



# SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## Cisco Systems

Cisco UCS X210 M7  
(Intel Xeon Platinum 8562Y+, 2.80 GHz)

SPECspeed®2017\_fp\_base = 359

SPECspeed®2017\_fp\_peak = 359

CPU2017 License: 9019

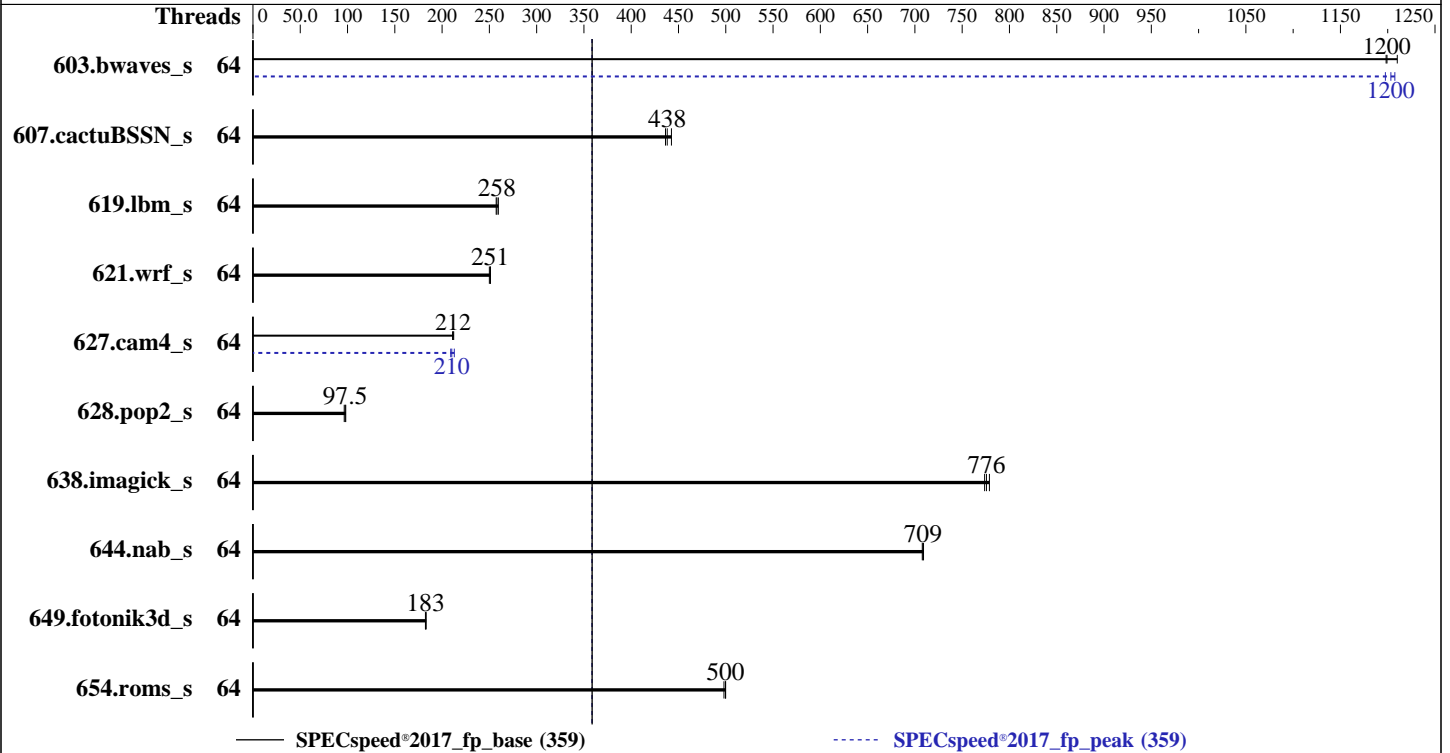
Test Sponsor: Cisco Systems

Tested by: Cisco Systems

Test Date: Feb-2024

Hardware Availability: Feb-2024

Software Availability: Dec-2023



### Hardware

CPU Name: Intel Xeon Platinum 8562Y+  
 Max MHz: 4100  
 Nominal: 2800  
 Enabled: 64 cores, 2 chips  
 Orderable: 1, 2 chip(s)  
 Cache L1: 32 KB I + 48 KB D on chip per core  
 L2: 2 MB I+D on chip per core  
 L3: 60 MB I+D on chip per chip  
 Other: None  
 Memory: 1 TB (16 x 64 GB 2Rx4 PC5-5600B-R, running at 4400)  
 Storage: 1 x 960 GB SATA SSD  
 Other: Cooling: Air

### Software

OS: SUSE Linux Enterprise Server 15 SP4  
 Kernel 5.14.21-150400.22-default  
 Compiler: C/C++: Version 2024.0.2 of Intel oneAPI DPC++/C++ Compiler for Linux;  
 Fortran: Version 2024.0.2 of Intel Fortran Compiler for Linux;  
 Parallel: Yes  
 Firmware: Version 4.3.3a released Jan-2024  
 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 power save with minimal impact on performance



# SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## Cisco Systems

Cisco UCS X210 M7  
(Intel Xeon Platinum 8562Y+, 2.80 GHz)

SPECSpeed®2017\_fp\_base = 359

SPECSpeed®2017\_fp\_peak = 359

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

**Test Date:** Feb-2024  
**Hardware Availability:** Feb-2024  
**Software Availability:** Dec-2023

## Results Table

Benchmark	Base							Peak						
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
603.bwaves_s	64	49.2	1200	<b><u>49.2</u></b>	<b><u>1200</u></b>	48.8	1210	64	48.9	1210	<b><u>49.0</u></b>	<b><u>1200</u></b>	49.3	1200
607.cactuBSSN_s	64	37.7	443	<b><u>38.1</u></b>	<b><u>438</u></b>	38.2	436	64	37.7	443	<b><u>38.1</u></b>	<b><u>438</u></b>	38.2	436
619.lbm_s	64	<b><u>20.3</u></b>	<b><u>258</u></b>	20.2	260	20.4	257	64	<b><u>20.3</u></b>	<b><u>258</u></b>	20.2	260	20.4	257
621.wrf_s	64	52.9	250	<b><u>52.7</u></b>	<b><u>251</u></b>	52.7	251	64	52.9	250	<b><u>52.7</u></b>	<b><u>251</u></b>	52.7	251
627.cam4_s	64	41.8	212	42.0	211	<b><u>41.9</u></b>	<b><u>212</u></b>	64	42.4	209	41.6	213	<b><u>42.2</u></b>	<b><u>210</u></b>
628.pop2_s	64	123	96.5	121	98.1	<b><u>122</u></b>	<b><u>97.5</u></b>	64	123	96.5	121	98.1	<b><u>122</u></b>	<b><u>97.5</u></b>
638.imagick_s	64	18.5	779	18.6	774	<b><u>18.6</u></b>	<b><u>776</u></b>	64	18.5	779	18.6	774	<b><u>18.6</u></b>	<b><u>776</u></b>
644.nab_s	64	<b><u>24.7</u></b>	<b><u>709</u></b>	24.7	708	24.6	709	64	<b><u>24.7</u></b>	<b><u>709</u></b>	24.7	708	24.6	709
649.fotonik3d_s	64	<b><u>49.9</u></b>	<b><u>183</u></b>	50.0	182	49.8	183	64	<b><u>49.9</u></b>	<b><u>183</u></b>	50.0	182	49.8	183
654.roms_s	64	31.6	498	<b><u>31.5</u></b>	<b><u>500</u></b>	31.5	500	64	31.6	498	<b><u>31.5</u></b>	<b><u>500</u></b>	31.5	500

SPECSpeed®2017\_fp\_base = **359**

SPECSpeed®2017\_fp\_peak = **359**

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"  
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

## Environment Variables Notes

Environment variables set by runcpu before the start of the run:  
KMP\_AFFINITY = "granularity=fine,compact"  
LD\_LIBRARY\_PATH = "/home/cpu2017/lib/intel64:/home/cpu2017/je5.0.1-64"  
MALLOC\_CONF = "retain:true"  
OMP\_STACKSIZE = "192M"

## General Notes

Binaries compiled on a system with 2x Intel Xeon Platinum 8280M CPU + 384GB RAM  
memory using Redhat Enterprise Linux 8.0  
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>

## Platform Notes

BIOS Settings:  
Intel Hyper-Threading Technology set to Disabled  
DCU streamer prefetch set to Disabled

(Continued on next page)



# SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## Cisco Systems

Cisco UCS X210 M7  
(Intel Xeon Platinum 8562Y+, 2.80 GHz)

SPECspeed®2017\_fp\_base = 359

SPECspeed®2017\_fp\_peak = 359

**CPU2017 License:** 9019

**Test Sponsor:** Cisco Systems

**Tested by:** Cisco Systems

**Test Date:** Feb-2024

**Hardware Availability:** Feb-2024

**Software Availability:** Dec-2023

## Platform Notes (Continued)

Enhanced CPU performance set to Auto  
LLC Dead Line set to Disabled  
Processor C6 Report set to Enabled  
ADDDC Sparing set to Disabled

Sysinfo program /home/cpu2017/bin/sysinfo  
Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197  
running on emr-x210m7 Mon Mar 11 22:11:34 2024

SUT (System Under Test) info as seen by some common utilities.

### ----- Table of contents -----

1. uname -a
2. w
3. Username
4. ulimit -a
5. sysinfo process ancestry
6. /proc/cpuinfo
7. lscpu
8. numactl --hardware
9. /proc/meminfo
10. who -r
11. Systemd service manager version: systemd 249 (249.11+suse.124.g2bc0b2c447)
12. Services, from systemctl list-unit-files
13. Linux kernel boot-time arguments, from /proc/cmdline
14. cpupower frequency-info
15. sysctl
16. /sys/kernel/mm/transparent\_hugepage
17. /sys/kernel/mm/transparent\_hugepage/khugepaged
18. OS release
19. Disk information
20. /sys/devices/virtual/dmi/id
21. dmidecode
22. BIOS

-----  
1. uname -a  
Linux emr-x210m7 5.14.21-150400.22-default #1 SMP PREEMPT\_DYNAMIC Wed May 11 06:57:18 UTC 2022 (49db222)  
x86\_64 x86\_64 x86\_64 GNU/Linux  
-----

-----  
2. w  
22:11:34 up 6 min, 1 user, load average: 0.06, 0.12, 0.08  
USER TTY FROM LOGIN@ IDLE JCPU PCPU WHAT  
root tty1 - 22:10 6.00s 1.06s 0.24s -bash  
-----

-----  
3. Username  
From environment variable \$USER: root  
-----

-----  
4. ulimit -a  
core file size (blocks, -c) unlimited  
data seg size (kbytes, -d) unlimited  
scheduling priority (-e) 0  
file size (blocks, -f) unlimited  
-----

(Continued on next page)



# SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## Cisco Systems

Cisco UCS X210 M7  
(Intel Xeon Platinum 8562Y+, 2.80 GHz)

SPECspeed®2017\_fp\_base = 359

SPECspeed®2017\_fp\_peak = 359

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

**Test Date:** Feb-2024  
**Hardware Availability:** Feb-2024  
**Software Availability:** Dec-2023

### Platform Notes (Continued)

```

pending signals          (-i) 4126951
max locked memory       (kbytes, -l) 64
max memory size         (kbytes, -m) unlimited
open files              (-n) 1024
pipe size               (512 bytes, -p) 8
POSIX message queues   (bytes, -q) 819200
real-time priority     (-r) 0
stack size              (kbytes, -s) unlimited
cpu time                (seconds, -t) unlimited
max user processes     (-u) 4126951
virtual memory          (kbytes, -v) unlimited
file locks              (-x) unlimited

```

```

-----
5. sysinfo process ancestry
/usr/lib/systemd/systemd --switched-root --system --deserialize 30
login -- root
-bash
sh runspeed.sh
runcpu --define default-platform-flags -c ic2024.0.2-lin-sapphirerapids-speed-20231213.cfg --define cores=64
--tune all -o all --define drop_caches fpspeed
runcpu --define default-platform-flags --configfile ic2024.0.2-lin-sapphirerapids-speed-20231213.cfg
--define cores=64 --tune all --output_format all --define drop_caches --nopower --runmode speed --tune
base:peak --size refspeed fpspeed --nopreenv --note-preenv --logfile
$SPEC/tmp/CPU2017.029/temlogs/preenv.fpspeed.029.0.log --lognum 029.0 --from_runcpu 2
specperl $SPEC/bin/sysinfo
$SPEC = /home/cpu2017

```

```

-----
6. /proc/cpuinfo
model name      : INTEL(R) XEON(R) PLATINUM 8562Y+
vendor_id      : GenuineIntel
cpu family     : 6
model          : 207
stepping       : 2
microcode     : 0x21000200
bugs           : spectre_v1 spectre_v2 spec_store_bypass swapgs
cpu cores     : 32
siblings      : 32
2 physical ids (chips)
64 processors (hardware threads)
physical id 0: core ids 0-31
physical id 1: core ids 0-31
physical id 0: apicids
0,2,4,6,8,10,12,14,16,18,20,22,24,26,28,30,32,34,36,38,40,42,44,46,48,50,52,54,56,58,60,62
physical id 1: apicids
128,130,132,134,136,138,140,142,144,146,148,150,152,154,156,158,160,162,164,166,168,170,172,174,176,178,1
80,182,184,186,188,190
Caution: /proc/cpuinfo data regarding chips, cores, and threads is not necessarily reliable, especially for
virtualized systems. Use the above data carefully.

```

```

-----
7. lscpu

From lscpu from util-linux 2.37.2:
Architecture:      x86_64
CPU op-mode(s):   32-bit, 64-bit
Address sizes:     46 bits physical, 57 bits virtual
Byte Order:       Little Endian
CPU(s):           64

```

(Continued on next page)



# SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## Cisco Systems

Cisco UCS X210 M7  
(Intel Xeon Platinum 8562Y+, 2.80 GHz)

SPECspeed®2017\_fp\_base = 359

SPECspeed®2017\_fp\_peak = 359

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

**Test Date:** Feb-2024  
**Hardware Availability:** Feb-2024  
**Software Availability:** Dec-2023

### Platform Notes (Continued)

```

On-line CPU(s) list:          0-63
Vendor ID:                   GenuineIntel
Model name:                   INTEL(R) XEON(R) PLATINUM 8562Y+
CPU family:                   6
Model:                        207
Thread(s) per core:          1
Core(s) per socket:          32
Socket(s):                    2
Stepping:                     2
CPU max MHz:                  4100.0000
CPU min MHz:                  800.0000
BogoMIPS:                     5600.00
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 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 cat_l2 cdp_l3
                                invpcid_single cdp_l2 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 avx_vnni avx512_bf16 wbnoinvd dtherm ida arat pln pts hwp
                                hwp_act_window hwp_epp hwp_pkg_req avx512vbmi umip pku ospke waitpkg
                                avx512_vbmi2 gfni vaes vpclmulqdq avx512_vnni avx512_bitalg tme
                                avx512_vpopcntdq la57 rdpid bus_lock_detect cldemote movdiri movdir64b
                                enqcmd fsrm md_clear serialize tsxldtrk pconfig arch_lbr avx512_fp16
                                amx_tile flush_lld arch_capabilities

Virtualization:              VT-x
L1d cache:                   3 MiB (64 instances)
L1i cache:                   2 MiB (64 instances)
L2 cache:                    128 MiB (64 instances)
L3 cache:                    120 MiB (2 instances)
NUMA node(s):                2
NUMA node0 CPU(s):           0-31
NUMA node1 CPU(s):           32-63
Vulnerability Itlb multihit: Not affected
Vulnerability L1tf:          Not affected
Vulnerability Mds:           Not affected
Vulnerability Meltdown:     Not affected
Vulnerability Spec store bypass: Mitigation; Speculative Store Bypass disabled via prctl and seccomp
Vulnerability Spectre v1:    Mitigation; usercopy/swapgs barriers and __user pointer sanitization
Vulnerability Spectre v2:    Mitigation; Enhanced IBRS, IBPB conditional, RSB filling
Vulnerability Srbds:         Not affected
Vulnerability Tsx async abort: Not affected

```

From lscpu --cache:

NAME	ONE-SIZE	ALL-SIZE	WAYS	TYPE	LEVEL	SETS	PHY-LINE	COHERENCY-SIZE
L1d	48K	3M	12	Data	1	64	1	64
L1i	32K	2M	8	Instruction	1	64	1	64
L2	2M	128M	16	Unified	2	2048	1	64
L3	60M	120M	15	Unified	3	65536	1	64

8. numactl --hardware

NOTE: a numactl 'node' might or might not correspond to a physical chip.

available: 2 nodes (0-1)

node 0 cpus: 0-31

(Continued on next page)



# SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## Cisco Systems

Cisco UCS X210 M7  
(Intel Xeon Platinum 8562Y+, 2.80 GHz)

SPECspeed®2017\_fp\_base = 359

SPECspeed®2017\_fp\_peak = 359

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

**Test Date:** Feb-2024  
**Hardware Availability:** Feb-2024  
**Software Availability:** Dec-2023

### Platform Notes (Continued)

```
node 0 size: 515737 MB
node 0 free: 514600 MB
node 1 cpus: 32-63
node 1 size: 516024 MB
node 1 free: 515275 MB
node distances:
node  0  1
  0:  10  21
  1:  21  10
```

```
-----
9. /proc/meminfo
   MemTotal:      1056524008 kB
-----
```

```
10. who -r
    run-level 3 Mar 11 22:05
-----
```

```
11. Systemd service manager version: systemd 249 (249.11+suse.124.g2bc0b2c447)
    Default Target Status
    multi-user      running
-----
```

```
12. Services, from systemctl list-unit-files
STATE UNIT FILES
enabled YaST2-Firstboot YaST2-Second-Stage auditd cron getty@ haveged irqbalance issue-generator kbdsettings klog lvm2-monitor nscd nvme-fc-boot-connections postfix purge-kernels rollback rsyslog smartd sshd wicked wickedd-auto4 wickedd-dhcp4 wickedd-dhcp6 wickedd-nanny
enabled-runtime systemd-remount-fs
disabled autofs autoyast-initscripts blk-availability boot-sysctl ca-certificates chrony-wait chronyd console-getty cups cups-browsed debug-shell ebttables exchange-bmc-os-info firewallld gpm grub2-once haveged-switch-root ipmi ipmievd issue-add-ssh-keys kexec-load lunmask man-db-create multipathd nfs nfs-blkmap nvme-fc-autoconnect rdisc rpcbind rpmconfigcheck rsyncd serial-getty@ smartd_generate_opts snmpd snmptrapd svnservice systemd-boot-check-no-failures systemd-network-generator systemd-sysext systemd-time-wait-sync systemd-timesyncd udisks2
indirect wickedd
-----
```

```
13. Linux kernel boot-time arguments, from /proc/cmdline
BOOT_IMAGE=/boot/vmlinuz-5.14.21-150400.22-default
root=UUID=8d80b0cd-65b9-44c1-ac60-b6d545ca7460
splash=silent
mitigations=auto
quiet
security=
-----
```

```
14. cpupower frequency-info
analyzing CPU 0:
  current policy: frequency should be within 800 MHz and 4.10 GHz.
                  The governor "performance" may decide which speed to use
                  within this range.

  boost state support:
    Supported: yes
    Active: yes
-----
```

```
15. sysctl
-----
```

(Continued on next page)



# SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## Cisco Systems

Cisco UCS X210 M7  
(Intel Xeon Platinum 8562Y+, 2.80 GHz)

SPECspeed®2017\_fp\_base = 359

SPECspeed®2017\_fp\_peak = 359

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

**Test Date:** Feb-2024  
**Hardware Availability:** Feb-2024  
**Software Availability:** Dec-2023

### Platform Notes (Continued)

```

kernel.numa_balancing          1
kernel.randomize_va_space      2
vm.compaction_proactiveness    20
vm.dirty_background_bytes      0
vm.dirty_background_ratio     10
vm.dirty_bytes                 0
vm.dirty_expire_centisecs     3000
vm.dirty_ratio                20
vm.dirty_writeback_centisecs  500
vm.dirtytime_expire_seconds   43200
vm.extfrag_threshold          500
vm.min_unmapped_ratio         1
vm.nr_hugepages                0
vm.nr_hugepages_mempolicy     0
vm.nr_overcommit_hugepages    0
vm.swappiness                  1
vm.watermark_boost_factor     15000
vm.watermark_scale_factor     10
vm.zone_reclaim_mode          0

```

```

-----
16. /sys/kernel/mm/transparent_hugepage
defrag      [always] defer defer+madvise madvise never
enabled     [always] madvise never
hpage_pmd_size 2097152
shmem_enabled always within_size advise [never] deny force

```

```

-----
17. /sys/kernel/mm/transparent_hugepage/khugepaged
alloc_sleep_millisecs 60000
defrag                1
max_ptes_none         511
max_ptes_shared       256
max_ptes_swap         64
pages_to_scan         4096
scan_sleep_millisecs 10000

```

```

-----
18. OS release
From /etc/*-release /etc/*-version
os-release SUSE Linux Enterprise Server 15 SP4

```

```

-----
19. Disk information
SPEC is set to: /home/cpu2017
Filesystem  Type  Size  Used Avail Use% Mounted on
/dev/sdb2   xfs   893G  33G  861G  4% /

```

```

-----
20. /sys/devices/virtual/dmi/id
Vendor:      Cisco Systems Inc
Product:     UCSX-210C-M7
Serial:      FCH270978GR

```

```

-----
21. dmidecode
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 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.

```

(Continued on next page)



# SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## Cisco Systems

Cisco UCS X210 M7  
(Intel Xeon Platinum 8562Y+, 2.80 GHz)

SPECspeed®2017\_fp\_base = 359

SPECspeed®2017\_fp\_peak = 359

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

**Test Date:** Feb-2024  
**Hardware Availability:** Feb-2024  
**Software Availability:** Dec-2023

## Platform Notes (Continued)

Memory:  
16x 0xCE00 M321R8GA0PB0-CWMCH 64 GB 2 rank 5600

-----  
22. BIOS  
(This section combines info from /sys/devices and dmidecode.)  
BIOS Vendor: Cisco Systems, Inc.  
BIOS Version: X210M7.4.3.3a.0.0118241337  
BIOS Date: 01/18/2024  
BIOS Revision: 5.32

## Compiler Version Notes

=====  
C | 619.lbm\_s(base, peak) 638.imagick\_s(base, peak) 644.nab\_s(base, peak)  
=====

Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2024.0.2 Build 20231213  
Copyright (C) 1985-2023 Intel Corporation. All rights reserved.  
=====

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

Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2024.0.2 Build 20231213  
Copyright (C) 1985-2023 Intel Corporation. All rights reserved.  
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2024.0.2 Build 20231213  
Copyright (C) 1985-2023 Intel Corporation. All rights reserved.  
Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2024.0.2 Build 20231213  
Copyright (C) 1985-2023 Intel Corporation. All rights reserved.  
=====

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

Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2024.0.2 Build 20231213  
Copyright (C) 1985-2023 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 Compiler for applications running on Intel(R) 64, Version 2024.0.2 Build 20231213  
Copyright (C) 1985-2023 Intel Corporation. All rights reserved.  
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2024.0.2 Build 20231213  
Copyright (C) 1985-2023 Intel Corporation. All rights reserved.  
=====

## Base Compiler Invocation

C benchmarks:  
icx

Fortran benchmarks:  
ifx

(Continued on next page)





# SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

**Cisco Systems**

Cisco UCS X210 M7  
(Intel Xeon Platinum 8562Y+, 2.80 GHz)

SPECspeed®2017\_fp\_base = 359

SPECspeed®2017\_fp\_peak = 359

CPU2017 License: 9019

Test Sponsor: Cisco Systems

Tested by: Cisco Systems

Test Date: Feb-2024

Hardware Availability: Feb-2024

Software Availability: Dec-2023

## Base Compiler Invocation (Continued)

Benchmarks using both Fortran and C:

ifx icx

Benchmarks using Fortran, C, and C++:

icpx icx ifx

## 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:

```
-w -std=c11 -m64 -Wl,-z,muldefs -xsapphirerapids -Ofast -ffast-math
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4 -fiopenmp
-DSPEC_OPENMP -Wno-implicit-int -mprefer-vector-width=512
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc
```

Fortran benchmarks:

```
-w -m64 -Wl,-z,muldefs -DSPEC_OPENMP -xsapphirerapids -Ofast
-ffast-math -flto -mfpmath=sse -funroll-loops
-qopt-mem-layout-trans=4 -fiopenmp -nostandard-realloc-lhs
-align array32byte -auto -L/usr/local/jemalloc64-5.0.1/lib -ljemalloc
```

Benchmarks using both Fortran and C:

```
-w -m64 -std=c11 -Wl,-z,muldefs -xsapphirerapids -Ofast -ffast-math
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4 -fiopenmp
-DSPEC_OPENMP -Wno-implicit-int -mprefer-vector-width=512
-nostandard-realloc-lhs -align array32byte -auto
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc
```

(Continued on next page)



# SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## Cisco Systems

Cisco UCS X210 M7  
(Intel Xeon Platinum 8562Y+, 2.80 GHz)

SPECspeed®2017\_fp\_base = 359

SPECspeed®2017\_fp\_peak = 359

**CPU2017 License:** 9019

**Test Sponsor:** Cisco Systems

**Tested by:** Cisco Systems

**Test Date:** Feb-2024

**Hardware Availability:** Feb-2024

**Software Availability:** Dec-2023

## Base Optimization Flags (Continued)

Benchmarks using Fortran, C, and C++:

```
-w -std=c++14 -m64 -std=c11 -Wl,-z,muldefs -xsaphirerapids -Ofast
-ffast-math -fltto -mfpmath=sse -funroll-loops
-gopt-mem-layout-trans=4 -fiopenmp -DSPEC_OPENMP -Wno-implicit-int
-mprefer-vector-width=512 -nostandard-realloc-lhs -align array32byte
-auto -L/usr/local/jemalloc64-5.0.1/lib -ljemalloc
```

## Peak Compiler Invocation

C benchmarks:

icx

Fortran benchmarks:

ifx

Benchmarks using both Fortran and C:

ifx icx

Benchmarks using Fortran, C, and C++:

icpx icx ifx

## 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: basepeak = yes

Fortran benchmarks:

(Continued on next page)



# SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## Cisco Systems

Cisco UCS X210 M7  
(Intel Xeon Platinum 8562Y+, 2.80 GHz)

SPECspeed®2017\_fp\_base = 359

SPECspeed®2017\_fp\_peak = 359

**CPU2017 License:** 9019

**Test Sponsor:** Cisco Systems

**Tested by:** Cisco Systems

**Test Date:** Feb-2024

**Hardware Availability:** Feb-2024

**Software Availability:** Dec-2023

## Peak Optimization Flags (Continued)

```
603.bwaves_s: -w -m64 -Wl,-z,muldefs -DSPEC_OPENMP -xsapphirerapids
-Ofast -ffast-math -flto -mfpmath=sse -funroll-loops
-qopt-mem-layout-trans=4 -fiopenmp -nostandard-realloc-lhs
-align array32byte -auto -L/usr/local/jemalloc64-5.0.1/lib
-ljemalloc
```

649.fotonik3d\_s: basepeak = yes

654.roms\_s: basepeak = yes

Benchmarks using both Fortran and C:

621.wrf\_s: basepeak = yes

```
627.cam4_s: -w -m64 -std=c11 -Wl,-z,muldefs -xsapphirerapids -Ofast
-ffast-math -flto -mfpmath=sse -funroll-loops
-qopt-mem-layout-trans=4 -fiopenmp -DSPEC_OPENMP
-Wno-implicit-int -mprefer-vector-width=512
-nostandard-realloc-lhs -align array32byte -auto
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc
```

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-ic2023p2-official-linux64.html>

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

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

<http://www.spec.org/cpu2017/flags/Intel-ic2023p2-official-linux64.xml>

<http://www.spec.org/cpu2017/flags/Cisco-Platform-Settings-V1.0-EMR-revB.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 v1.1.9 on 2024-03-12 01:11:33-0400.

Report generated on 2024-03-27 20:32:12 by CPU2017 PDF formatter v6716.

Originally published on 2024-03-26.