



# SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2022 Standard Performance Evaluation Corporation

## Cisco Systems

Cisco UCS X210c M6 (Intel Xeon Gold 6338T, 2.10GHz)

SPECspeed®2017\_fp\_base = 180

SPECspeed®2017\_fp\_peak = 182

CPU2017 License: 9019

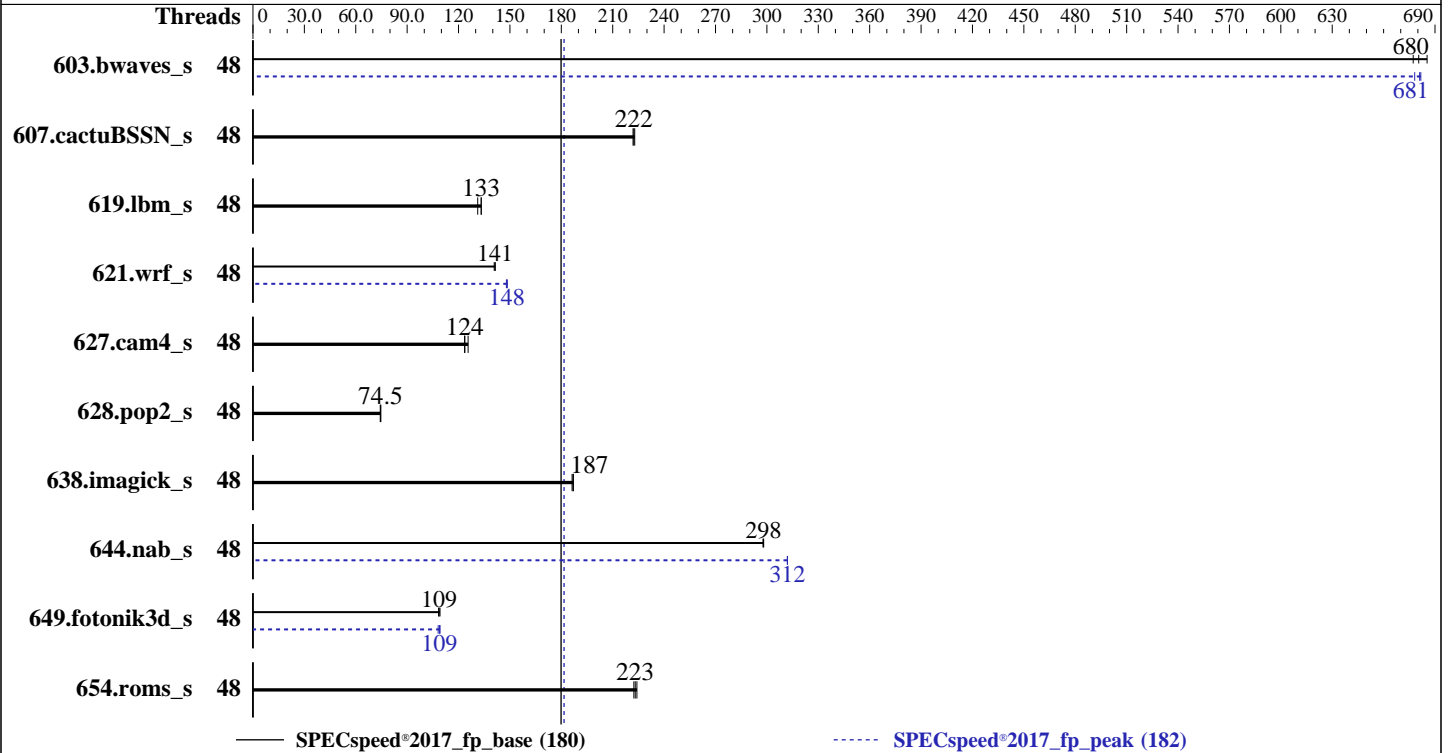
Test Sponsor: Cisco Systems

Tested by: Cisco Systems

Test Date: Dec-2021

Hardware Availability: Sep-2021

Software Availability: Sep-2021



### Hardware

CPU Name: Intel Xeon Gold 6338T  
 Max MHz: 3400  
 Nominal: 2100  
 Enabled: 48 cores, 2 chips  
 Orderable: 1,2 Chips  
 Cache L1: 32 KB I + 48 KB D on chip per core  
 L2: 1.25 MB I+D on chip per core  
 L3: 36 MB I+D on chip per chip  
 Other: None  
 Memory: 2 TB (32 x 64 GB 2Rx4 PC4-3200AA-R)  
 Storage: 1 x 240 GB M.2 SSD SATA  
 Other: None

### Software

OS: SUSE Linux Enterprise Server 15 SP2 5.3.18-22-default  
 Compiler: C/C++: Version 2021.4.0 of Intel oneAPI DPC++/C++ Compiler Build 20210924 for Linux;  
 Fortran: Version 2021.4.0 of Intel Fortran Compiler  
 Classic Build 20210910 for Linux;  
 C/C++: Version 2021.4.0 of Intel C/C++ Compiler  
 Classic Build 20210910 for Linux;  
 Parallel: Yes  
 Firmware: Version 5.0.1d released Aug-2021  
 File System: btrfs  
 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 and OS set to prefer performance at the cost of additional power usage



# SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2022 Standard Performance Evaluation Corporation

## Cisco Systems

Cisco UCS X210c M6 (Intel Xeon Gold 6338T, 2.10GHz)

SPECspeed®2017\_fp\_base = 180

SPECspeed®2017\_fp\_peak = 182

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

**Test Date:** Dec-2021  
**Hardware Availability:** Sep-2021  
**Software Availability:** Sep-2021

## Results Table

Benchmark	Base						Peak							
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio		
603.bwaves_s	48	86.1	685	<b><u>86.7</u></b>	<b><u>680</u></b>	87.1	677	48	86.5	682	<b><u>86.6</u></b>	<b><u>681</u></b>	87.0	678
607.cactuBSSN_s	48	<b><u>75.0</u></b>	<b><u>222</u></b>	74.8	223	75.1	222	48	<b><u>75.0</u></b>	<b><u>222</u></b>	74.8	223	75.1	222
619.lbm_s	48	39.9	131	<b><u>39.3</u></b>	<b><u>133</u></b>	39.3	133	48	39.9	131	<b><u>39.3</u></b>	<b><u>133</u></b>	39.3	133
621.wrf_s	48	93.5	141	<b><u>93.6</u></b>	<b><u>141</u></b>	93.9	141	48	89.1	148	<b><u>89.2</u></b>	<b><u>148</u></b>	89.4	148
627.cam4_s	48	70.6	126	71.7	124	<b><u>71.6</u></b>	<b><u>124</u></b>	48	70.6	126	71.7	124	<b><u>71.6</u></b>	<b><u>124</u></b>
628.pop2_s	48	<b><u>159</u></b>	<b><u>74.5</u></b>	159	74.7	160	74.3	48	<b><u>159</u></b>	<b><u>74.5</u></b>	159	74.7	160	74.3
638.imagick_s	48	<b><u>77.2</u></b>	<b><u>187</u></b>	77.1	187	77.4	186	48	<b><u>77.2</u></b>	<b><u>187</u></b>	77.1	187	77.4	186
644.nab_s	48	<b><u>58.6</u></b>	<b><u>298</u></b>	58.6	298	58.7	298	48	56.0	312	<b><u>56.0</u></b>	<b><u>312</u></b>	56.0	312
649.fotonik3d_s	48	<b><u>83.9</u></b>	<b><u>109</u></b>	83.5	109	84.2	108	48	84.3	108	<b><u>83.7</u></b>	<b><u>109</u></b>	83.5	109
654.roms_s	48	<b><u>70.6</u></b>	<b><u>223</u></b>	70.3	224	70.8	222	48	<b><u>70.6</u></b>	<b><u>223</u></b>	70.3	224	70.8	222

SPECspeed®2017\_fp\_base = **180**

SPECspeed®2017\_fp\_peak = **182**

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"

## Environment Variables Notes

Environment variables set by runcpu before the start of the run:  
KMP\_AFFINITY = "granularity=fine,compact"  
MALLOC\_CONF = "retain:true"  
OMP\_STACKSIZE = "192M"

## 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  
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.  
jemalloc, a general purpose malloc implementation  
built with the RedHat Enterprise 7.5, and the system compiler gcc 4.8.5  
sources available from jemalloc.net or <https://github.com/jemalloc/jemalloc/releases>



# SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2022 Standard Performance Evaluation Corporation

## Cisco Systems

Cisco UCS X210c M6 (Intel Xeon Gold 6338T, 2.10GHz)

SPECspeed®2017\_fp\_base = 180

SPECspeed®2017\_fp\_peak = 182

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

**Test Date:** Dec-2021  
**Hardware Availability:** Sep-2021  
**Software Availability:** Sep-2021

### Platform Notes

#### BIOS Settings:

Adjacent Cache Line Prefetcher set to Disabled  
DCU Streamer Prefetch set to Disabled  
Sub NUMA Clustering set to Enabled  
LLC Dead Line set to Disabled  
Memory Refresh Rate set to 1x Refresh  
ADDDC Sparing set to Disabled  
Patrol Scrub set to Disabled  
Intel Hyper-Threading Technology set to Disabled

Sysinfo program /home/cpu2017/bin/sysinfo  
Rev: r6622 of 2021-04-07 982a61ec0915b55891ef0e16acafc64d  
running on perf-blade2 Mon Dec 6 22:35:52 2021

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 6338T CPU @ 2.10GHz
 2 "physical id"s (chips)
 48 "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 : 24
siblings : 24
physical 0: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
physical 1: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
```

#### From lscpu from util-linux 2.33.1:

```
Architecture: x86_64
CPU op-mode(s): 32-bit, 64-bit
Byte Order: Little Endian
Address sizes: 46 bits physical, 57 bits virtual
CPU(s): 48
On-line CPU(s) list: 0-47
Thread(s) per core: 1
Core(s) per socket: 24
Socket(s): 2
NUMA node(s): 2
Vendor ID: GenuineIntel
CPU family: 6
Model: 106
Model name: Intel(R) Xeon(R) Gold 6338T CPU @ 2.10GHz
Stepping: 6
CPU MHz: 801.009
CPU max MHz: 3400.0000
```

(Continued on next page)



# SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2022 Standard Performance Evaluation Corporation

## Cisco Systems

Cisco UCS X210c M6 (Intel Xeon Gold 6338T, 2.10GHz)

SPECspeed®2017\_fp\_base = 180

SPECspeed®2017\_fp\_peak = 182

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

**Test Date:** Dec-2021  
**Hardware Availability:** Sep-2021  
**Software Availability:** Sep-2021

### Platform Notes (Continued)

```

CPU min MHz:      800.0000
BogoMIPS:         4200.00
Virtualization:   VT-x
L1d cache:       48K
L1i cache:       32K
L2 cache:        1280K
L3 cache:        36864K
NUMA node0 CPU(s): 0-23
NUMA node1 CPU(s): 24-47
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
aperfmpperf pni pclmulqdq dtes64 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 invpcid_single ssbd
mba ibrs ibpb stibp ibrs_enhanced tpr_shadow vnmi flexpriority ept vpid ept_ad
fsgsbase tsc_adjust bmi1 hle avx2 smep bmi2 erms invpcid rtm cqm rdt_a avx512f
avx512dq rdseed adx smap avx512ifma clflushopt clwb intel_pt avx512cd sha_ni
avx512bw avx512vl xsaveopt xsavec xgetbv1 xsaves cqm_llc cqm_occup_llc cqm_mbm_total
cqm_mbm_local wbnoinvd dtherm ida arat pln pts hwp hwp_act_window hwp_epp
hwp_pkg_req avx512vbmi umip pku ospke avx512_vbmi2 gfni vaes vpclmulqdq avx512_vnni
avx512_bitalg tme avx512_vpopcntdq la57 rdpid md_clear pconfig flush_l1d
arch_capabilities

```

```

/proc/cpuinfo cache data
cache size : 36864 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 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
node 0 size: 1031745 MB
node 0 free: 1025086 MB
node 1 cpus: 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47
node 1 size: 1032182 MB
node 1 free: 1030788 MB
node distances:
node  0  1
  0:  10  20
  1:  20  10

```

```

From /proc/meminfo
MemTotal:      2113462344 kB
HugePages_Total:      0
Hugepagesize:    2048 kB

```

```

/sys/devices/system/cpu/cpu*/cpufreq/scaling_governor has

```

(Continued on next page)



# SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2022 Standard Performance Evaluation Corporation

## Cisco Systems

Cisco UCS X210c M6 (Intel Xeon Gold 6338T, 2.10GHz)

SPECspeed®2017\_fp\_base = 180

SPECspeed®2017\_fp\_peak = 182

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

**Test Date:** Dec-2021  
**Hardware Availability:** Sep-2021  
**Software Availability:** Sep-2021

### Platform Notes (Continued)

performance

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

```
os-release:
```

```
NAME="SLES"
VERSION="15-SP2"
VERSION_ID="15.2"
PRETTY_NAME="SUSE Linux Enterprise Server 15 SP2"
ID="sles"
ID_LIKE="suse"
ANSI_COLOR="0;32"
CPE_NAME="cpe:/o:suse:sles:15:sp2"
```

```
uname -a:
```

```
Linux perf-blade2 5.3.18-22-default #1 SMP Wed Jun 3 12:16:43 UTC 2020 (720aeba)
x86_64 x86_64 x86_64 GNU/Linux
```

Kernel self-reported vulnerability status:

CVE-2018-12207 (iTLB Multihit):	Not affected
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: usercopy/swapgs barriers and __user pointer sanitization
CVE-2017-5715 (Spectre variant 2):	Mitigation: Enhanced IBRS, IBPB: conditional, RSB filling
CVE-2020-0543 (Special Register Buffer Data Sampling):	Not affected
CVE-2019-11135 (TSX Asynchronous Abort):	Not affected

```
run-level 3 Dec 6 18:05
```

```
SPEC is set to: /home/cpu2017
```

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
/dev/sda4	btrfs	218G	48G	170G	23%	/home

```
From /sys/devices/virtual/dmi/id
Vendor: Cisco Systems Inc
Product: UCSX-210C-M6
Serial: FCH250671KR
```

Additional information from dmidecode 3.2 follows. WARNING: Use caution when you interpret this section. The 'dmidecode' program reads system data which is "intended to

(Continued on next page)



# SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2022 Standard Performance Evaluation Corporation

## Cisco Systems

Cisco UCS X210c M6 (Intel Xeon Gold 6338T, 2.10GHz)

SPECSpeed®2017\_fp\_base = 180

SPECSpeed®2017\_fp\_peak = 182

CPU2017 License: 9019

Test Sponsor: Cisco Systems

Tested by: Cisco Systems

Test Date: Dec-2021

Hardware Availability: Sep-2021

Software Availability: Sep-2021

### Platform Notes (Continued)

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:

32x 0xCE00 M393A8G40AB2-CWE 64 GB 2 rank 3200

BIOS:

BIOS Vendor: Cisco Systems, Inc.  
BIOS Version: X210M6.5.0.1d.0.0816211754  
BIOS Date: 08/16/2021  
BIOS Revision: 5.22

(End of data from sysinfo program)

### Compiler Version Notes

```
=====
C          | 619.lbm_s(base, peak) 638.imagick_s(base, peak)
          | 644.nab_s(base)
-----
```

```
Intel(R) C Intel(R) 64 Compiler Classic for applications running on Intel(R)
64, Version 2021.4.0 Build 20210910_000000
Copyright (C) 1985-2021 Intel Corporation. All rights reserved.
-----
```

```
=====
C          | 644.nab_s(peak)
-----
```

```
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64,
Version 2021.4.0 Build 20210924
Copyright (C) 1985-2021 Intel Corporation. All rights reserved.
-----
```

```
=====
C          | 619.lbm_s(base, peak) 638.imagick_s(base, peak)
          | 644.nab_s(base)
-----
```

```
Intel(R) C Intel(R) 64 Compiler Classic for applications running on Intel(R)
64, Version 2021.4.0 Build 20210910_000000
Copyright (C) 1985-2021 Intel Corporation. All rights reserved.
-----
```

```
=====
C          | 644.nab_s(peak)
-----
```

```
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64,
Version 2021.4.0 Build 20210924
```

(Continued on next page)



# SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2022 Standard Performance Evaluation Corporation

## Cisco Systems

Cisco UCS X210c M6 (Intel Xeon Gold 6338T, 2.10GHz)

SPECspeed®2017\_fp\_base = 180

SPECspeed®2017\_fp\_peak = 182

**CPU2017 License:** 9019

**Test Sponsor:** Cisco Systems

**Tested by:** Cisco Systems

**Test Date:** Dec-2021

**Hardware Availability:** Sep-2021

**Software Availability:** Sep-2021

### Compiler Version Notes (Continued)

Copyright (C) 1985-2021 Intel Corporation. All rights reserved.

=====  
C++, C, Fortran | 607.cactuBSSN\_s(base, peak)  
=====

Intel(R) C++ Intel(R) 64 Compiler Classic for applications running on  
Intel(R) 64, Version 2021.4.0 Build 20210910\_000000  
Copyright (C) 1985-2021 Intel Corporation. All rights reserved.  
Intel(R) C Intel(R) 64 Compiler Classic for applications running on Intel(R)  
64, Version 2021.4.0 Build 20210910\_000000  
Copyright (C) 1985-2021 Intel Corporation. All rights reserved.  
Intel(R) Fortran Intel(R) 64 Compiler Classic for applications running on  
Intel(R) 64, Version 2021.4.0 Build 20210910\_000000  
Copyright (C) 1985-2021 Intel Corporation. All rights reserved.

=====  
Fortran | 603.bwaves\_s(base, peak) 649.fotonik3d\_s(base, peak)  
| 654.roms\_s(base, peak)  
=====

Intel(R) Fortran Intel(R) 64 Compiler Classic for applications running on  
Intel(R) 64, Version 2021.4.0 Build 20210910\_000000  
Copyright (C) 1985-2021 Intel Corporation. All rights reserved.

=====  
Fortran, C | 621.wrf\_s(base, peak) 627.cam4\_s(base, peak)  
| 628.pop2\_s(base, peak)  
=====

Intel(R) Fortran Intel(R) 64 Compiler Classic for applications running on  
Intel(R) 64, Version 2021.4.0 Build 20210910\_000000  
Copyright (C) 1985-2021 Intel Corporation. All rights reserved.  
Intel(R) C Intel(R) 64 Compiler Classic for applications running on Intel(R)  
64, Version 2021.4.0 Build 20210910\_000000  
Copyright (C) 1985-2021 Intel Corporation. All rights reserved.

### Base Compiler Invocation

C benchmarks:  
icc

Fortran benchmarks:  
ifort

(Continued on next page)



# SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2022 Standard Performance Evaluation Corporation

## Cisco Systems

Cisco UCS X210c M6 (Intel Xeon Gold 6338T, 2.10GHz)

SPECspeed®2017\_fp\_base = 180

SPECspeed®2017\_fp\_peak = 182

CPU2017 License: 9019

Test Sponsor: Cisco Systems

Tested by: Cisco Systems

Test Date: Dec-2021

Hardware Availability: Sep-2021

Software Availability: Sep-2021

## Base Compiler Invocation (Continued)

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.cactuBSSN_s: -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:

```
-m64 -std=c11 -xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch
-ffinite-math-only -qopt-mem-layout-trans=4 -qopenmp -DSPEC_OPENMP
-mbranches-within-32B-boundaries
```

Fortran benchmarks:

```
-m64 -Wl,-z,muldefs -DSPEC_OPENMP -xCORE-AVX2 -ipo -O3 -no-prec-div
-qopt-prefetch -ffinite-math-only -qopt-mem-layout-trans=4 -qopenmp
-nostandard-realloc-lhs -mbranches-within-32B-boundaries
-L/home/cpu2017/je5.0.1-64 -ljemalloc
```

Benchmarks using both Fortran and C:

```
-m64 -std=c11 -Wl,-z,muldefs -xCORE-AVX2 -ipo -O3 -no-prec-div
-qopt-prefetch -ffinite-math-only -qopt-mem-layout-trans=4 -qopenmp
-DSPEC_OPENMP -mbranches-within-32B-boundaries -nostandard-realloc-lhs
-L/home/cpu2017/je5.0.1-64 -ljemalloc
```

Benchmarks using Fortran, C, and C++:

```
-m64 -std=c11 -Wl,-z,muldefs -xCORE-AVX2 -ipo -O3 -no-prec-div
-qopt-prefetch -ffinite-math-only -qopt-mem-layout-trans=4 -qopenmp
```

(Continued on next page)





# SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2022 Standard Performance Evaluation Corporation

## Cisco Systems

Cisco UCS X210c M6 (Intel Xeon Gold 6338T, 2.10GHz)

SPECspeed®2017\_fp\_base = 180

SPECspeed®2017\_fp\_peak = 182

**CPU2017 License:** 9019

**Test Sponsor:** Cisco Systems

**Tested by:** Cisco Systems

**Test Date:** Dec-2021

**Hardware Availability:** Sep-2021

**Software Availability:** Sep-2021

## Base Optimization Flags (Continued)

Benchmarks using Fortran, C, and C++ (continued):

```
-DSPEC_OPENMP -mbranches-within-32B-boundaries -nostandard-realloc-lhs
-L/home/cpu2017/je5.0.1-64 -ljemalloc
```

## Peak Compiler Invocation

C benchmarks (except as noted below):

```
icc
```

```
644.nab_s: icx
```

Fortran benchmarks:

```
ifort
```

Benchmarks using both Fortran and C:

```
ifort icc
```

Benchmarks using Fortran, C, and C++:

```
icpc icc ifort
```

## Peak Portability Flags

Same as Base Portability Flags

## Peak Optimization Flags

C benchmarks:

```
619.lbm_s: basepeak = yes
```

```
638.imagick_s: basepeak = yes
```

```
644.nab_s: -m64 -Wl,-z,muldefs -xCORE-AVX2 -Ofast -ffast-math
-flto -mfpmath=sse -funroll-loops -fiopenmp
-DSPEC_OPENMP -qopt-mem-layout-trans=4
-fimf-accuracy-bits=14:sqrt
-mbranches-within-32B-boundaries -L/home/cpu2017/je5.0.1-64
-ljemalloc
```

(Continued on next page)



# SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2022 Standard Performance Evaluation Corporation

## Cisco Systems

Cisco UCS X210c M6 (Intel Xeon Gold 6338T, 2.10GHz)

SPECspeed®2017\_fp\_base = 180

SPECspeed®2017\_fp\_peak = 182

**CPU2017 License:** 9019

**Test Sponsor:** Cisco Systems

**Tested by:** Cisco Systems

**Test Date:** Dec-2021

**Hardware Availability:** Sep-2021

**Software Availability:** Sep-2021

## Peak Optimization Flags (Continued)

Fortran benchmarks:

```
603.bwaves_s: -m64 -Wl,-z,muldefs -prof-gen(pass 1) -prof-use(pass 2)
-DSPEC_SUPPRESS_OPENMP -DSPEC_OPENMP -ipo -xCORE-AVX2
-O3 -no-prec-div -qopt-prefetch -ffinite-math-only
-qopt-mem-layout-trans=4 -qopenmp -nostandard-realloc-lhs
-mbranches-within-32B-boundaries -L/home/cpu2017/je5.0.1-64
-ljemalloc
```

649.fotonik3d\_s: Same as 603.bwaves\_s

654.roms\_s: basepeak = yes

Benchmarks using both Fortran and C:

```
621.wrf_s: -m64 -std=c11 -Wl,-z,muldefs -prof-gen(pass 1)
-prof-use(pass 2) -ipo -xCORE-AVX2 -O3 -no-prec-div
-qopt-prefetch -ffinite-math-only -qopt-mem-layout-trans=4
-DSPEC_SUPPRESS_OPENMP -qopenmp -DSPEC_OPENMP
-mbranches-within-32B-boundaries -nostandard-realloc-lhs
-L/home/cpu2017/je5.0.1-64 -ljemalloc
```

627.cam4\_s: basepeak = yes

628.pop2\_s: basepeak = yes

Benchmarks using Fortran, C, and C++:

607.cactuBSSN\_s: basepeak = yes

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

[http://www.spec.org/cpu2017/flags/Intel-ic2021-official-linux64\\_revA.2021-12-22.html](http://www.spec.org/cpu2017/flags/Intel-ic2021-official-linux64_revA.2021-12-22.html)

<http://www.spec.org/cpu2017/flags/Cisco-Platform-Settings-V1.0-ICX-revJ.html>

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

[http://www.spec.org/cpu2017/flags/Intel-ic2021-official-linux64\\_revA.2021-12-22.xml](http://www.spec.org/cpu2017/flags/Intel-ic2021-official-linux64_revA.2021-12-22.xml)

<http://www.spec.org/cpu2017/flags/Cisco-Platform-Settings-V1.0-ICX-revJ.xml>

SPEC CPU and SPECspeed 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](mailto:info@spec.org).

Tested with SPEC CPU®2017 v1.1.8 on 2021-12-07 01:35:52-0500.

Report generated on 2022-01-05 13:29:33 by CPU2017 PDF formatter v6442.

Originally published on 2022-01-04.