Lenovo Global Technology

ThinkSystem SD530
(3.60 GHz, Intel Xeon Platinum 8156)

**CPU2017 Floating Point Speed Result**

| Test Date: | May-2018 |
| Test Sponsor: | Lenovo Global Technology |
| Hardware Availability: | Aug-2017 |
| Software Availability: | Feb-2018 |

**Threads**

<table>
<thead>
<tr>
<th>Spec Test</th>
<th>Threads</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>603.bwaves_s</td>
<td>8</td>
<td>51.8</td>
</tr>
<tr>
<td>607.cactuBSSN_s</td>
<td>8</td>
<td>53.1</td>
</tr>
<tr>
<td>619.lbm_s</td>
<td>8</td>
<td>50.9</td>
</tr>
<tr>
<td>621.wrf_s</td>
<td>8</td>
<td>55.0</td>
</tr>
<tr>
<td>627.cam4_s</td>
<td>8</td>
<td>44.5</td>
</tr>
<tr>
<td>628.pop2_s</td>
<td>8</td>
<td>45.5</td>
</tr>
<tr>
<td>638.imagick_s</td>
<td>8</td>
<td>33.3</td>
</tr>
<tr>
<td>644.nab_s</td>
<td>8</td>
<td>56.8</td>
</tr>
<tr>
<td>649.fotonik3d_s</td>
<td>8</td>
<td>56.8</td>
</tr>
<tr>
<td>654.roms_s</td>
<td>8</td>
<td>56.3</td>
</tr>
</tbody>
</table>

**Hardware**

- CPU Name: Intel Xeon Platinum 8156
- Max MHz.: 3700
- Nominal: 3600
- Enabled: 8 cores, 2 chips
- 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: 16.5 MB I+D on chip per chip
- Other: None
- Memory: 384 GB (12 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: 4.4.114-92.64-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 TEE119R 1.22 released Feb-2018
- File System: xfs
- System State: Run level 3 (multi-user)
- Base Pointers: 64-bit
- Peak Pointers: 64-bit
- Other: None
Lenovo Global Technology
ThinkSystem SD530
(3.60 GHz, Intel Xeon Platinum 8156)

SPEC CPU2017 Floating Point Speed Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Lenovo Global Technology

SPECspeed2017_fp_base = 51.9
SPECspeed2017_fp_peak = 52.9

Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Threads</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>603.bwaves_s</td>
<td>8</td>
<td>231</td>
<td>255</td>
<td>231</td>
<td>255</td>
<td>232</td>
<td>255</td>
<td>8</td>
<td>232</td>
<td>255</td>
<td>232</td>
</tr>
<tr>
<td>607.cactuBSSN_s</td>
<td>8</td>
<td>323</td>
<td>51.7</td>
<td>322</td>
<td>51.8</td>
<td>322</td>
<td>51.8</td>
<td>8</td>
<td>314</td>
<td>53.1</td>
<td>313</td>
</tr>
<tr>
<td>619.lbm_s</td>
<td>8</td>
<td>172</td>
<td>30.5</td>
<td>173</td>
<td>30.4</td>
<td>172</td>
<td>30.5</td>
<td>8</td>
<td>169</td>
<td>30.9</td>
<td>168</td>
</tr>
<tr>
<td>621.wrf_s</td>
<td>8</td>
<td>260</td>
<td>50.8</td>
<td>258</td>
<td>51.2</td>
<td>260</td>
<td>50.9</td>
<td>8</td>
<td>241</td>
<td>54.9</td>
<td>240</td>
</tr>
<tr>
<td>627.cam4_s</td>
<td>8</td>
<td>309</td>
<td>28.7</td>
<td>309</td>
<td>28.7</td>
<td>310</td>
<td>28.6</td>
<td>8</td>
<td>308</td>
<td>28.8</td>
<td>309</td>
</tr>
<tr>
<td>628.pop2_s</td>
<td>8</td>
<td>268</td>
<td>44.3</td>
<td>267</td>
<td>44.5</td>
<td>267</td>
<td>44.5</td>
<td>8</td>
<td>261</td>
<td>45.5</td>
<td>261</td>
</tr>
<tr>
<td>638.imagick_s</td>
<td>8</td>
<td>433</td>
<td>33.3</td>
<td>434</td>
<td>33.2</td>
<td>432</td>
<td>33.4</td>
<td>8</td>
<td>434</td>
<td>33.2</td>
<td>432</td>
</tr>
<tr>
<td>644.nab_s</td>
<td>8</td>
<td>308</td>
<td>56.7</td>
<td>308</td>
<td>56.8</td>
<td>308</td>
<td>56.8</td>
<td>8</td>
<td>308</td>
<td>56.8</td>
<td>308</td>
</tr>
<tr>
<td>649.fotonik3d_s</td>
<td>8</td>
<td>168</td>
<td>54.1</td>
<td>168</td>
<td>54.3</td>
<td>167</td>
<td>54.6</td>
<td>8</td>
<td>167</td>
<td>54.5</td>
<td>170</td>
</tr>
<tr>
<td>654.roms_s</td>
<td>8</td>
<td>297</td>
<td>53.0</td>
<td>291</td>
<td>54.0</td>
<td>297</td>
<td>53.0</td>
<td>8</td>
<td>280</td>
<td>56.3</td>
<td>279</td>
</tr>
</tbody>
</table>

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)
Lenovo Global Technology
ThinkSystem SD530
(3.60 GHz, Intel Xeon Platinum 8156)

Specspeed2017_fp_base = 51.9
Specspeed2017_fp_peak = 52.9

CPU2017 License: 9017
Test Sponsor: Lenovo Global Technology
Test Date: May-2018
Tested by: Lenovo Global Technology
Hardware Availability: Aug-2017
Software Availability: Feb-2018

Platform Notes (Continued)

DCU Streamer Prefetcher set to Disable
MONITOR/MWAIT set to Enable
Trusted Execution Technology set to Enable
DCA set to Enable
Stale AtoS set to Enable
LLC dead line alloc set to Disable
Sysinfo program /home/cpu2017.1.0.2.ic18.0/bin/sysinfo
Rev: r5797 of 2017-06-14 96c45e4568ad54c135fd618b6c091c0f
running on linux-6zlr Wed May 30 14:42:18 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
  2 "physical id"s (chips)
  8 "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

From lscpu:
Architecture: x86_64
CPU op-mode(s): 32-bit, 64-bit
Byte Order: Little Endian
CPU(s): 8
On-line CPU(s) list: 0-7
Thread(s) per core: 1
Core(s) per socket: 4
Socket(s): 2
NUMA node(s): 2
Vendor ID: GenuineIntel
CPU family: 6
Model: 85
Model name: Intel(R) Xeon(R) Platinum 8156 CPU @ 3.60GHz
Stepping: 4
CPU MHz: 3591.536
BogoMIPS: 7183.07
Virtualization: VT-x
L1d cache: 32K
L1i cache: 32K
L2 cache: 1024K
L3 cache: 16896K

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

**ThinkSystem SD530**  
(3.60 GHz, Intel Xeon Platinum 8156)

<table>
<thead>
<tr>
<th>SPECspeed2017_fp_base</th>
<th>51.9</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECspeed2017_fp_peak</td>
<td>52.9</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>
</tbody>
</table>

**Platform Notes (Continued)**

```
NUMA node0 CPU(s):     0-3
NUMA node1 CPU(s):     4-7
Flags:                 fpu vme de pse tsc msr pae 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 ntopology nonstop_tsc
                        aperfmperf eagerfpu pni pclmulqdq dtes64 monitor ds_cpl vmx smx est tm2 ssse3 sdbg
                        fma cx16 xtr _pdc1 pcid dca sse4_1 sse4_2 x2apic movbe popcnt tsc_deadline_timer aes
                        xsave avx f16c rdrand lahf_lm abml hle avx2 smep bmi2 ertc invpcid_single pln pts
                        dtherm intel_pt rsb_ctxsw spec_ctrl retetip vmi flexpriority
                        vpid fsgbase tsc_adjust bmi1 hle avx2 sme bmi2 ertc invpcid rtm cqm mpx
                        avx512f avx512dq rdseed adx clflushopt clwb avx512cd avx512bw avx512vl xsaving
                        xgetbv1 cqm_llc cqm_occup_llc

/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: 2 nodes (0-1)
  node 0 cpus: 0 1 2 3
  node 0 size: 193110 MB
  node 0 free: 192464 MB
  node 1 cpus: 4 5 6 7
  node 1 size: 193504 MB
  node 1 free: 192573 MB
  node distances:
  node   0   1
  0:  10  21
  1:  21  10

From /proc/meminfo
  MemTotal:       395893492 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"
```

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

ThinkSystem SD530
(3.60 GHz, Intel Xeon Platinum 8156)

<table>
<thead>
<tr>
<th>SPECspeed2017_fp_base</th>
<th>51.9</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECspeed2017_fp_peak</td>
<td>52.9</td>
</tr>
</tbody>
</table>

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

**Test Date:** May-2018
**Hardware Availability:** Aug-2017
**Software Availability:** Feb-2018

**Platform Notes (Continued)**

```plaintext
ID="sles"
ANSI_COLOR="0;32"
CPE_NAME="cpe:/o:suse:sles:12:sp2"

uname -a:
    Linux linux-6zlr 4.4.114-92.64-default #1 SMP Thu Feb 1 19:18:19 UTC 2018 (c6ce5db)
   x86_64 x86_64 x86_64 GNU/Linux

run-level 3 May 30 09:07

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

Filesystem   Type  Size  Used Avail Use% Mounted on
/dev/sda3     xfs   744G   23G  721G   4% /

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 -[TEE119R-1.22]- 02/06/2018
Memory:
  4x NO DIMM NO DIMM
  12x Samsung M393A4K40BB2-CTD 32 GB 2 rank 2666
```

### 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.
```

(Continued on next page)
Lenovo Global Technology
ThinkSystem SD530
(3.60 GHz, Intel Xeon Platinum 8156)

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

SPECspeed2017_fp_base = 51.9
SPECspeed2017_fp_peak = 52.9

Test Date: May-2018
Hardware Availability: Aug-2017
Software Availability: Feb-2018

Compiler Version Notes (Continued)

icpc (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.

==============================================================================
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.

(Continued on next page)
**Lenovo Global Technology**
ThinkSystem SD530
(3.60 GHz, Intel Xeon Platinum 8156)

**SPEC CPU2017 Floating Point Speed Result**

<table>
<thead>
<tr>
<th>CPU2017 License: 9017</th>
<th>Test Date: May-2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Sponsor: Lenovo Global Technology</td>
<td>Hardware Availability: Aug-2017</td>
</tr>
<tr>
<td>Tested by: Lenovo Global Technology</td>
<td>Software Availability: Feb-2018</td>
</tr>
</tbody>
</table>

**SPECspeed2017_fp_base = 51.9**
**SPECspeed2017_fp_peak = 52.9**

---

**Compiler Version Notes (Continued)**

**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.cactus Concurrent SNS: -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
```

(Continued on next page)
SPEC CPU2017 Floating Point Speed Result

Lenovo Global Technology
ThinkSystem SD530
(3.60 GHz, Intel Xeon Platinum 8156)

SPECspeed2017_fp_base = 51.9
SPECspeed2017_fp_peak = 52.9

Base Optimization Flags (Continued)

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

Benchmarks using both Fortran and C:
ifort icc

Benchmarks using Fortran, C, and C++:
icpc icc ifort
# SPEC CPU2017 Floating Point Speed Result

**Lenovo Global Technology**

ThinkSystem SD530  
(3.60 GHz, Intel Xeon Platinum 8156)

| SPECspeed2017_fp_base | 51.9 |
| SPECspeed2017 fp_peak | 52.9 |

**CPU2017 License:** 9017  
**Test Date:** May-2018

**Test Sponsor:** Lenovo Global Technology  
**Hardware Availability:** Aug-2017

**Tested by:** Lenovo Global Technology  
**Software Availability:** Feb-2018

## 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  
-nostandard-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 -nostandard-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 -nostandard-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 -nostandard-realloc-lhs  
-align array32byte
### Lenovo Global Technology

**ThinkSystem SD530**  
*(3.60 GHz, Intel Xeon Platinum 8156)*

<table>
<thead>
<tr>
<th>SPECspeed2017_fp_base = 51.9</th>
<th>SPECspeed2017_fp_peak = 52.9</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CPU2017 License:</strong> 9017</td>
<td><strong>Test Date:</strong> May-2018</td>
</tr>
<tr>
<td><strong>Test Sponsor:</strong> Lenovo Global Technology</td>
<td><strong>Hardware Availability:</strong> Aug-2017</td>
</tr>
<tr>
<td><strong>Tested by:</strong> Lenovo Global Technology</td>
<td><strong>Software Availability:</strong> Feb-2018</td>
</tr>
</tbody>
</table>

#### 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/Intel-ic18.0-official-linux64.html)
- [http://www.spec.org/cpu2017/flags/Lenovo-Platform-SPECcpu2017-Flags-V1.2-SKL-C.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/Intel-ic18.0-official-linux64.xml)
- [http://www.spec.org/cpu2017/flags/Lenovo-Platform-SPECcpu2017-Flags-V1.2-SKL-C.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.

Tested with SPEC CPU2017 v1.0.2 on 2018-05-30 02:42:17-0400.  