# SPEC CPU® 2017 Floating Point Rate Result

## Lenovo Global Technology

**ThinkSystem SN550**  
(3.20 GHz, Intel Xeon Silver 4215R)

### CPU2017 License: 9017  
Test Sponsor: Lenovo Global Technology  
Tested by: Lenovo Global Technology  
Test Date: Jun-2020  
Hardware Availability: Mar-2020  
Software Availability: Apr-2020

<table>
<thead>
<tr>
<th>SPECrate® 2017_fp_base</th>
<th>114</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECrate® 2017_fp_peak</td>
<td>Not Run</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Copies</th>
<th>SPECrate® 2017_fp_base (114)</th>
</tr>
</thead>
<tbody>
<tr>
<td>503.bwaves_r</td>
<td>32</td>
</tr>
<tr>
<td>507.cactuBSSN_r</td>
<td>32</td>
</tr>
<tr>
<td>508.namd_r</td>
<td>32</td>
</tr>
<tr>
<td>510.parest_r</td>
<td>32</td>
</tr>
<tr>
<td>511.povray_r</td>
<td>32</td>
</tr>
<tr>
<td>519.lbm_r</td>
<td>32</td>
</tr>
<tr>
<td>521.wrf_r</td>
<td>32</td>
</tr>
<tr>
<td>526.blender_r</td>
<td>32</td>
</tr>
<tr>
<td>527.cam4_r</td>
<td>32</td>
</tr>
<tr>
<td>538.imagick_r</td>
<td>32</td>
</tr>
<tr>
<td>544.nab_r</td>
<td>32</td>
</tr>
<tr>
<td>549.fotonik3d_r</td>
<td>32</td>
</tr>
<tr>
<td>554.roms_r</td>
<td>32</td>
</tr>
</tbody>
</table>

### Hardware

- **CPU Name:** Intel Xeon Silver 4215R  
- **Max MHz:** 4000  
- **Nominal:** 3200  
- **Enabled:** 16 cores, 2 chips, 2 threads/core  
- **Orderable:** 1,2 chips  
- **Cache L1:** 32 KB I + 32 KB D on chip per core  
- **L2:** 1 MB I+D on chip per core  
- **L3:** 11 MB I+D on chip per chip  
- **Memory:** 768 GB (24 x 32 GB 2Rx4 PC4-2933Y-R, running at 2400)  
- **Storage:** 1 x 960 GB SATA SSD  
- **Other:** None

### Software

- **OS:** SUSE Linux Enterprise Server 15 SP1 (x86_64)  
  Kernel 4.12.14-195-default  
- **Compiler:** C/C++: Version 19.1.1.217 of Intel  
  C/C++ Compiler for Linux;  
  Fortran: Version 19.1.1.217 of Intel Fortran  
  Compiler for Linux  
- **Parallel:** No  
- **Firmware:** Lenovo BIOS Version IVE155L 2.61 released May-2020  
- **File System:** xfs  
- **System State:** Run level 3 (multi-user)  
- **Base Pointers:** 64-bit  
- **Peak Pointers:** Not Applicable  
- **Other:** jemalloc memory allocator V5.0.1  
- **Power Management:** BIOS set to prefer performance at the cost of additional power usage
**SPEC CPU®2017 Floating Point Rate Result**

**Lenovo Global Technology**

ThinkSystem SN550 (3.20 GHz, Intel Xeon Silver 4215R)

<table>
<thead>
<tr>
<th>CPU2017 License:</th>
<th>9017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Sponsor:</td>
<td>Lenovo Global Technology</td>
</tr>
<tr>
<td>Tested by:</td>
<td>Lenovo Global Technology</td>
</tr>
</tbody>
</table>

**Results Table**

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Copies</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Copies</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>503.bwaves_r</td>
<td>32</td>
<td>1035</td>
<td>310</td>
<td>1035</td>
<td>310</td>
<td>1035</td>
<td>310</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>507.cactuBSSN_r</td>
<td>32</td>
<td>304</td>
<td>133</td>
<td>304</td>
<td>133</td>
<td>305</td>
<td>133</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>508.namd_r</td>
<td>32</td>
<td>426</td>
<td>71.3</td>
<td>427</td>
<td>71.2</td>
<td>427</td>
<td>71.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>510.parest_r</td>
<td>32</td>
<td>1356</td>
<td>61.7</td>
<td>1355</td>
<td>61.8</td>
<td>1359</td>
<td>61.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>511.povray_r</td>
<td>32</td>
<td>599</td>
<td>125</td>
<td>603</td>
<td>124</td>
<td>591</td>
<td>126</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>519.lbm_r</td>
<td>32</td>
<td>470</td>
<td>71.8</td>
<td>468</td>
<td>72.0</td>
<td>470</td>
<td>71.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>521.wrf_r</td>
<td>32</td>
<td>578</td>
<td>124</td>
<td>573</td>
<td>125</td>
<td>576</td>
<td>124</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>526.blender_r</td>
<td>32</td>
<td>473</td>
<td>103</td>
<td>472</td>
<td>103</td>
<td>470</td>
<td>104</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>527.cam4_r</td>
<td>32</td>
<td>563</td>
<td>99.4</td>
<td>570</td>
<td>98.3</td>
<td>572</td>
<td>97.9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>538.imagick_r</td>
<td>32</td>
<td>251</td>
<td>317</td>
<td>250</td>
<td>318</td>
<td>251</td>
<td>318</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>544.nab_r</td>
<td>32</td>
<td>335</td>
<td>161</td>
<td>335</td>
<td>161</td>
<td>334</td>
<td>161</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>549.fotonik3d_r</td>
<td>32</td>
<td>1266</td>
<td>98.5</td>
<td>1274</td>
<td>97.9</td>
<td>1267</td>
<td>98.4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>554.roms_r</td>
<td>32</td>
<td>949</td>
<td>53.6</td>
<td>946</td>
<td>53.8</td>
<td>948</td>
<td>53.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Compiler Notes**

The inconsistent Compiler version information under Compiler Version section is due to a discrepancy in Intel Compiler. The correct version of C/C++ compiler is: Version 19.1.1.217 Build 20200306 Compiler for Linux

**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"

**Environment Variables Notes**

Environment variables set by runcpu before the start of the run:

```
LD_LIBRARY_PATH = 
  "/home/cpu2017-1.1.0-ic19.1.1/lib/intel64:/home/cpu2017-1.1.0-ic19.1.1/j
e5.0.1-64"

MALLOCS_CONF = "retain:true"
```
Lenovo Global Technology
ThinkSystem SN550
(3.20 GHz, Intel Xeon Silver 4215R)

SPECrate®2017_fp_base = 114
SPECrate®2017_fp_peak = Not Run

General Notes

Binaries compiled on a system with 1x Intel Core i9-7980XE CPU + 64GB RAM
memory using Redhat Enterprise Linux 8.0
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
runcpu command invoked through numactl i.e.:
numactl --interleave=all runcpu <etc>
NA: 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.
Yes: The test sponsor attests, as of date of publication, that CVE-2018-3640 (Spectre variant 3a)
is mitigated in the system as tested and documented.
Yes: The test sponsor attests, as of date of publication, that CVE-2018-3639 (Spectre variant 4)
is mitigated in the system as tested and documented.
jemalloc, a general purpose malloc implementation
built with the RedHat Enterprise 7.5, and the system compiler gcc 4.8.5

Platform Notes

BIOS configuration:
Choose Operating Mode set to Maximum Performance and then set it to Custom Mode
MONITOR/MWAIT set to Enable
Trusted Execution Technology set to Enable
Workload Configuration set to I/O Sensitive
Patrol Scrub set to Disable

Sysinfo program /home/cpu2017-1.1.0-ic19.1.1/bin/sysinfo
Rev: r6365 of 2019-08-21 295195f888a3d7edbe6e46a485a0011
running on linux-anu7 Wed Jun 3 20:39:31 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 : Intel(R) Xeon(R) Silver 4215R CPU @ 3.20GHz
  2 "physical id"s (chips)
  32 "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 : 8

(Continued on next page)
**Platform Notes (Continued)**

siblings : 16
physical 0: cores 0 1 2 3 4 5 6 7
physical 1: cores 0 1 2 3 4 5 6 7

From lscpu:
- Architecture: x86_64
- CPU op-mode(s): 32-bit, 64-bit
- Byte Order: Little Endian
- Address sizes: 46 bits physical, 48 bits virtual
- CPU(s): 32
- On-line CPU(s) list: 0-31
- Thread(s) per core: 2
- Core(s) per socket: 8
- Socket(s): 2
- NUMA node(s): 2
- Vendor ID: GenuineIntel
- CPU family: 6
- Model: 85
- Model name: Intel(R) Xeon(R) Silver 4215R CPU @ 3.20GHz
- Stepping: 7
- CPU MHz: 3200.000
- CPU max MHz: 4000.0000
- CPU min MHz: 1000.0000
- BogoMIPS: 6400.00
- Virtualization: VT-x
- L1d cache: 32K
- L1i cache: 32K
- L2 cache: 1024K
- L3 cache: 11264K
- NUMA node0 CPU(s): 0-7, 16-23
- NUMA node1 CPU(s): 8-15, 24-31
- Flags: fpu vme de pse tsc msr pae mce cmov pat pse36 clflush dts acpi mmx fxsr sse sse2 ss ht tm pbe syscall nx pdpe1gb rdtscp lm constant_tsc arch_perfmon pebs bts rep_good nopl xtopology nonstop_tsc cpuid aperfmperf pni pclmulqdq dtes64 monitor ds_cpl vmx smx est tm2 ssse3 sdbg fma cx16 xtrunc pdcm pcid dca sse4_1 sse4_2 x2apic movbe popcnt tsc_deadline_timer aes xsave avx f16c rdrand lahf_lm abm 3dnowprefetch cpuid_fault ebx cat_l3 cdp_l3 invpcid_single intel_pni ssbd mba ibrs ibpb stibp ibrs_enabled 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 intel_pt avx512cd avx512bw avx512vl xsaveopt xsaev xsetbv xsesave xsavec qmx cqm_llc cqm_occup_llc cqm_mbb_total cqm_mbb_local dtherm ida arat pln pts pkuv ospke avx512_vnni md_clear flush_l1d arch_capabilities

/cache/data
- cache size : 11264 KB

(Continued on next page)
**Lenovo Global Technology**

**ThinkSystem SN550**

(3.20 GHz, Intel Xeon Silver 4215R)

<table>
<thead>
<tr>
<th>SPEC®2017_fp_base</th>
<th>114</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPEC®2017_fp_peak</td>
<td>Not Run</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CPU2017 License:</th>
<th>9017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Sponsor:</td>
<td>Lenovo Global Technology</td>
</tr>
<tr>
<td>Tested by:</td>
<td>Lenovo Global Technology</td>
</tr>
<tr>
<td>Test Date:</td>
<td>Jun-2020</td>
</tr>
<tr>
<td>Hardware Availability:</td>
<td>Mar-2020</td>
</tr>
<tr>
<td>Software Availability:</td>
<td>Apr-2020</td>
</tr>
</tbody>
</table>

**Platform Notes (Continued)**

From `numactl --hardware`

```
WARNING: a numactl 'node' might or might not correspond to a physical chip.
```

```
available: 2 nodes (0-1)
node 0 cpus: 0 1 2 3 4 5 6 7 16 17 18 19 20 21 22 23
node 0 size: 386689 MB
node 0 free: 386027 MB
node 1 cpus: 8 9 10 11 12 13 14 15 24 25 26 27 28 29 30 31
node 1 size: 387038 MB
node 1 free: 386593 MB
node distances:
node 0 1
  0: 10 21
  1: 21 10
```

From `/proc/meminfo`

```
MemTotal:       792297440 kB
HugePages_Total:       0
Hugepagesize:       2048 kB
```

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

```
os-release:
  NAME="SLES"
  VERSION="15-SP1"
  VERSION_ID="15.1"
  PRETTY_NAME="SUSE Linux Enterprise Server 15 SP1"
  ID="sles"
  ID_LIKE="suse"
  ANSI_COLOR="0;32"
  CPE_NAME="cpe:/o:suse:sles:15:sp1"
```

```
uname -a:
  Linux linux-anu7 4.12.14-195-default #1 SMP Tue May 7 10:55:11 UTC 2019 (8fba516)
  x86_64 x86_64 x86_64 GNU/Linux
```

Kernel self-reported vulnerability status:

- **CVE-2018-3620 (L1 Terminal Fault):** Not affected
- **Microarchitectural Data Sampling:** Not affected
- **CVE-2017-5754 (Meltdown):** Not affected
- **CVE-2018-3639 (Speculative Store Bypass):** Mitigation: Speculative Store Bypass disabled via prctl and seccomp
- **CVE-2017-5753 (Spectre variant 1):** Mitigation: __user pointer sanitization
- **CVE-2017-5715 (Spectre variant 2):** Mitigation: Enhanced IBRS, IBPB: conditional, RSB filling

run-level 3 Jun 3 20:38

(Continued on next page)
SPEC CPU®2017 Floating Point Rate Result
Copyright 2017-2020 Standard Performance Evaluation Corporation

Lenovo Global Technology
ThinkSystem SN550
(3.20 GHz, Intel Xeon Silver 4215R)

SPECrater®2017_fp_base = 114
SPECrater®2017_fp_peak = Not Run

<table>
<thead>
<tr>
<th>CPU2017 License: 9017</th>
<th>Test Date: Jun-2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Sponsor: Lenovo Global Technology</td>
<td>Hardware Availability: Mar-2020</td>
</tr>
<tr>
<td>Tested by: Lenovo Global Technology</td>
<td>Software Availability: Apr-2020</td>
</tr>
</tbody>
</table>

Platform Notes (Continued)

SPEC is set to: /home/cpu2017-1.1.0-ic19.1.1
Filesyste Type Size Used Avail Use% Mounted on
/dev/sda3 xfs 893G 55G 838G 7% /

From /sys/devices/virtual/dmi/id
BIOS: Lenovo -[IVE155L-2.61]- 05/20/2020
Vendor: Lenovo
Product: ThinkSystem SN550 : ThinkSystem SN550 -[7X16CT00WW]-
Product Family: ThinkSystem
Serial: 1234567890

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.
Memory:
24x Samsung M393A4K40CB2-CVF 32 GB 2 rank 2933

(End of data from sysinfo program)

Compiler Version Notes

==============================================================================
C              | 519.lbm_r(base) 538.imagick_r(base) 544.nab_r(base)
------------------------------------------------------------------------------
Intel(R) C Compiler for applications running on Intel(R) 64, Version 2021.1
NextGen Build 20200304
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.
------------------------------------------------------------------------------

==============================================================================
C++            | 508.namd_r(base) 510.parest_r(base)
------------------------------------------------------------------------------
Intel(R) C++ Compiler for applications running on Intel(R) 64, Version 2021.1
NextGen Build 20200304
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.
------------------------------------------------------------------------------

==============================================================================
C++, C         | 511.povray_r(base) 526.blender_r(base)
------------------------------------------------------------------------------
Intel(R) C++ Compiler for applications running on Intel(R) 64, Version 2021.1
NextGen Build 20200304
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.
Intel(R) C Compiler for applications running on Intel(R) 64, Version 2021.1
NextGen Build 20200304

(Continued on next page)
LENNOVO GLOBAL TECHNOLOGY

SPEC CPU® 2017 Floating Point Rate Result

Lenovo Global Technology
ThinkSystem SN550
(3.20 GHz, Intel Xeon Silver 4215R)

SPECRate®2017_fp_base = 114
SPECRate®2017_fp_peak = Not Run

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

Test Date: Jun-2020
Hardware Availability: Mar-2020
Software Availability: Apr-2020

Compiler Version Notes (Continued)

Copyright (C) 1985-2020 Intel Corporation. All rights reserved.

---------------------------------------------------------------------------------------------------
C++, C, Fortran | 507.cactuBSSN_r (base)

Intel(R) C++ Compiler for applications running on Intel(R) 64, Version 2021.1
NextGen Build 20200304
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.
Intel(R) C Compiler for applications running on Intel(R) 64, Version 2021.1
NextGen Build 20200304
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.
Intel(R) Fortran Intel(R) 64 Compiler for applications running on Intel(R)
64, Version 19.1.1.217 Build 20200306
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.

---------------------------------------------------------------------------------------------------
Fortran         | 503.bwaves_r (base) 549.fotonik3d_r (base) 554.roms_r (base)

Intel(R) Fortran Intel(R) 64 Compiler for applications running on Intel(R)
64, Version 19.1.1.217 Build 20200306
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.

---------------------------------------------------------------------------------------------------
Fortran, C      | 521.wrf_r (base) 527.cam4_r (base)

Intel(R) Fortran Intel(R) 64 Compiler for applications running on Intel(R)
64, Version 19.1.1.217 Build 20200306
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.
Intel(R) C Compiler for applications running on Intel(R) 64, Version 2021.1
NextGen Build 20200304
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.

---------------------------------------------------------------------------------------------------

Base Compiler Invocation

C benchmarks:
icc

C++ benchmarks:
icpc

Fortran benchmarks:
ifort

(Continued on next page)
Base Compiler Invocation (Continued)

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.cactusBSSN_r: -DSPEC_LP64
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:
-m64  -qnextgen  -std=c11
-Wl,-plugin-opt=-x86-branches-within-32B-boundaries -Wl,-z,muldefs
-fuse-ld.gold  -xcORE-AVX512  -Ofast  -ffast-math  -flto  -mfpmath=sse
-funroll-loops  -qopt-mem-layout-trans=4
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc

C++ benchmarks:
-m64  -qnextgen  -Wl,-plugin-opt=-x86-branches-within-32B-boundaries
-Wl,-z,muldefs  -fuse-ld.gold  -xcORE-AVX512  -Ofast  -ffast-math  -flto
-mfpmath=sse  -funroll-loops  -qopt-mem-layout-trans=4
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc

(Continued on next page)
Lenovo Global Technology
ThinkSystem SN550
(3.20 GHz, Intel Xeon Silver 4215R)

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

SPECraten®2017_fp_base = 114
SPECraten®2017_fp_peak = Not Run

Test Date: Jun-2020
Hardware Availability: Mar-2020
Software Availability: Apr-2020

Base Optimization Flags (Continued)

Fortran benchmarks:
-m64 -Wl,-plugin-opt=-x86-branches-within-32B-boundaries -Wl,-z,muldefs
-fuse-ld=gold -xCORE-AVX512 -O3 -ipo -no-prec-div -qopt-prefetch
-ffinite-math-only -qopt-multiple-gather-scatter-by-shuffles
-qopt-mem-layout-trans=4 -nostandard-realloc-lhs -align array32byte
-auto -mbranches-within-32B-boundaries
-LL/usr/local/jemalloc64-5.0.1/lib -ljemalloc

Benchmarks using both Fortran and C:
-m64 -qnextgen -std=c11
-Wl,-plugin-opt=-x86-branches-within-32B-boundaries -Wl,-z,muldefs
-fuse-ld=gold -xCORE-AVX512 -Ofast -ffast-math -flto -mfpmath=sse
-funroll-loops -qopt-mem-layout-trans=4 -O3 -ipo -no-prec-div
-qopt-prefetch -ffinite-math-only
-qopt-multiple-gather-scatter-by-shuffles -nostandard-realloc-lhs
-align array32byte -auto -mbranches-within-32B-boundaries
-LL/usr/local/jemalloc64-5.0.1/lib -ljemalloc

Benchmarks using both C and C++:
-m64 -qnextgen -std=c11
-Wl,-plugin-opt=-x86-branches-within-32B-boundaries -Wl,-z,muldefs
-fuse-ld=gold -xCORE-AVX512 -Ofast -ffast-math -flto -mfpmath=sse
-funroll-loops -qopt-mem-layout-trans=4
-LL/usr/local/jemalloc64-5.0.1/lib -ljemalloc

Benchmarks using Fortran, C, and C++:
-m64 -qnextgen -std=c11
-Wl,-plugin-opt=-x86-branches-within-32B-boundaries -Wl,-z,muldefs
-fuse-ld=gold -xCORE-AVX512 -Ofast -ffast-math -flto -mfpmath=sse
-funroll-loops -qopt-mem-layout-trans=4 -O3 -ipo -no-prec-div
-qopt-prefetch -ffinite-math-only
-qopt-multiple-gather-scatter-by-shuffles -nostandard-realloc-lhs
-align array32byte -auto -mbranches-within-32B-boundaries
-LL/usr/local/jemalloc64-5.0.1/lib -ljemalloc

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2017/flags/Lenovo-Platform-SPECcpu2017-Flags-V1.2-CLX-H.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2017/flags/Intel-ic19.1u1-official-linux64_revA.xml
http://www.spec.org/cpu2017/flags/Lenovo-Platform-SPECcpu2017-Flags-V1.2-CLX-H.xml
<table>
<thead>
<tr>
<th>Lenovo Global Technology</th>
<th>SPECrate®2017_fp_base = 114</th>
</tr>
</thead>
<tbody>
<tr>
<td>ThinkSystem SN550</td>
<td>SPECrate®2017_fp_peak = Not Run</td>
</tr>
<tr>
<td>(3.20 GHz, Intel Xeon Silver 4215R)</td>
<td></td>
</tr>
</tbody>
</table>

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

Test Date: Jun-2020
Hardware Availability: Mar-2020
Software Availability: Apr-2020

SPEC CPU and SPECrate are registered trademarks 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 CPU®2017 v1.1.0 on 2020-06-03 08:39:31-0400.
Report generated on 2020-06-23 18:08:38 by CPU2017 PDF formatter v6255.
Originally published on 2020-06-23.