Lenovo Global Technology
ThinkSystem SR250
(3.80 GHz, Intel Xeon E-2244G)

SPECrate®2017_fp_base = 33.3
SPECrate®2017_fp_peak = 33.7

Hardware
CPU Name: Intel Xeon E-2244G
Max MHz: 4800
Nominal: 3800
Enabled: 4 cores, 1 chip
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: 128 GB (4 x 32 GB 2Rx4 PC4-2666V-E)
Storage: 1 x 480 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 ISE115D 2.10 released Apr-2020
File System: xfs
System State: Run level 3 (multi-user)
Base Pointers: 64-bit
Peak Pointers: 64-bit
Other: jemalloc memory allocator V5.0.1
Power Management: BIOS set to prefer performance at the cost of additional power usage
## Lenovo Global Technology  
ThinkSystem SR250  
(3.80 GHz, Intel Xeon E-2244G)

| Benchmark     | Copies | Seconds | Ratio | Base         | Copies | Seconds | Ratio | Peak         | Copies | Seconds | Ratio | Peak         |
|---------------|--------|---------|-------|--------------|--------|---------|-------|--------------|--------|---------|-------|--------------|--------|---------|-------|--------------|--------|---------|-------|--------------|--------|---------|-------|--------------|--------|---------|-------|--------------|--------|---------|-------|--------------|--------|---------|-------|--------------|--------|---------|-------|--------------|--------|---------|-------|--------------|--------|---------|-------|--------------|
| 503.bwaves_r  | 4      | 537     | 74.7  | 536 74.8     | 4      | 536     | 74.8  | 536 74.8     | 4      | 536     | 74.8  | 536 74.8     |        |         |       |              |        |         |       |              |
| 507.cactuBSSN_r | 4  | 97.5    | 51.9  | 103 49.1     | 4      | 97.5    | 51.9  | 103 49.1     | 4      | 97.5    | 51.9  | 103 49.1     |        |         |       |              |        |         |       |              |
| 508.namd_r    | 4      | 144     | 26.4  | 148 25.6     | 4      | 144     | 26.4  | 144 25.6     | 4      | 144     | 26.4  | 144 25.6     |        |         |       |              |        |         |       |              |
| 510.parest_r  | 4      | 531     | 19.7  | 533 19.6     | 4      | 527     | 19.9  | 533 19.6     | 4      | 527     | 19.9  | 533 19.6     | 530    | 19.8    |       |              |        |         |       |              |
| 511.povray_r  | 4      | 240     | 38.9  | 238 39.2     | 4      | 212     | 44.0  | 208 44.8     | 4      | 208     | 44.8  | 208 44.8     | 530    | 19.8    |       |              |        |         |       |              |
| 519.lbm_r     | 4      | 243     | 17.3  | 243 17.3     | 4      | 243     | 17.3  | 243 17.3     | 4      | 243     | 17.3  | 243 17.3     |        |         |       |              |        |         |       |              |
| 521.wrf_r     | 4      | 247     | 36.3  | 246 36.4     | 4      | 243     | 36.9  | 244 36.7     | 4      | 207     | 29.5  | 206 29.5     | 206    | 29.5    |       |              |        |         |       |              |
| 526.blender_r | 4      | 207     | 29.5  | 206 29.5     | 4      | 207     | 29.5  | 206 29.5     | 4      | 207     | 29.5  | 206 29.5     |        |         |       |              |        |         |       |              |
| 527.cam4_r    | 4      | 196     | 35.8  | 196 35.8     | 4      | 196     | 35.8  | 196 35.8     | 4      | 196     | 35.8  | 196 35.8     |        |         |       |              |        |         |       |              |
| 538.imagick_r | 4      | 115     | 86.7  | 118 84.1     | 4      | 115     | 86.7  | 118 84.1     | 4      | 115     | 86.7  | 118 84.1     |        |         |       |              |        |         |       |              |
| 544.nab_r     | 4      | 163     | 41.3  | 162 41.5     | 4      | 163     | 41.3  | 162 41.5     | 4      | 163     | 41.3  | 162 41.5     |        |         |       |              |        |         |       |              |
| 549.fotonik3d_r | 4  | 686     | 22.7  | 686 22.7     | 4      | 686     | 22.7  | 686 22.7     | 4      | 686     | 22.7  | 686 22.7     |        |         |       |              |        |         |       |              |
| 554.roms_r    | 4      | 407     | 15.6  | 411 15.5     | 4      | 407     | 15.6  | 408 15.6     | 4      | 407     | 15.6  | 406 15.6     |        |         |       |              |        |         |       |              |

---

### 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

The correct version of Fortran compiler is: Version 19.1.1.217 Build 20200306 Compiler for Linux

### Submit Notes

The taskset mechanism was used to bind copies to processors. The config file option 'submit' was used to generate taskset 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"
MALLOC_CONF = "retain:true"
```
Lenovo Global Technology
ThinkSystem SR250 (3.80 GHz, Intel Xeon E-2244G)

<table>
<thead>
<tr>
<th>SPECrate\textsuperscript{2017_fp_peak}</th>
<th>SPECrate\textsuperscript{2017_fp_base}</th>
</tr>
</thead>
<tbody>
<tr>
<td>33.7</td>
<td>33.3</td>
</tr>
</tbody>
</table>

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

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  
Files system 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

Sysinfo program /home/cpu2017-1.1.0-ic19.1.1/bin/sysinfo  
Rev: r6365 of 2019-08-21 295195f888a3d7edb1e6e46a485a0011  
running on linux-jecn Sat Jun 13 22:00:00 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) E-2244G CPU @ 3.80GHz  
1 "physical id"s (chips)  
4 "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 0 1 2 3

From lscpu:  
Architecture: x86_64  
CPU op-mode(s): 32-bit, 64-bit  
Byte Order: Little Endian  
Address sizes: 39 bits physical, 48 bits virtual  
CPU(s): 4
Lenovo Global Technology

ThinkSystem SR250
(3.80 GHz, Intel Xeon E-2244G)

**SPECrate®2017_fp_base = 33.3**

**SPECrate®2017_fp_peak = 33.7**

**Platform Notes (Continued)**

On-line CPU(s) list: 0-3
Thread(s) per core: 1
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-2244G CPU @ 3.80GHz
Stepping: 10
CPU MHz: 3800.000
CPU max MHz: 4800.0000
CPU min MHz: 800.0000
BogoMIPS: 7584.00
Virtualization: VT-x
L1d cache: 32K
L1i cache: 32K
L2 cache: 256K
L3 cache: 8192K
NUMA node0 CPU(s): 0-3
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 cpuid aperfmperf tsc_known_freq 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 aes xsave avx f16c rdrand lahf_lm abm 3dnowprefetch cpuid_fault epb invpcid_single pti ssbd ibrs ibpb stibp tpr_shadow vmmi flexpriority ept vpid fsgsbase tsc_adjust bm1 hle avx2 smep bmi2 erms invpcid rtm mpx rdseed adx smap clflushopt intel_pt xsaveopt xsavec xgetbv1 xsaves dtherm ida arat pln pts hwp hwp_notify hwp_act_window hwp_epp md_clear flush_l1d

From /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
node 0 size: 128867 MB
node 0 free: 128374 MB
node distances:
   node 0
0: 10

From /proc/meminfo
MemTotal:  131960244 kB
HugePages_Total: 0

(Continued on next page)
Lenovo Global Technology
ThinkSystem SR250
(3.80 GHz, Intel Xeon E-2244G)

SPECrate®2017_fp_base = 33.3
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CPU2017 License: 9017
Test Sponsor: Lenovo Global Technology
Tested by: Lenovo Global Technology

Hugepagesize: 2048 kB
/usr/bin/lsb_release -d
SUSE Linux Enterprise Server 15 SP1

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-jecn 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): Mitigation: PTE Inversion; VMX: conditional cache flushes, SMT disabled
Microarchitectural Data Sampling: Mitigation: Clear CPU buffers; SMT disabled
CVE-2017-5754 (Meltdown): Mitigation: PTI
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: Indirect Branch Restricted Speculation, IBPB: conditional, IBRS_FW, RSB filling

run-level 3 Jun 13 21:40

SPEC is set to: /home/cpu2017-1.1.0-ic19.1.1
Filesystem Type Size Used Avail Use% Mounted on
/dev/sda2 xfs 446G 82G 364G 19% /

From /sys/devices/virtual/dmi/id
   BIOS: Lenovo -[ISE115D-2.10]- 04/24/2020
   Vendor: Lenovo
   Product: ThinkSystem SR250 -[7Y51CTO0W]-
   Product Family: ThinkSystem
   Serial: 1234567890

Additional information from dmidecode follows. WARNING: Use caution when you interpret

(Continued on next page)
Lenovo Global Technology
ThinkSystem SR250
(3.80 GHz, Intel Xeon E-2244G)

SPECrate®2017_fp_base = 33.3
SPECrate®2017_fp_peak = 33.7

Platform Notes (Continued)

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:
4x SK Hynix HMAA4GU7AJR8N-VK 32767 MB 2 rank 2666

(End of data from sysinfo program)

Compiler Version Notes

==============================================================================
C               | 519.lbm_r(base, peak) 538.imagick_r(base, peak)
 | 544.nab_r(base, peak)
-----------------------------------------------------------------------------
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, peak) 510.parest_r(base, peak)
------------------------------------------------------------------------------
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, peak)
------------------------------------------------------------------------------
Intel(R) C++ Compiler for applications running on Intel(R) 64, Version 2021.1
 NextGen Build 20200304
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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(peak)
------------------------------------------------------------------------------
Intel(R) C++ 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 Intel(R) 64 Compiler for applications running on Intel(R) 64,
 Version 19.1.1.217 Build 20200306

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Lenovo Global Technology
ThinkSystem SR250
(3.80 GHz, Intel Xeon E-2244G)

SPECrate®2017_fp_base = 33.3
SPECrate®2017_fp_peak = 33.7

Compiler Version Notes (Continued)

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==============================================================================
C++, C | 511.povray_r(base) 526.blender_r(base, peak)
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==============================================================================
C++, C | 511.povray_r(peak)
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Intel(R) C Compiler for applications running on Intel(R) 64,
   Version 19.1.1.217 Build 20200306
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==============================================================================
C++, C, Fortran | 507.cactuBSSN_r(base, peak)
Intel(R) C++ Compiler for applications running on Intel(R) 64, Version 2021.1
   NextGen Build 20200304
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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, peak) 549.fotonik3d_r(base, peak)
   554.roms_r(base, peak)
Intel(R) Fortran Intel(R) 64 Compiler for applications running on Intel(R)
   64, Version 19.1.1.217 Build 20200306
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(Continued on next page)
Lenovo Global Technology
ThinkSystem SR250
(3.80 GHz, Intel Xeon E-2244G)

SPECrate®2017_fp_base = 33.3
SPECrate®2017_fp_peak = 33.7

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)

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

Intel(R) Fortran Intel(R) 64 Compiler for applications running on Intel(R) 64, Version 19.1.1.217 Build 20200306
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Intel(R) C Compiler for applications running on Intel(R) 64, Version 2021.1
NextGen Build 20200304
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Fortran, C | 521.wrf_r(peak)

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

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Fortran, C | 521.wrf_r(peak)

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Intel(R) C Compiler for applications running on Intel(R) 64, Version 19.1.1.217 Build 20200306
NextGen Build 20200304
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Lenovo Global Technology
ThinkSystem SR250
(3.80 GHz, Intel Xeon E-2244G)

Copyright 2017-2020 Standard Performance Evaluation Corporation

SPEC CPU®2017 Floating Point Rate Result

Lenovo Global Technology
ThinkSystem SR250
(3.80 GHz, Intel Xeon E-2244G)

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

SPECrate®2017_fp_base = 33.3
SPECrate®2017_fp_peak = 33.7

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

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
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 -mnextgen -std=c11
-ffast-math -flto -mfpmath=sse
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc

(Continued on next page)
Lenovo Global Technology
ThinkSystem SR250
(3.80 GHz, Intel Xeon E-2244G)

SPEC©2017_fp_base = 33.3
SPEC©2017_fp_peak = 33.7

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

Base Optimization Flags (Continued)

C++ benchmarks:
-m64 -qnextgen -Wl,-plugin-opt=-x86-branches-within-32B-boundaries
-Wl,-z,muldefs -fuse-ld=gold -xCORE-AVX2 -Ofast -ffast-math -flto
-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc

Fortran benchmarks:
-m64 -Wl,-plugin-opt=-x86-branches-within-32B-boundaries -Wl,-z,muldefs
-fuse-ld=gold -xCORE-AVX2 -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
-L/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-AVX2 -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
-L/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-AVX2 -Ofast -ffast-math -flto -mfpmath=sse
-funroll-loops -qopt-mem-layout-trans=4
-L/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-AVX2 -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
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc
Lenovo Global Technology
ThinkSystem SR250
(3.80 GHz, Intel Xeon E-2244G)

SPEC CPU®2017 Floating Point Rate Result
Copyright 2017-2020 Standard Performance Evaluation Corporation

SPECrate®2017_fp_base = 33.3
SPECrate®2017_fp_peak = 33.7

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

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

Peak Optimization Flags

C benchmarks:
519.lbm_r: basepeak = yes
538.imagick_r: basepeak = yes
544.nab_r: basepeak = yes

C++ benchmarks:
508.namd_r: basepeak = yes
510.parest_r: -m64 -qnextgen
-W1,-plugin-opt=-x86-branches-within-32B-boundaries
-W1,-z,muldefs -fuse-ld=gold -xCORE-AVX2 -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 SR250
(3.80 GHz, Intel Xeon E-2244G)

SPEC®2017 fp_base = 33.3
SPEC®2017 fp_peak = 33.7

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

Peak Optimization Flags (Continued)

Fortran benchmarks:
503.bwaves_r: -m64 -Wl,-plugin-opt=-x86-branches-within-32B-boundaries
-Wl,-z,muldefs -fuse-ld=gold -xCORE-AVX2 -O3 -ipo
-no-prec-div -qopt-prefetch -ffinite-math-only
-qopt-multiple-gather-scatter-by-shuffles
-qopt-mem-layout-trans=4 -mbranches-within-32B-boundaries
-align array32byte -auto -mbranches-within-32B-boundaries
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc

549.fotonik3d_r: basepeak = yes

554.roms_r: Same as 503.bwaves_r

Benchmarks using both Fortran and C:
521.wrf_r: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX2 -O3 -ipo
-no-prec-div -qopt-prefetch -ffinite-math-only
-qopt-multiple-gather-scatter-by-shuffles
-qopt-mem-layout-trans=4 -mbranches-within-32B-boundaries
-nostandard-realloc-lhs -align array32byte -auto
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc

527.cam4_r: basepeak = yes

Benchmarks using both C and C++:
511.povray_r: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX2 -O3 -ipo
-no-prec-div -qopt-prefetch -ffinite-math-only
-qopt-multiple-gather-scatter-by-shuffles
-qopt-mem-layout-trans=4 -mbranches-within-32B-boundaries
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc

526.blender_r: basepeak = yes

Benchmarks using Fortran, C, and C++:
507.cactuBSSN_r: basepeak = yes

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-SKL-J.html
# SPEC CPU®2017 Floating Point Rate Result

## Lenovo Global Technology

**ThinkSystem SR250**  
(3.80 GHz, Intel Xeon E-2244G)

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

- [http://www.spec.org/cpu2017/flags/Lenovo-Platform-SPECcpu2017-Flags-V1.2-SKL-J.xml](http://www.spec.org/cpu2017/flags/Lenovo-Platform-SPECcpu2017-Flags-V1.2-SKL-J.xml)

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