Lenovo Global Technology
ThinkSystem SR630
(2.10 GHz, Intel Xeon Gold 6230)

SPECrate2017_fp_base = 211
SPECrate2017_fp_peak = Not Run

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

Hardware

<table>
<thead>
<tr>
<th>Component</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU Name</td>
<td>Intel Xeon Gold 6230</td>
</tr>
<tr>
<td>Max MHz.</td>
<td>3900</td>
</tr>
<tr>
<td>Nominal</td>
<td>2100</td>
</tr>
<tr>
<td>Enabled</td>
<td>40 cores, 2 chips, 2 threads/core</td>
</tr>
<tr>
<td>Orderable</td>
<td>1.2 chips</td>
</tr>
<tr>
<td>Cache L1</td>
<td>32 KB I + 32 KB D on chip per core</td>
</tr>
<tr>
<td>L2:</td>
<td>1 MB I+D on chip per core</td>
</tr>
<tr>
<td>L3:</td>
<td>27.5 MB I+D on chip per chip</td>
</tr>
<tr>
<td>Other:</td>
<td>None</td>
</tr>
<tr>
<td>Memory</td>
<td>384 GB (24 x 16 GB 2Rx8 PC4-2933Y-R)</td>
</tr>
<tr>
<td>Storage</td>
<td>1 x 800 GB SATA SSD</td>
</tr>
<tr>
<td>Other:</td>
<td>None</td>
</tr>
</tbody>
</table>

Software

<table>
<thead>
<tr>
<th>Component</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>OS</td>
<td>Red Hat Enterprise Linux Server release 7.6 (Maipo)</td>
</tr>
<tr>
<td>Compiler</td>
<td>C/C++: Version 19.0.1.144 of Intel C/C++ Compiler Build 20181018 for Linux; Fortran: Version 19.0.1.144 of Intel Fortran Compiler Build 20181018 for Linux</td>
</tr>
<tr>
<td>Parallel</td>
<td>No</td>
</tr>
<tr>
<td>Firmware</td>
<td>Lenovo BIOS Version IVE135P 2.10 released Feb-2019</td>
</tr>
<tr>
<td>File System</td>
<td>xfs</td>
</tr>
<tr>
<td>System State</td>
<td>Run level 3 (multi-user)</td>
</tr>
<tr>
<td>Base Pointers</td>
<td>64-bit</td>
</tr>
<tr>
<td>Peak Pointers</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Other:</td>
<td>None</td>
</tr>
</tbody>
</table>
SPEC CPU2017 Floating Point Rate Result

Lenovo Global Technology
ThinkSystem SR630
(2.10 GHz, Intel Xeon Gold 6230)

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

Test Date: Apr-2019
Hardware Availability: Apr-2019
Software Availability: Nov-2018

SPECrate2017_fp_base = 211
SPECrate2017_fp_peak = Not Run

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>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Base</td>
<td></td>
<td></td>
<td>Peak</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>503.bwaves_r</td>
<td>80</td>
<td>1566</td>
<td>512</td>
<td>1566</td>
<td>512</td>
<td>1565</td>
<td>513</td>
</tr>
<tr>
<td>507.cactuBSSN_r</td>
<td>80</td>
<td>575</td>
<td>176</td>
<td>576</td>
<td>176</td>
<td>576</td>
<td>176</td>
</tr>
<tr>
<td>508.namd_r</td>
<td>80</td>
<td>487</td>
<td>156</td>
<td>486</td>
<td>156</td>
<td>487</td>
<td>156</td>
</tr>
<tr>
<td>510.parest_r</td>
<td>80</td>
<td>1729</td>
<td>121</td>
<td>1746</td>
<td>120</td>
<td>1756</td>
<td>119</td>
</tr>
<tr>
<td>511.povray_r</td>
<td>80</td>
<td>770</td>
<td>243</td>
<td>770</td>
<td>243</td>
<td>772</td>
<td>242</td>
</tr>
<tr>
<td>519.lbm_r</td>
<td>80</td>
<td>715</td>
<td>118</td>
<td>715</td>
<td>118</td>
<td>714</td>
<td>118</td>
</tr>
<tr>
<td>521.wrf_r</td>
<td>80</td>
<td>817</td>
<td>219</td>
<td>810</td>
<td>221</td>
<td>820</td>
<td>219</td>
</tr>
<tr>
<td>526.blender_r</td>
<td>80</td>
<td>523</td>
<td>233</td>
<td>523</td>
<td>233</td>
<td>523</td>
<td>233</td>
</tr>
<tr>
<td>527.cam4_r</td>
<td>80</td>
<td>582</td>
<td>241</td>
<td>581</td>
<td>241</td>
<td>581</td>
<td>241</td>
</tr>
<tr>
<td>538.imagick_r</td>
<td>80</td>
<td>401</td>
<td>496</td>
<td>399</td>
<td>498</td>
<td>401</td>
<td>497</td>
</tr>
<tr>
<td>544.nab_r</td>
<td>80</td>
<td>374</td>
<td>360</td>
<td>374</td>
<td>360</td>
<td>374</td>
<td>360</td>
</tr>
<tr>
<td>549.fotonik3d_r</td>
<td>80</td>
<td>1866</td>
<td>167</td>
<td>1867</td>
<td>167</td>
<td>1871</td>
<td>167</td>
</tr>
<tr>
<td>554.roms_r</td>
<td>80</td>
<td>1350</td>
<td>94.2</td>
<td>1340</td>
<td>94.8</td>
<td>1346</td>
<td>94.5</td>
</tr>
</tbody>
</table>

SPECrate2017_fp_base = 211
SPECrate2017_fp_peak = Not Run

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/cpu2017-1.0.5-ic19.0u1/lib/intel64"

Binaries compiled on a system with 1x Intel Core i9-7900X CPU + 32GB RAM memory using Redhat Enterprise Linux 7.5
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>
Yes: The test sponsor attests, as of date of publication, that CVE-2017-5754 (Meltdown) is mitigated in the system as tested and documented.

(Continued on next page)
**SPEC CPU2017 Floating Point Rate Result**

**Lenovo Global Technology**

ThinkSystem SR630  
(2.10 GHz, Intel Xeon Gold 6230)  

<table>
<thead>
<tr>
<th>SPECrate2017_fp_base = 211</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECrate2017_fp_peak = Not Run</td>
</tr>
</tbody>
</table>

**CPU2017 License:** 9017  
**Test Date:** Apr-2019  
**Test Sponsor:** Lenovo Global Technology  
**Hardware Availability:** Apr-2019  
**Tested by:** Lenovo Global Technology  
**Software Availability:** Nov-2018

---

**General Notes (Continued)**

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.

---

**Platform Notes**

**BIOS configuration:**  
Choose Operating Mode set to Maximum Performance  
Choose Operating Mode set to Custom Mode  
C-states set to Legacy  
SNC set to Enable  
DCU Streamer Prefetcher set to Disable  
Trusted Execution Technology set to Enable  
Stale AtoS set to Enable  
LLC dead line alloc set to Disable  
Patrol Scrub set to Disable

Sysinfo program /home/cpu2017-1.0.5-ic19.0u1/bin/sysinfo  
Rev: r5974 of 2018-05-19 9bcde8f2999c33d61f64985e45859ea9  
running on localhost.localdomain Sat Apr 27 00:36:49 2019

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 6230 CPU @ 2.10GHz  
2 "physical id"s (chips)  
80 "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 : 20  
siblings : 40  
physical 0: cores 0 1 2 3 4 8 9 10 11 12 16 17 18 19 20 24 25 26 27 28  
physical 1: cores 0 1 2 3 4 8 9 10 11 12 16 17 18 19 20 24 25 26 27 28

From lscpu:  
Architecture: x86_64  
CPU op-mode(s): 32-bit, 64-bit  
Byte Order: Little Endian  
CPU(s): 80  
On-line CPU(s) list: 0-79

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

Lenovo Global Technology
ThinkSystem SR630
(2.10 GHz, Intel Xeon Gold 6230)

<table>
<thead>
<tr>
<th>SPECrate2017_fp_base</th>
<th>211</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECrate2017_fp_peak</td>
<td>Not Run</td>
</tr>
</tbody>
</table>

CPU2017 License: 9017
Test Sponsor: Lenovo Global Technology
Tested by: Lenovo Global Technology
Test Date: Apr-2019
Hardware Availability: Apr-2019
Software Availability: Nov-2018

Platform Notes (Continued)

Thread(s) per core: 2
Core(s) per socket: 20
Socket(s): 2
NUMA node(s): 4
Vendor ID: GenuineIntel
CPU family: 6
Model: 85
Model name: Intel(R) Xeon(R) Gold 6230 CPU @ 2.10GHz
Stepping: 6
CPU MHz: 2100.000
BogoMIPS: 4200.00
Virtualization: VT-x
L1d cache: 32K
L1i cache: 32K
L2 cache: 1024K
L3 cache: 28160K
NUMA node0 CPU(s): 0-2,5,6,10-12,15,16,40-42,45,46,50-52,55,56
NUMA node1 CPU(s): 3,4,7-9,13,14,17-19,43,44,47-49,53,54,57-59
NUMA node2 CPU(s): 20-22,25,26,30-32,35,36,60-62,65,66,70-72,75,76
NUMA node3 CPU(s): 23,24,27-29,33,34,37-39,63,64,67-69,73,74,77-79

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 rdtpsc
   lm constant_tsc art arch_perfmon pebs bts rep_good nopl xtopology nonstop_tsc
   aperfmpcrf eagerfpu pni pclmulqdq dtes64 monitor ds_cpl vmx smx est tm2 ssse3 sdbg
   fma cx16 xtpcr pdcm pcid dca sse4_1 sse4_2 x2apic movbe popcnt tsc_deadline_timer aes
   xsave avx f16c rdrand lahf_lm abm 3dnowprefetch epb cat_l3 cdp_l3 intel_pt ssbd mba
   ibrs ibpb stibp ibrs-enhanced tpr-shadow vmmi flexpriority ept vpid fsgsbase
   tsc_adjust bmi1 hle avx2 smep bmi2 erts invpcid rtm cqm mpx rdt_a avx512f avx512dq
   rdseed adx smap clflushopt clwb avx512cd avx512bw avx512vl xsaveopt xsaveprec xgetbv1
   cmq_llc cmq_occupa_llc cmq_mbm_total cmq_mbm_local dtherm ida arat pld pts pku ospke
   avx512_vnni spec_ctrl intel_stibp flush_l1d arch_capabilities

/proc/cpuinfo cache data
   cache size: 28160 KB

From numactl --hardware WARNING: a numactl 'node' might or might not correspond to a physical chip.
   available: 4 nodes (0-3)
   node 0 cpus: 0 1 2 5 6 10 11 12 15 16 40 41 42 45 46 50 51 52 55 56
   node 0 size: 97976 MB
   node 0 free: 95434 MB
   node 1 cpus: 3 4 7 8 9 13 14 17 18 19 43 44 47 48 49 53 54 57 58 59
   node 1 size: 98304 MB
   node 1 free: 95914 MB
   node 2 cpus: 20 21 22 25 26 30 31 32 35 36 60 61 62 65 66 70 71 72 75 76
   node 2 size: 98304 MB
   node 2 free: 95310 MB

(Continued on next page)
**SPEC CPU2017 Floating Point Rate Result**

*Copyright 2017-2019 Standard Performance Evaluation Corporation*

**Lenovo Global Technology**

**ThinkSystem SR630**  
(2.10 GHz, Intel Xeon Gold 6230)

<table>
<thead>
<tr>
<th>SPECrate2017_fp_base</th>
<th>211</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECrate2017_fp_peak</td>
<td>Not Run</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Test Date:</th>
<th>Apr-2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hardware Availability:</td>
<td>Apr-2019</td>
</tr>
<tr>
<td>Software Availability:</td>
<td>Nov-2018</td>
</tr>
</tbody>
</table>

---

**Platform Notes (Continued)**

<table>
<thead>
<tr>
<th>node 3 cpus:</th>
<th>23 24 27 28 29 33 34 37 38 39 63 64 67 68 69 73 74 77 78 79</th>
</tr>
</thead>
<tbody>
<tr>
<td>node 3 size:</td>
<td>98304 MB</td>
</tr>
<tr>
<td>node 3 free:</td>
<td>95949 MB</td>
</tr>
<tr>
<td>node distances:</td>
<td></td>
</tr>
<tr>
<td>node 0 1 2 3</td>
<td></td>
</tr>
<tr>
<td>0: 10 11 21 21</td>
<td></td>
</tr>
<tr>
<td>1: 11 10 21 21</td>
<td></td>
</tr>
<tr>
<td>2: 21 21 10 11</td>
<td></td>
</tr>
<tr>
<td>3: 21 21 11 10</td>
<td></td>
</tr>
</tbody>
</table>

**From /proc/meminfo**

- MemTotal: 395877552 kB
- HugePages_Total: 0
- Hugepagesize: 2048 kB

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

- os-release:
  - NAME="Red Hat Enterprise Linux Server"
  - VERSION="7.6 (Maipo)"
  - ID="rhel"
  - ID_LIKE="fedora"
  - VARIANT="Server"
  - VARIANT_ID="server"
  - VERSION_ID="7.6"
  - PRETTY_NAME="Red Hat Enterprise Linux Server 7.6 (Maipo)"

- redhat-release: Red Hat Enterprise Linux Server release 7.6 (Maipo)
- system-release: Red Hat Enterprise Linux Server release 7.6 (Maipo)

**uname -a:**

Linux localhost.localdomain 3.10.0-957.el7.x86_64 #1 SMP Thu Oct 4 20:48:51 UTC 2018  
x86_64 x86_64 x86_64 GNU/Linux

**Kernel self-reported vulnerability status:**

- CVE-2017-5754 (Meltdown): Not affected
- CVE-2017-5753 (Spectre variant 1): Mitigation: Load fences, __user pointer sanitization
- CVE-2017-5715 (Spectre variant 2): Mitigation: Enhanced IBRS

**run-level 3 Apr 27 00:35**

**SPEC is set to:** /home/cpu2017-1.0.5-ic19.0u1

<table>
<thead>
<tr>
<th>Filesystem</th>
<th>Type</th>
<th>Size</th>
<th>Used</th>
<th>Avail</th>
<th>Use%</th>
<th>Mounted on</th>
</tr>
</thead>
<tbody>
<tr>
<td>/dev/sdb2</td>
<td>xfs</td>
<td>689G</td>
<td>21G</td>
<td>668G</td>
<td>4%</td>
<td>/home</td>
</tr>
</tbody>
</table>

**Additional information from dmidecode follows.** WARNING: Use caution when you interpret this section. The 'dmidecode' program reads system data which is "intended to allow
documentation..."
Platform Notes (Continued)

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 -[IVE135P-2.10]- 02/13/2019
Memory:
24x Samsung M393A2K43CB2-CVF 16 GB 2 rank 2933

(End of data from sysinfo program)

Compiler Version Notes

==============================================================================
CC  519.lbm_r(base) 538.imagick_r(base) 544.nab_r(base)
Intel(R) C Intel(R) 64 Compiler for applications running on Intel(R) 64,  
Version 19.0.1.144 Build 20181018
Copyright (C) 1985-2018 Intel Corporation. All rights reserved.

==============================================================================
CXXC 508.namd_r(base) 510.parest_r(base)
Intel(R) C++ Intel(R) 64 Compiler for applications running on Intel(R) 64,  
Version 19.0.1.144 Build 20181018
Copyright (C) 1985-2018 Intel Corporation. All rights reserved.

==============================================================================
CC  511.povray_r(base) 526.blender_r(base)
Intel(R) C++ Intel(R) 64 Compiler for applications running on Intel(R) 64,  
Version 19.0.1.144 Build 20181018
Copyright (C) 1985-2018 Intel Corporation. All rights reserved.

(Continued on next page)
## Lenovo Global Technology

**ThinkSystem SR630**  
(2.10 GHz, Intel Xeon Gold 6230)

<table>
<thead>
<tr>
<th>SPECrate2017_fp_base</th>
<th>211</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECrate2017_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>Apr-2019</td>
</tr>
<tr>
<td>Hardware Availability</td>
<td>Apr-2019</td>
</tr>
<tr>
<td>Software Availability</td>
<td>Nov-2018</td>
</tr>
</tbody>
</table>

### Compiler Version Notes (Continued)

Intel(R) Fortran Intel(R) 64 Compiler for applications running on Intel(R) 64, Version 19.0.1.144 Build 20181018  
Copyright (C) 1985-2018 Intel Corporation. All rights reserved.

---

FC  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 19.0.1.144 Build 20181018  
Copyright (C) 1985-2018 Intel Corporation. All rights reserved.

---

CC  521.wrf_r(base)  527.cam4_r(base)

---

Intel(R) Fortran Intel(R) 64 Compiler for applications running on Intel(R) 64, Version 19.0.1.144 Build 20181018  
Copyright (C) 1985-2018 Intel Corporation. All rights reserved.

---

Intel(R) C Intel(R) 64 Compiler for applications running on Intel(R) 64, Version 19.0.1.144 Build 20181018  
Copyright (C) 1985-2018 Intel Corporation. All rights reserved.

---

### Base Compiler Invocation

**C benchmarks:**  
`icc -m64 -std=c11`

**C++ benchmarks:**  
`icpc -m64`

**Fortran benchmarks:**  
`ifort -m64`

**Benchmarks using both Fortran and C:**  
`ifort -m64 icc -m64 -std=c11`

**Benchmarks using both C and C++:**  
`icpc -m64 icc -m64 -std=c11`

**Benchmarks using Fortran, C, and C++:**  
`icpc -m64 icc -m64 -std=c11 ifort -m64`
SPEC CPU2017 Floating Point Rate Result

Lenovo Global Technology
ThinkSystem SR630
(2.10 GHz, Intel Xeon Gold 6230)

| SPECrate2017_fp_base = | 211 |
| SPECrate2017_fp_peak = | Not Run |

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

**Test Date:** Apr-2019
**Hardware Availability:** Apr-2019
**Software Availability:** Nov-2018

---

**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:**
-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch -ffinite-math-only
-qopt-mem-layout-trans=4

**C++ benchmarks:**
-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch -ffinite-math-only
-qopt-mem-layout-trans=4

**Fortran benchmarks:**
-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch -ffinite-math-only
-qopt-mem-layout-trans=4 -auto -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=4 -auto -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=4

**Benchmarks using Fortran, C, and C++:**
-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch -ffinite-math-only
-qopt-mem-layout-trans=4 -auto -nostandard-realloc-lhs
-align array32byte
## Lenovo Global Technology

**ThinkSystem SR630**  
(2.10 GHz, Intel Xeon Gold 6230)

<table>
<thead>
<tr>
<th>SPECrate2017_fp_base = 211</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECrate2017_fp_peak = Not Run</td>
</tr>
</tbody>
</table>

### Configuration Details

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU2017 License</td>
<td>9017</td>
</tr>
<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>Apr-2019</td>
</tr>
<tr>
<td>Hardware Availability</td>
<td>Apr-2019</td>
</tr>
<tr>
<td>Software Availability</td>
<td>Nov-2018</td>
</tr>
</tbody>
</table>

The flags files that were used to format this result can be browsed at:


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


---

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 v1.0.5 on 2019-04-26 12:36:49-0400.  