



# SPEC® CPU2017 Floating Point Speed Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

## Lenovo Global Technology

ThinkSystem SR950  
(2.00 GHz, Intel Xeon Platinum 8164)

SPECspeed2017\_fp\_base = 144

SPECspeed2017\_fp\_peak = 144

CPU2017 License: 9017

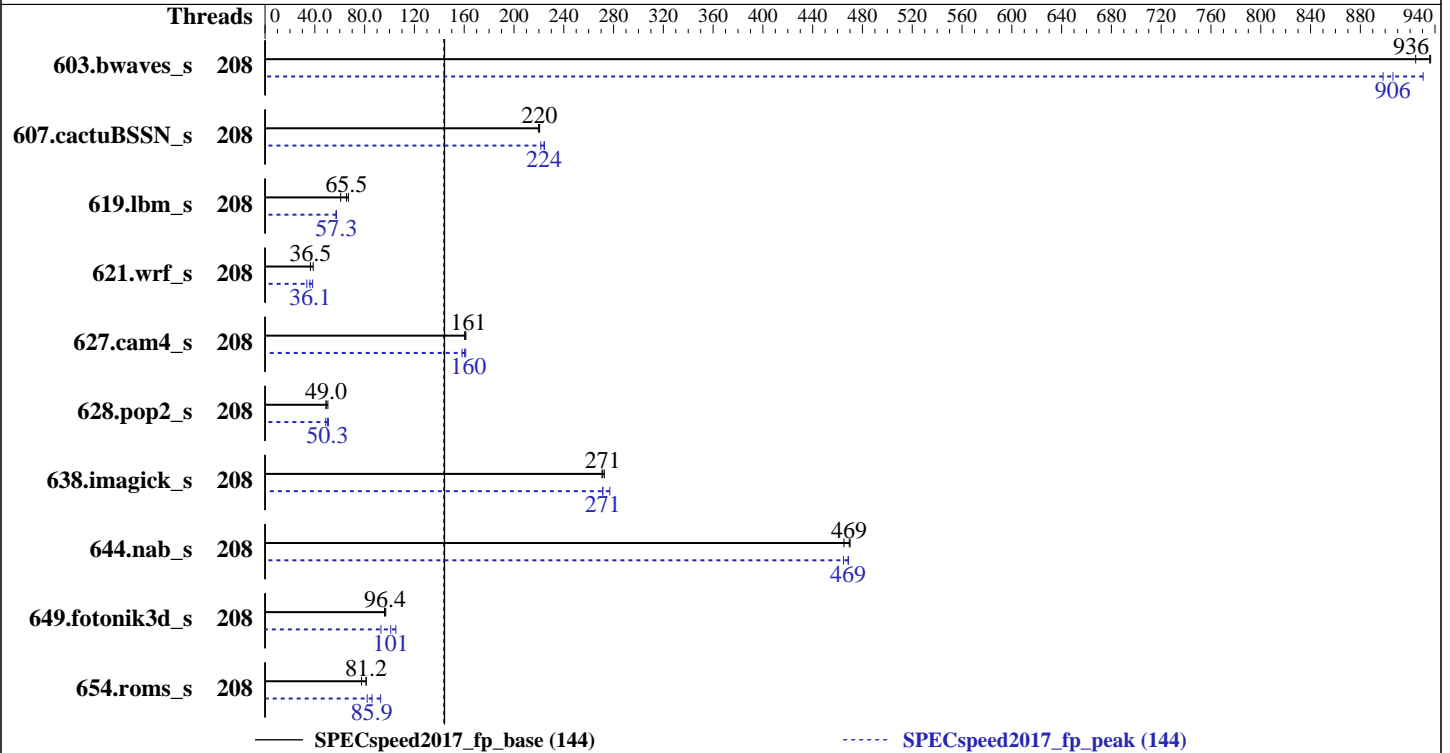
Test Sponsor: Lenovo Global Technology

Tested by: Lenovo Global Technology

Test Date: Dec-2017

Hardware Availability: Sep-2017

Software Availability: Sep-2017



### Hardware

CPU Name: Intel Xeon Platinum 8164  
 Max MHz.: 3700  
 Nominal: 2000  
 Enabled: 208 cores, 8 chips  
 Orderable: 2,4,8 chips  
 Cache L1: 32 KB I + 32 KB D on chip per core  
 L2: 1 MB I+D on chip per core  
 L3: 35.75 MB I+D on chip per chip  
 Other: None  
 Memory: 3 TB (96 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: Yes  
 Firmware: Lenovo BIOS Version PSE109L 1.10 released Nov-2017  
 File System: btrfs  
 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

ThinkSystem SR950  
(2.00 GHz, Intel Xeon Platinum 8164)

SPECspeed2017\_fp\_base = 144

SPECspeed2017\_fp\_peak = 144

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

**Test Date:** Dec-2017  
**Hardware Availability:** Sep-2017  
**Software Availability:** Sep-2017

## Results Table

Benchmark	Base							Peak						
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
603.bwaves_s	208	63.0	937	<b>63.0</b>	<b>936</b>	63.8	924	208	<b>65.1</b>	<b>906</b>	65.7	898	63.4	930
607.cactuBSSN_s	208	75.6	221	<b>75.6</b>	<b>220</b>	75.9	220	208	<b>74.4</b>	<b>224</b>	75.2	222	74.3	224
619.lbm_s	208	86.3	60.7	78.2	67.0	<b>80.0</b>	<b>65.5</b>	208	91.9	57.0	91.3	57.4	<b>91.4</b>	<b>57.3</b>
621.wrf_s	208	342	38.7	363	36.4	<b>362</b>	<b>36.5</b>	208	346	38.2	394	33.6	<b>366</b>	<b>36.1</b>
627.cam4_s	208	<b>55.1</b>	<b>161</b>	55.3	160	54.9	161	208	56.0	158	<b>55.3</b>	<b>160</b>	55.0	161
628.pop2_s	208	235	50.5	<b>242</b>	<b>49.0</b>	242	49.0	208	243	48.8	233	50.9	<b>236</b>	<b>50.3</b>
638.imagick_s	208	53.3	271	52.9	273	<b>53.2</b>	<b>271</b>	208	52.1	277	53.2	271	<b>53.2</b>	<b>271</b>
644.nab_s	208	37.6	465	37.2	470	<b>37.2</b>	<b>469</b>	208	<b>37.3</b>	<b>469</b>	37.6	465	37.3	469
649.fotonik3d_s	208	<b>94.6</b>	<b>96.4</b>	95.0	96.0	94.0	97.0	208	97.9	93.1	<b>90.3</b>	<b>101</b>	86.7	105
654.roms_s	208	194	81.2	<b>194</b>	<b>81.2</b>	203	77.5	208	169	92.9	<b>183</b>	<b>85.9</b>	192	82.1

SPECspeed2017\_fp\_base = 144

SPECspeed2017\_fp\_peak = 144

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/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"

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

## Platform Notes

BIOS configuration:  
Choose Operating Mode set to Maximum Performance  
Hyper-Threading set to Disable  
Hardware Prefetcher set to Disable  
MONITORMWAIT set to Enable  
Execute Disable Bit set to Disable  
Intel Virtualization Technology set to Disable  
Uncore Frequency Scaling set to Disable  
UPI Prefetcher set to Disable

(Continued on next page)



# SPEC CPU2017 Floating Point Speed Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

## Lenovo Global Technology

SPECspeed2017\_fp\_base = 144

ThinkSystem SR950  
(2.00 GHz, Intel Xeon Platinum 8164)

SPECspeed2017\_fp\_peak = 144

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

**Test Date:** Dec-2017  
**Hardware Availability:** Sep-2017  
**Software Availability:** Sep-2017

### Platform Notes (Continued)

Stale AtoS set to Enable  
Sysinfo program /home/cpu2017.1.0.2.ic18.0/bin/sysinfo  
Rev: r5797 of 2017-06-14 96c45e4568ad54c135fd618bcc091c0f  
running on linux-boxi Tue Dec 12 02:42:05 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) Platinum 8164 CPU @ 2.00GHz
 8 "physical id"s (chips)
208 "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 : 26
siblings : 26
physical 0: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 16 17 18 19 20 21 22 24 25 26 27 28
29
physical 1: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 16 17 18 19 20 21 22 24 25 26 27 28
29
physical 2: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 16 17 18 19 20 21 22 24 25 26 27 28
29
physical 3: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 16 17 18 19 20 21 22 24 25 26 27 28
29
physical 4: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 16 17 18 19 20 21 22 24 25 26 27 28
29
physical 5: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 16 17 18 19 20 21 22 24 25 26 27 28
29
physical 6: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 16 17 18 19 20 21 22 24 25 26 27 28
29
physical 7: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 16 17 18 19 20 21 22 24 25 26 27 28
29
```

```
From lscpu:
Architecture: x86_64
CPU op-mode(s): 32-bit, 64-bit
Byte Order: Little Endian
CPU(s): 208
On-line CPU(s) list: 0-207
Thread(s) per core: 1
Core(s) per socket: 26
Socket(s): 8
NUMA node(s): 8
Vendor ID: GenuineIntel
CPU family: 6
Model: 85
```

(Continued on next page)



# SPEC CPU2017 Floating Point Speed Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

## Lenovo Global Technology

SPECspeed2017\_fp\_base = 144

ThinkSystem SR950  
(2.00 GHz, Intel Xeon Platinum 8164)

SPECspeed2017\_fp\_peak = 144

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

**Test Date:** Dec-2017  
**Hardware Availability:** Sep-2017  
**Software Availability:** Sep-2017

### Platform Notes (Continued)

```

Model name: Intel(R) Xeon(R) Platinum 8164 CPU @ 2.00GHz
Stepping: 4
CPU MHz: 1995.322
BogoMIPS: 3990.64
Virtualization: VT-x
L1d cache: 32K
L1i cache: 32K
L2 cache: 1024K
L3 cache: 36608K
NUMA node0 CPU(s): 0-25
NUMA node1 CPU(s): 26-51
NUMA node2 CPU(s): 52-77
NUMA node3 CPU(s): 78-103
NUMA node4 CPU(s): 104-129
NUMA node5 CPU(s): 130-155
NUMA node6 CPU(s): 156-181
NUMA node7 CPU(s): 182-207

```

```

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 f16c rdrand lahf_lm abm 3dnowprefetch ida arat epb pln pts dtherm intel_pt
tpr_shadow vnmi flexpriority ept vpid fsgsbase tsc_adjust bmi1 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 : 36608 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 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25
node 0 size: 386513 MB
node 0 free: 385445 MB
node 1 cpus: 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50
51
node 1 size: 387057 MB
node 1 free: 386145 MB
node 2 cpus: 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76
77
node 2 size: 387057 MB
node 2 free: 385959 MB
node 3 cpus: 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101
102 103
node 3 size: 387057 MB

```

(Continued on next page)



# SPEC CPU2017 Floating Point Speed Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

## Lenovo Global Technology

ThinkSystem SR950  
(2.00 GHz, Intel Xeon Platinum 8164)

SPECspeed2017\_fp\_base = 144

SPECspeed2017\_fp\_peak = 144

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

**Test Date:** Dec-2017  
**Hardware Availability:** Sep-2017  
**Software Availability:** Sep-2017

### Platform Notes (Continued)

```

node 3 free: 385945 MB
node 4 cpus: 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121
122 123 124 125 126 127 128 129
node 4 size: 387057 MB
node 4 free: 386140 MB
node 5 cpus: 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147
148 149 150 151 152 153 154 155
node 5 size: 387057 MB
node 5 free: 386117 MB
node 6 cpus: 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173
174 175 176 177 178 179 180 181
node 6 size: 387057 MB
node 6 free: 386097 MB
node 7 cpus: 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199
200 201 202 203 204 205 206 207
node 7 size: 387052 MB
node 7 free: 386036 MB
node distances:
node  0  1  2  3  4  5  6  7
  0: 10 21 31 21 21 31 31 31
  1: 21 10 21 31 31 21 31 31
  2: 31 21 10 21 31 31 21 31
  3: 21 31 21 10 31 31 31 21
  4: 21 31 31 31 10 21 21 31
  5: 31 21 31 31 21 10 31 21
  6: 31 31 21 31 21 31 10 21
  7: 31 31 31 21 31 21 21 10

```

```

From /proc/meminfo
MemTotal:      3170210632 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"

```

(Continued on next page)



# SPEC CPU2017 Floating Point Speed Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

## Lenovo Global Technology

ThinkSystem SR950  
(2.00 GHz, Intel Xeon Platinum 8164)

SPECspeed2017\_fp\_base = 144

SPECspeed2017\_fp\_peak = 144

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

**Test Date:** Dec-2017  
**Hardware Availability:** Sep-2017  
**Software Availability:** Sep-2017

### Platform Notes (Continued)

CPE\_NAME="cpe:/o:suse:sles:12:sp2"

uname -a:

```
Linux linux-boxi 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 Dec 12 02:40

SPEC is set to: /home/cpu2017.1.0.2.icl8.0

```
Filesystem      Type      Size      Used Avail Use% Mounted on
/dev/sdb2        btrfs    744G      25G   719G   4% /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 -[PSE109L-1.10]- 11/16/2017

Memory:

96x Samsung M393A4K40BB2-CTD 32 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)  
-----

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

(Continued on next page)



# SPEC CPU2017 Floating Point Speed Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

## Lenovo Global Technology

SPECspeed2017\_fp\_base = 144

ThinkSystem SR950  
(2.00 GHz, Intel Xeon Platinum 8164)

SPECspeed2017\_fp\_peak = 144

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

**Test Date:** Dec-2017  
**Hardware Availability:** Sep-2017  
**Software Availability:** Sep-2017

### Compiler Version Notes (Continued)

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.

=====  
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.



# SPEC CPU2017 Floating Point Speed Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

**Lenovo Global Technology**

SPECspeed2017\_fp\_base = 144

ThinkSystem SR950  
(2.00 GHz, Intel Xeon Platinum 8164)

SPECspeed2017\_fp\_peak = 144

**CPU2017 License:** 9017

**Test Date:** Dec-2017

**Test Sponsor:** Lenovo Global Technology

**Hardware Availability:** Sep-2017

**Tested by:** Lenovo Global Technology

**Software Availability:** Sep-2017

## 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
```

## 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
```

(Continued on next page)





# SPEC CPU2017 Floating Point Speed Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Lenovo Global Technology

SPECspeed2017\_fp\_base = 144

ThinkSystem SR950  
(2.00 GHz, Intel Xeon Platinum 8164)

SPECspeed2017\_fp\_peak = 144

CPU2017 License: 9017

Test Date: Dec-2017

Test Sponsor: Lenovo Global Technology

Hardware Availability: Sep-2017

Tested by: Lenovo Global Technology

Software Availability: Sep-2017

## Base Optimization Flags (Continued)

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
```

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



# SPEC CPU2017 Floating Point Speed Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Lenovo Global Technology

SPECspeed2017\_fp\_base = 144

ThinkSystem SR950  
(2.00 GHz, Intel Xeon Platinum 8164)

SPECspeed2017\_fp\_peak = 144

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

Test Date: Dec-2017  
Hardware Availability: Sep-2017  
Software Availability: Sep-2017

## 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

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 -nonstandard-realloc-lhs  
-align array32byte

## Peak Other Flags

C benchmarks:

-m64 -std=c11

(Continued on next page)



# SPEC CPU2017 Floating Point Speed Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

**Lenovo Global Technology**

ThinkSystem SR950  
(2.00 GHz, Intel Xeon Platinum 8164)

SPECspeed2017\_fp\_base = 144

SPECspeed2017\_fp\_peak = 144

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

**Test Date:** Dec-2017  
**Hardware Availability:** Sep-2017  
**Software Availability:** Sep-2017

## Peak Other Flags (Continued)

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-A.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-A.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 2017-12-11 13:42:04-0500.  
Report generated on 2018-10-31 17:00:56 by CPU2017 PDF formatter v6067.  
Originally published on 2018-01-10.