599  
BogoMIPS: 4589.19  
Virtualization: VT-x

(Continued on next page)



# SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

## Lenovo Global Technology

ThinkSystem SR850  
(2.30 GHz, Intel Xeon Gold 6140)

SPECrate2017\_fp\_base = 349

SPECrate2017\_fp\_peak = 354

CPU2017 License: 9017

Test Sponsor: Lenovo Global Technology

Tested by: Lenovo Global Technology

Test Date: Oct-2017

Hardware Availability: Aug-2017

Software Availability: Sep-2017

### Platform Notes (Continued)

```

L1d cache:          32K
L1i cache:          32K
L2 cache:           1024K
L3 cache:           25344K
NUMA node0 CPU(s): 0-2,5,6,9,10,14,15,72-74,77,78,81,82,86,87
NUMA node1 CPU(s): 3,4,7,8,11-13,16,17,75,76,79,80,83-85,88,89
NUMA node2 CPU(s): 18-20,23,24,27,28,32,33,90-92,95,96,99,100,104,105
NUMA node3 CPU(s): 21,22,25,26,29-31,34,35,93,94,97,98,101-103,106,107
NUMA node4 CPU(s): 36-38,41,42,45,46,50,51,108-110,113,114,117,118,122,123
NUMA node5 CPU(s): 39,40,43,44,47-49,52,53,111,112,115,116,119-121,124,125
NUMA node6 CPU(s): 54-56,59,60,63,64,68,69,126-128,131,132,135,136,140,141
NUMA node7 CPU(s): 57,58,61,62,65-67,70,71,129,130,133,134,137-139,142,143
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 sdbg
fma cx16 xtpr pdcm pcid dca sse4_1 sse4_2 x2apic movbe popcnt tsc_deadline_timer aes
xsave avx fl6c rdrand lahf_lm abm 3dnowprefetch ida arat epb pln pts dtherm intel_pt
tpr_shadow vnmi flexpriority ept vpid fsgsbase tsc_adjust bmil hle avx2 smep bmi2
erms invpcid rtm cqm mpx avx512f avx512dq rdseed adx smap clflushopt clwb avx512cd
avx512bw avx512vl xsaveopt xsavec xgetbv1 cqm_llc cqm_occup_llc

```

```

/proc/cpuinfo cache data
cache size : 25344 KB

```

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

```

available: 8 nodes (0-7)
node 0 cpus: 0 1 2 5 6 9 10 14 15 72 73 74 77 78 81 82 86 87
node 0 size: 193129 MB
node 0 free: 192571 MB
node 1 cpus: 3 4 7 8 11 12 13 16 17 75 76 79 80 83 84 85 88 89
node 1 size: 193528 MB
node 1 free: 193021 MB
node 2 cpus: 18 19 20 23 24 27 28 32 33 90 91 92 95 96 99 100 104 105
node 2 size: 193528 MB
node 2 free: 193020 MB
node 3 cpus: 21 22 25 26 29 30 31 34 35 93 94 97 98 101 102 103 106 107
node 3 size: 193528 MB
node 3 free: 192976 MB
node 4 cpus: 36 37 38 41 42 45 46 50 51 108 109 110 113 114 117 118 122 123
node 4 size: 193528 MB
node 4 free: 193033 MB
node 5 cpus: 39 40 43 44 47 48 49 52 53 111 112 115 116 119 120 121 124 125
node 5 size: 193528 MB
node 5 free: 193047 MB
node 6 cpus: 54 55 56 59 60 63 64 68 69 126 127 128 131 132 135 136 140 141

```

(Continued on next page)



# SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

## Lenovo Global Technology

ThinkSystem SR850  
(2.30 GHz, Intel Xeon Gold 6140)

SPECrate2017\_fp\_base = 349

SPECrate2017\_fp\_peak = 354

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

**Test Date:** Oct-2017  
**Hardware Availability:** Aug-2017  
**Software Availability:** Sep-2017

### Platform Notes (Continued)

```

node 6 size: 193528 MB
node 6 free: 193008 MB
node 7 cpus: 57 58 61 62 65 66 67 70 71 129 130 133 134 137 138 139 142 143
node 7 size: 193525 MB
node 7 free: 192982 MB
node distances:
node  0  1  2  3  4  5  6  7
  0: 10 11 21 21 21 21 31 31
  1: 11 10 21 21 21 21 31 31
  2: 21 21 10 11 31 31 21 21
  3: 21 21 11 10 31 31 21 21
  4: 21 21 31 31 10 11 21 21
  5: 21 21 31 31 11 10 21 21
  6: 31 31 21 21 21 21 10 11
  7: 31 31 21 21 21 21 11 10

```

```

From /proc/meminfo
MemTotal:      1584974136 kB
HugePages_Total:      0
Hugepagesize:    2048 kB

```

```

From /etc/*release* /etc/*version*
SuSE-release:
SUSE Linux Enterprise Server 12 (x86_64)
VERSION = 12
PATCHLEVEL = 2
# 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-SP2"
VERSION_ID="12.2"
PRETTY_NAME="SUSE Linux Enterprise Server 12 SP2"
ID="sles"
ANSI_COLOR="0;32"
CPE_NAME="cpe:/o:suse:sles:12:sp2"

```

```

uname -a:
Linux Electron-02 4.4.21-69-default #1 SMP Tue Oct 25 10:58:20 UTC 2016 (9464f67)
x86_64 x86_64 x86_64 GNU/Linux

```

run-level 3 Oct 27 12:36

```

SPEC is set to: /home/cpu2017.1.0.2.ic18.0
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sda4        xfs   689G  173G  517G  26% /home

```

(Continued on next page)



# SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

## Lenovo Global Technology

ThinkSystem SR850  
(2.30 GHz, Intel Xeon Gold 6140)

SPECrate2017\_fp\_base = 349

SPECrate2017\_fp\_peak = 354

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

**Test Date:** Oct-2017  
**Hardware Availability:** Aug-2017  
**Software Availability:** Sep-2017

### 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.

BIOS Lenovo -[TEE115E-1.01]- 08/11/2017  
Memory:  
48x Samsung M393A4K40BB2-CTD 32 GB 2 rank 2666

(End of data from sysinfo program)

### Compiler Version Notes

```

=====
CC 519.lbm_r(base) 538.imagick_r(base, peak) 544.nab_r(base)
-----

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

=====
CC 519.lbm_r(peak) 544.nab_r(peak)
-----

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

=====
CXXC 508.namd_r(base) 510.parest_r(base)
-----

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

=====
CXXC 508.namd_r(peak) 510.parest_r(peak)
-----

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

=====
CC 511.povray_r(base) 526.blender_r(base)
-----

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

```

(Continued on next page)



# SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

## Lenovo Global Technology

ThinkSystem SR850  
(2.30 GHz, Intel Xeon Gold 6140)

SPECrate2017\_fp\_base = 349

SPECrate2017\_fp\_peak = 354

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

**Test Date:** Oct-2017  
**Hardware Availability:** Aug-2017  
**Software Availability:** Sep-2017

### Compiler Version Notes (Continued)

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

=====  
CC 511.povray\_r(peak) 526.blender\_r(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.  
-----

=====  
FC 507.cactuBSSN\_r(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 507.cactuBSSN\_r(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 503.bwaves\_r(base, peak) 549.fotonik3d\_r(base, peak) 554.roms\_r(base)  
-----

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

=====  
FC 554.roms\_r(peak)  
-----

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

(Continued on next page)



# SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

**Lenovo Global Technology**

ThinkSystem SR850  
(2.30 GHz, Intel Xeon Gold 6140)

SPECrate2017\_fp\_base = 349

SPECrate2017\_fp\_peak = 354

**CPU2017 License:** 9017

**Test Sponsor:** Lenovo Global Technology

**Tested by:** Lenovo Global Technology

**Test Date:** Oct-2017

**Hardware Availability:** Aug-2017

**Software Availability:** Sep-2017

## Compiler Version Notes (Continued)

=====  
CC 521.wrf\_r(base) 527.cam4\_r(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.  
=====

=====  
CC 521.wrf\_r(peak) 527.cam4\_r(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

C++ benchmarks:

icpc

Fortran benchmarks:

ifort

Benchmarks using both Fortran and C:

ifort icc

Benchmarks using both C and C++:

icpc icc

Benchmarks using Fortran, C, and C++:

icpc icc ifort

## Base Portability Flags

503.bwaves\_r: -DSPEC\_LP64

507.cactuBSSN\_r: -DSPEC\_LP64

(Continued on next page)





# SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Lenovo Global Technology

SPECrate2017\_fp\_base = 349

ThinkSystem SR850  
(2.30 GHz, Intel Xeon Gold 6140)

SPECrate2017\_fp\_peak = 354

CPU2017 License: 9017

Test Date: Oct-2017

Test Sponsor: Lenovo Global Technology

Hardware Availability: Aug-2017

Tested by: Lenovo Global Technology

Software Availability: Sep-2017

## Base Portability Flags (Continued)

```
508.namd_r: -DSPEC_LP64
510.parest_r: -DSPEC_LP64
511.povray_r: -DSPEC_LP64
519.lbm_r: -DSPEC_LP64
521.wrf_r: -DSPEC_LP64 -DSPEC_CASE_FLAG -convert big_endian
526.blender_r: -DSPEC_LP64 -DSPEC_LINUX -funsigned-char
527.cam4_r: -DSPEC_LP64 -DSPEC_CASE_FLAG
538.imagick_r: -DSPEC_LP64
544.nab_r: -DSPEC_LP64
549.fotonik3d_r: -DSPEC_LP64
554.roms_r: -DSPEC_LP64
```

## Base Optimization Flags

C benchmarks:

```
-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch -ffinite-math-only
-qopt-mem-layout-trans=3
```

C++ benchmarks:

```
-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch -ffinite-math-only
-qopt-mem-layout-trans=3
```

Fortran benchmarks:

```
-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch -ffinite-math-only
-qopt-mem-layout-trans=3 -nostandard-realloc-lhs -align array32byte
```

Benchmarks using both Fortran and C:

```
-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch -ffinite-math-only
-qopt-mem-layout-trans=3 -nostandard-realloc-lhs -align array32byte
```

Benchmarks using both C and C++:

```
-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch -ffinite-math-only
-qopt-mem-layout-trans=3
```

Benchmarks using Fortran, C, and C++:

```
-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch -ffinite-math-only
-qopt-mem-layout-trans=3 -nostandard-realloc-lhs -align array32byte
```

## Base Other Flags

C benchmarks:

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

(Continued on next page)



# SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

**Lenovo Global Technology**

ThinkSystem SR850  
(2.30 GHz, Intel Xeon Gold 6140)

SPECrate2017\_fp\_base = 349

SPECrate2017\_fp\_peak = 354

**CPU2017 License:** 9017

**Test Sponsor:** Lenovo Global Technology

**Tested by:** Lenovo Global Technology

**Test Date:** Oct-2017

**Hardware Availability:** Aug-2017

**Software Availability:** Sep-2017

## Base Other Flags (Continued)

C++ benchmarks:

-m64

Fortran benchmarks:

-m64

Benchmarks using both Fortran and C:

-m64 -std=c11

Benchmarks using both C and C++:

-m64 -std=c11

Benchmarks using Fortran, C, and C++:

-m64 -std=c11

## Peak Compiler Invocation

C benchmarks:

icc

C++ benchmarks:

icpc

Fortran benchmarks:

ifort

Benchmarks using both Fortran and C:

ifort icc

Benchmarks using both C and C++:

icpc icc

Benchmarks using Fortran, C, and C++:

icpc icc ifort

## Peak Portability Flags

Same as Base Portability Flags



# SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Lenovo Global Technology

SPECrate2017\_fp\_base = 349

ThinkSystem SR850  
(2.30 GHz, Intel Xeon Gold 6140)

SPECrate2017\_fp\_peak = 354

CPU2017 License: 9017

Test Sponsor: Lenovo Global Technology

Tested by: Lenovo Global Technology

Test Date: Oct-2017

Hardware Availability: Aug-2017

Software Availability: Sep-2017

## Peak Optimization Flags

C benchmarks:

```
519.lbm_r: -prof-gen(pass 1) -prof-use(pass 2) -ipo -xCORE-AVX2 -O3  
-no-prec-div -qopt-prefetch -ffinite-math-only  
-qopt-mem-layout-trans=3
```

```
538.imagick_r: -xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch  
-ffinite-math-only -qopt-mem-layout-trans=3
```

544.nab\_r: Same as 519.lbm\_r

C++ benchmarks:

```
-prof-gen(pass 1) -prof-use(pass 2) -ipo -xCORE-AVX2 -O3  
-no-prec-div -qopt-prefetch -ffinite-math-only  
-qopt-mem-layout-trans=3
```

Fortran benchmarks:

```
503.bwaves_r: -xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch  
-ffinite-math-only -qopt-mem-layout-trans=3  
-nostandard-realloc-lhs -align array32byte
```

549.fotonik3d\_r: Same as 503.bwaves\_r

```
554.roms_r: -prof-gen(pass 1) -prof-use(pass 2) -ipo -xCORE-AVX2 -O3  
-no-prec-div -qopt-prefetch -ffinite-math-only  
-qopt-mem-layout-trans=3 -nostandard-realloc-lhs  
-align array32byte
```

Benchmarks using both Fortran and C:

```
-prof-gen(pass 1) -prof-use(pass 2) -ipo -xCORE-AVX2 -O3  
-no-prec-div -qopt-prefetch -ffinite-math-only  
-qopt-mem-layout-trans=3 -nostandard-realloc-lhs -align array32byte
```

Benchmarks using both C and C++:

```
-prof-gen(pass 1) -prof-use(pass 2) -ipo -xCORE-AVX2 -O3  
-no-prec-div -qopt-prefetch -ffinite-math-only  
-qopt-mem-layout-trans=3
```

Benchmarks using Fortran, C, and C++:

```
-prof-gen(pass 1) -prof-use(pass 2) -ipo -xCORE-AVX2 -O3  
-no-prec-div -qopt-prefetch -ffinite-math-only  
-qopt-mem-layout-trans=3 -nostandard-realloc-lhs -align array32byte
```



# SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

**Lenovo Global Technology**

ThinkSystem SR850  
(2.30 GHz, Intel Xeon Gold 6140)

SPECrate2017\_fp\_base = 349

SPECrate2017\_fp\_peak = 354

**CPU2017 License:** 9017

**Test Sponsor:** Lenovo Global Technology

**Tested by:** Lenovo Global Technology

**Test Date:** Oct-2017

**Hardware Availability:** Aug-2017

**Software Availability:** Sep-2017

## Peak Other Flags

C benchmarks:

-m64 -std=c11

C++ benchmarks:

-m64

Fortran benchmarks:

-m64

Benchmarks using both Fortran and C:

-m64 -std=c11

Benchmarks using both C 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-Flags-V1.2-SKL-E.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-Flags-V1.2-SKL-E.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 2017-10-27 00:43:52-0400.

Report generated on 2018-10-31 14:48:32 by CPU2017 PDF formatter v6067.

Originally published on 2017-11-22.