## SPEC CPU®2017 Floating Point Rate Result

**Cisco Systems**

Cisco UCS C220 M5 (Intel Xeon Gold 6238M, 2.10GHz)

<table>
<thead>
<tr>
<th>CPU2017 License:</th>
<th>9019</th>
<th>Test Date:</th>
<th>Oct-2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Sponsor:</td>
<td>Cisco Systems</td>
<td>Hardware Availability:</td>
<td>Apr-2019</td>
</tr>
<tr>
<td>Tested by:</td>
<td>Cisco Systems</td>
<td>Software Availability:</td>
<td>May-2019</td>
</tr>
</tbody>
</table>

### SPEC CPU®2017 Floating Point Test Results

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>SPECrate®2017_fp_base</th>
<th>SPECrate®2017_fp_peak</th>
</tr>
</thead>
<tbody>
<tr>
<td>503.bwaves_r</td>
<td>225</td>
<td>229</td>
</tr>
</tbody>
</table>

### Hardware

- **CPU Name:** Intel Xeon Gold 6238M
- **Max MHz:** 3700
- **Nominal:** 2100
- **Enabled:** 44 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:** 30.25 MB I+D on chip per core
- **Other:** None
- **Memory:** 768 GB (24 x 32 GB 2Rx4 PC4-2933V-R)
- **Storage:** 1 x 1.9 TB SSD SAS
- **Other:** None

### Software

- **OS:** SUSE Linux Enterprise Server 15 (x86_64) 4.12.14-23-default
- **Compiler:** C/C++: Version 19.0.4.227 of Intel C/C++ Compiler for Linux; Fortran: Version 19.0.4.227 of Intel Fortran Compiler for Linux
- **Parallel:** No
- **Firmware:** Version 4.0.4g released Jul-2019
- **File System:** xfs
- **System State:** Run level 3 (multi-user)
- **Base Pointers:** 64-bit
- **Peak Pointers:** 64-bit
- **Other:** None
- **Power Management:** --
## SPEC CPU®2017 Floating Point Rate Result

**Cisco Systems**

Cisco UCS C220 M5 (Intel Xeon Gold 6238M, 2.10GHz)

<table>
<thead>
<tr>
<th>CPU2017 License:</th>
<th>9019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Sponsor:</td>
<td>Cisco Systems</td>
</tr>
<tr>
<td>Tested by:</td>
<td>Cisco Systems</td>
</tr>
</tbody>
</table>

**SPECrate®2017_fp_base = 225**

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Copies</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Base</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Peak</th>
<th>Seconds</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>503.bwaves_r</td>
<td>88</td>
<td>1682</td>
<td>525</td>
<td>1682</td>
<td>525</td>
<td>1681</td>
<td>525</td>
<td>1681</td>
<td>525</td>
</tr>
<tr>
<td>507.cactuBSSN_r</td>
<td>88</td>
<td>602</td>
<td>185</td>
<td>599</td>
<td>186</td>
<td>599</td>
<td>186</td>
<td>599</td>
<td>186</td>
</tr>
<tr>
<td>508.namd_r</td>
<td>88</td>
<td>462</td>
<td>181</td>
<td>462</td>
<td>181</td>
<td>461</td>
<td>181</td>
<td>461</td>
<td>181</td>
</tr>
<tr>
<td>510.parest_r</td>
<td>88</td>
<td>1887</td>
<td>122</td>
<td>1890</td>
<td>122</td>
<td>1884</td>
<td>122</td>
<td>1883</td>
<td>122</td>
</tr>
<tr>
<td>511.povray_r</td>
<td>88</td>
<td>771</td>
<td>267</td>
<td>775</td>
<td>265</td>
<td>774</td>
<td>265</td>
<td>774</td>
<td>265</td>
</tr>
<tr>
<td>519.lbm_r</td>
<td>88</td>
<td>742</td>
<td>125</td>
<td>742</td>
<td>125</td>
<td>742</td>
<td>125</td>
<td>742</td>
<td>125</td>
</tr>
<tr>
<td>521.wrf_r</td>
<td>88</td>
<td>882</td>
<td>224</td>
<td>880</td>
<td>224</td>
<td>874</td>
<td>226</td>
<td>846</td>
<td>233</td>
</tr>
<tr>
<td>526.blender_r</td>
<td>88</td>
<td>544</td>
<td>246</td>
<td>545</td>
<td>246</td>
<td>545</td>
<td>246</td>
<td>546</td>
<td>246</td>
</tr>
<tr>
<td>527.cam4_r</td>
<td>88</td>
<td>579</td>
<td>266</td>
<td>582</td>
<td>265</td>
<td>578</td>
<td>266</td>
<td>572</td>
<td>269</td>
</tr>
<tr>
<td>538.imagick_r</td>
<td>88</td>
<td>397</td>
<td>551</td>
<td>399</td>
<td>549</td>
<td>399</td>
<td>549</td>
<td>399</td>
<td>549</td>
</tr>
<tr>
<td>544.nab_r</td>
<td>88</td>
<td>375</td>
<td>395</td>
<td>377</td>
<td>393</td>
<td>376</td>
<td>394</td>
<td>376</td>
<td>394</td>
</tr>
<tr>
<td>549.fotonik3d_r</td>
<td>88</td>
<td>2055</td>
<td>167</td>
<td>2056</td>
<td>167</td>
<td>2057</td>
<td>167</td>
<td>2057</td>
<td>167</td>
</tr>
<tr>
<td>554.roms_r</td>
<td>88</td>
<td>1389</td>
<td>101</td>
<td>1385</td>
<td>101</td>
<td>1385</td>
<td>101</td>
<td>1385</td>
<td>101</td>
</tr>
</tbody>
</table>

**SPECrate®2017_fp_peak = 229**

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/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>
```

NA: The test sponsor attests, as of date of publication, that CVE-2017-5754 (Meltdown)

(Continued on next page)
Cisco Systems
Cisco UCS C220 M5 (Intel Xeon Gold 6238M, 2.10GHz)

**General Notes (Continued)**

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 Settings:
Intel HyperThreading Technology set to Enabled
SNC set to Enabled
IMC Interleaving set to 1-way Interleave
Patrol Scrub set to Disabled
Sysinfo program /home/cpu2017/bin/sysinfo
Rev: r5974 of 2018-05-19 9bced8f2999c33d61f64985ea45859ea9
running on linux-jm4k Wed Oct 2 00:36:58 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

```plaintext
model name : Intel(R) Xeon(R) Gold 6238M CPU @ 2.10GHz
   2 "physical id"s (chips)
   88 "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 : 22
siblings : 44
physical 0: cores 0 1 2 3 4 5 8 9 10 11 12 16 17 18 19 20 21 24 25 26 27 28
physical 1: cores 0 1 2 3 4 5 8 9 10 11 12 16 17 18 19 20 21 24 25 26 27 28
```

From lscpu:

```plaintext
Architecture: x86_64
CPU op-mode(s): 32-bit, 64-bit
Byte Order: Little Endian
CPU(s): 88
On-line CPU(s) list: 0-87
Thread(s) per core: 2
Core(s) per socket: 22
Socket(s): 2
NUMA node(s): 4
Vendor ID: GenuineIntel
CPU family: 6
Model: 85
Model name: Intel(R) Xeon(R) Gold 6238M CPU @ 2.10GHz
```

(Continued on next page)
Cisco UCs C220 M5 (Intel Xeon Gold 6238M, 2.10GHz)

CPU2017 License: 9019
Test Sponsor: Cisco Systems
Tested by: Cisco Systems

<table>
<thead>
<tr>
<th>SPECrate®2017_fp_base</th>
<th>225</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECrate®2017_fp_peak</td>
<td>229</td>
</tr>
</tbody>
</table>

Test Date: Oct-2019
Hardware Availability: Apr-2019
Software Availability: May-2019

Platform Notes (Continued)

Stepping: 7
CPU MHz: 2100.000
CPU max MHz: 3700.0000
CPU min MHz: 1000.0000
BogoMIPS: 4200.00
Virtualization: VT-x
L1d cache: 32K
L1i cache: 32K
L2 cache: 1024K
L3 cache: 30976K
NUMA node0 CPU(s): 0-2, 6-8, 11-13, 17, 18, 44-46, 50-52, 55-57, 61, 62
NUMA node1 CPU(s): 3-5, 9, 10, 14-16, 19-21, 47-49, 53, 54, 58-60, 63-65
NUMA node2 CPU(s): 22-24, 28-30, 33-35, 39, 40, 66-68, 72-74, 77-79, 83, 84
NUMA node3 CPU(s): 25-27, 31, 32, 36-38, 41-43, 69-71, 75, 76, 80-82, 85-87

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 pdelgb rdtscp
lm constant_tsc art arch_perfmon pebs bts rep_good nopl xtopology nonstop_tsc cpuid
aperfmpref tsc_known_freq pni pclmulqdq dtscs64 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 cpuid_fault
epb cat_l3 cdp_l3 invpcid_single intel_ppin mba tpr_shadow vmmi flexpriority ept
vpid fsgsbase tsc_adjust bmon hle avx2 smep bmi2 3wvpcid rtm cmq mpk rdt_c
avx512f avx512dq rdseed adx smap clflushopt clwb intel_pt avx512cd avx512bw avx512vl
xsaveopt xsavec xsaves cqm_llc cqm_occup_llc cqm_mbb_total cqm_mbb_local
ibpb ibrs stibp dtherm ida arat pln pts hwp hwp_act_window hwp_epp hwp_pkg_req pku
ospke avx512_vnni arch_capabilities ssbd

From numactl --hardware WARNING: a numactl 'node' might or might not correspond to a
physical chip.

node 0 cpus: 0 1 2 6 7 8 11 12 13 17 18 44 45 46 50 51 52 55 56 57 61 62
node 0 size: 192077 MB
node 0 free: 179400 MB
node 1 cpus: 3 4 5 9 10 14 15 16 18 20 21 47 48 49 53 54 58 59 60 63 64 65
node 1 size: 193530 MB
node 1 free: 184156 MB
node 2 cpus: 22 23 24 28 29 30 33 34 35 39 40 66 67 68 72 73 74 77 79 83 84
node 2 size: 193530 MB
node 2 free: 184339 MB
node 3 cpus: 25 26 27 31 32 36 37 38 41 42 43 69 70 71 75 76 80 81 82 85 86 87
node 3 size: 193529 MB
node 3 free: 184216 MB
node distances:

(Continued on next page)
Cisco Systems
Cisco UCS C220 M5 (Intel Xeon Gold 6238M, 2.10GHz)

| SPECrate®2017_fp_base | 225 |
| SPECrate®2017_fp_peak | 229 |

CPU2017 License: 9019
Test Sponsor: Cisco Systems
Tested by: Cisco Systems

Platform Notes (Continued)

0:  10  11  21  21
1:  11  10  21  21
2:  21  21  10  11
3:  21  21  11  10

From /proc/meminfo
MemTotal:       791211720 kB
HugePages_Total:       0
Hugepagesize:       2048 kB

From /etc/*release*/etc/*version*
  os-release:
  NAME="SLES"
  VERSION="15"
  VERSION_ID="15"
  PRETTY_NAME="SUSE Linux Enterprise Server 15"
  ID="sles"
  ID_LIKE="suse"
  ANSI_COLOR="0;32"
  CPE_NAME="cpe:/o:suse:sles:15"

uname -a:
  Linux linux-jm4k 4.12.14-23-default #1 SMP Tue May 29 21:04:44 UTC 2018 (cd0437b)
  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: __user pointer sanitization
CVE-2017-5715 (Spectre variant 2): Mitigation: Indirect Branch Restricted Speculation, IBPB, IBRS_FW

run-level 3 Oct 1 15:26

SPEC is set to: /home/cpu2017
  Filesystem     Type  Size  Used Avail Use% Mounted on
  /dev/sdb1      xfs   224G  56G  168G  26% /

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 Cisco Systems, Inc. C220M5.4.0.4g.0.0712190011 07/12/2019
  Memory:
    24x 0xCE00 M393A4K40CB2-CVF 32 GB 2 rank 2933, configured at 2934

(End of data from sysinfo program)
Cisco Systems
Cisco UCS C220 M5 (Intel Xeon Gold 6238M, 2.10GHz)

SPECrates® 2017_fp_base = 225
SPECrates® 2017_fp_peak = 229

CPU2017 License: 9019
Test Sponsor: Cisco Systems
Tested by: Cisco Systems

Test Date: Oct-2019
Hardware Availability: Apr-2019
Software Availability: May-2019

Compiler Version Notes
==============================================================================
C               | 519.lbm_r(base, peak) 538.imagick_r(base, peak)  
                 | 544.nab_r(base, peak)  
-----------------------------------------------------------------------------
Intel(R) C Intel(R) 64 Compiler for applications running on Intel(R) 64,  
      Version 19.0.4.227 Build 20190416                              
Copyright (C) 1985-2019 Intel Corporation. All rights reserved.          
-----------------------------------------------------------------------------

C++             | 508.namd_r(base, peak) 510.parest_r(base, peak)  
-----------------------------------------------------------------------------
Intel(R) C++ Intel(R) 64 Compiler for applications running on Intel(R) 64,  
      Version 19.0.4.227 Build 20190416                              
Copyright (C) 1985-2019 Intel Corporation. All rights reserved.          
-----------------------------------------------------------------------------

C++, C          | 511.povray_r(base, peak) 526.blender_r(base, peak)  
-----------------------------------------------------------------------------
Intel(R) C++ Intel(R) 64 Compiler for applications running on Intel(R) 64,  
      Version 19.0.4.227 Build 20190416                              
Copyright (C) 1985-2019 Intel Corporation. All rights reserved.          
Intel(R) C Intel(R) 64 Compiler for applications running on Intel(R) 64,  
      Version 19.0.4.227 Build 20190416                              
Copyright (C) 1985-2019 Intel Corporation. All rights reserved.          
-----------------------------------------------------------------------------

C++, C, Fortran | 507.cactuBSSN_r(base, peak)  
-----------------------------------------------------------------------------
Intel(R) C++ Intel(R) 64 Compiler for applications running on Intel(R) 64,  
      Version 19.0.4.227 Build 20190416                              
Copyright (C) 1985-2019 Intel Corporation. All rights reserved.          
Intel(R) C Intel(R) 64 Compiler for applications running on Intel(R) 64,  
      Version 19.0.4.227 Build 20190416                              
Copyright (C) 1985-2019 Intel Corporation. All rights reserved.          
Intel(R) Fortran Intel(R) 64 Compiler for applications running on Intel(R)  
      64, Version 19.0.4.227 Build 20190416                              
Copyright (C) 1985-2019 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)  
(Continued on next page)
Cisco Systems
Cisco UCS C220 M5 (Intel Xeon Gold 6238M, 2.10GHz)

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

SPECrate®2017_fp_base = 225
SPECrate®2017_fp_peak = 229

CPU2017 License: 9019
Test Sponsor: Cisco Systems
Test Date: Oct-2019
Tested by: Cisco Systems
Hardware Availability: Apr-2019
Software Availability: May-2019

Compiler Version Notes (Continued)

Copyright (C) 1985-2019 Intel Corporation. All rights reserved.

Fortran, C      | 521.wrf_r(base, peak) 527.cam4_r(base, peak)
------------------------------------------------------------------------------
Intel(R) Fortran Intel(R) 64 Compiler for applications running on Intel(R)
64, Version 19.0.4.227 Build 20190416
Copyright (C) 1985-2019 Intel Corporation. All rights reserved.
Intel(R) C Intel(R) 64 Compiler for applications running on Intel(R) 64,
Version 19.0.4.227 Build 20190416
Copyright (C) 1985-2019 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

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

(Continued on next page)
Cisco Systems
Cisco UCS C220 M5 (Intel Xeon Gold 6238M, 2.10GHz)

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

SPECrater®2017_fp_base = 225
SPECrater®2017_fp_peak = 229

CPU2017 License: 9019
Test Sponsor: Cisco Systems
Tested by: Cisco Systems

Test Date: Oct-2019
Hardware Availability: Apr-2019
Software Availability: May-2019

Base Portability Flags (Continued)

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-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch
-ffinite-math-only -qopt-mem-layout-trans=4

C++ benchmarks:
-xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch
-ffinite-math-only -qopt-mem-layout-trans=4

Fortran benchmarks:
-xCORE-AVX512 -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-AVX512 -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-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch
-ffinite-math-only -qopt-mem-layout-trans=4

Benchmarks using Fortran, C, and C++:
-xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch
-ffinite-math-only -qopt-mem-layout-trans=4 -auto
-nostandard-realloc-lhs -align array32byte

Peak Compiler Invocation

C benchmarks:
icc -m64 -std=c11

(Continued on next page)
Cisco Systems
Cisco UCS C220 M5 (Intel Xeon Gold 6238M, 2.10GHz)

SPECrate®2017_fp_base = 225
SPECrate®2017_fp_peak = 229

CPU2017 License: 9019
Test Sponsor: Cisco Systems
Tested by: Cisco Systems
Test Date: Oct-2019
Hardware Availability: Apr-2019
Software Availability: May-2019

Peak Compiler Invocation (Continued)

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

Peak Portability Flags
Same as Base Portability Flags

Peak Optimization Flags

C benchmarks:
519.lbm_r: -prof-gen(pass 1) -prof-use(pass 2) -ipo -xCORE-AVX512
-03 -no-prec-div -qopt-prefetch -ffinite-math-only
-qopt-mem-layout-trans=4

538.imagick_r: -xCORE-AVX512 -ipo -03 -no-prec-div -qopt-prefetch
-ffinite-math-only -qopt-mem-layout-trans=4

544.nab_r: Same as 538.imagick_r

C++ benchmarks:
508.namd_r: -prof-gen(pass 1) -prof-use(pass 2) -ipo -xCORE-AVX512
-03 -no-prec-div -qopt-prefetch -ffinite-math-only
-qopt-mem-layout-trans=4

510.parest_r: -xCORE-AVX512 -ipo -03 -no-prec-div -qopt-prefetch
-ffinite-math-only -qopt-mem-layout-trans=4

(Continued on next page)
Cisco Systems
Cisco UCS C220 M5 (Intel Xeon Gold 6238M, 2.10GHz)

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

SPECrate®2017_fp_base = 225
SPECrate®2017_fp_peak = 229

CPU2017 License: 9019
Test Sponsor: Cisco Systems
Tested by: Cisco Systems

Test Date: Oct-2019
Hardware Availability: Apr-2019
Software Availability: May-2019

Peak Optimization Flags (Continued)

Fortran benchmarks:
503.bwaves_r: -xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch
-ffinite-math-only -qopt-mem-layout-trans=4 -auto
-nostandard-realloc-lhs -align array32byte

549.fotonik3d_r: Same as 503.bwaves_r

554.roms_r: -prof-gen(pass 1) -prof-use(pass 2) -ipo -xCORE-AVX512
-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:
-prof-gen(pass 1) -prof-use(pass 2) -ipo -xCORE-AVX512 -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++:
511.povray_r: -prof-gen(pass 1) -prof-use(pass 2) -ipo -xCORE-AVX512
-O3 -no-prec-div -qopt-prefetch -ffinite-math-only
-qopt-mem-layout-trans=4

526.blender_r: -xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch
-ffinite-math-only -qopt-mem-layout-trans=4

Benchmarks using Fortran, C, and C++:
-xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch
-ffinite-math-only -qopt-mem-layout-trans=4 -auto
-nostandard-realloc-lhs -align array32byte

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:
http://www.spec.org/cpu2017/flags/Cisco-Platform-Settings-V1.2-revJ.xml
Cisco Systems  
Cisco UCS C220 M5 (Intel Xeon Gold 6238M, 2.10GHz)  

<table>
<thead>
<tr>
<th>SPECrate®2017_fp_base = 225</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECrate®2017_fp_peak = 229</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CPU2017 License: 9019</th>
<th>Test Date: Oct-2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Sponsor: Cisco Systems</td>
<td>Hardware Availability: Apr-2019</td>
</tr>
<tr>
<td>Tested by: Cisco Systems</td>
<td>Software Availability: May-2019</td>
</tr>
</tbody>
</table>

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 v1.0.5 on 2019-10-01 15:06:57-0400.
Originally published on 2019-11-04.