



# SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

## Cisco Systems

Cisco UCS X210c M8 (Intel Xeon 6507P 3.50 GHz processor)

**SPECSpeed®2017\_fp\_base = 183**

**SPECSpeed®2017\_fp\_peak = 183**

CPU2017 License: 9019

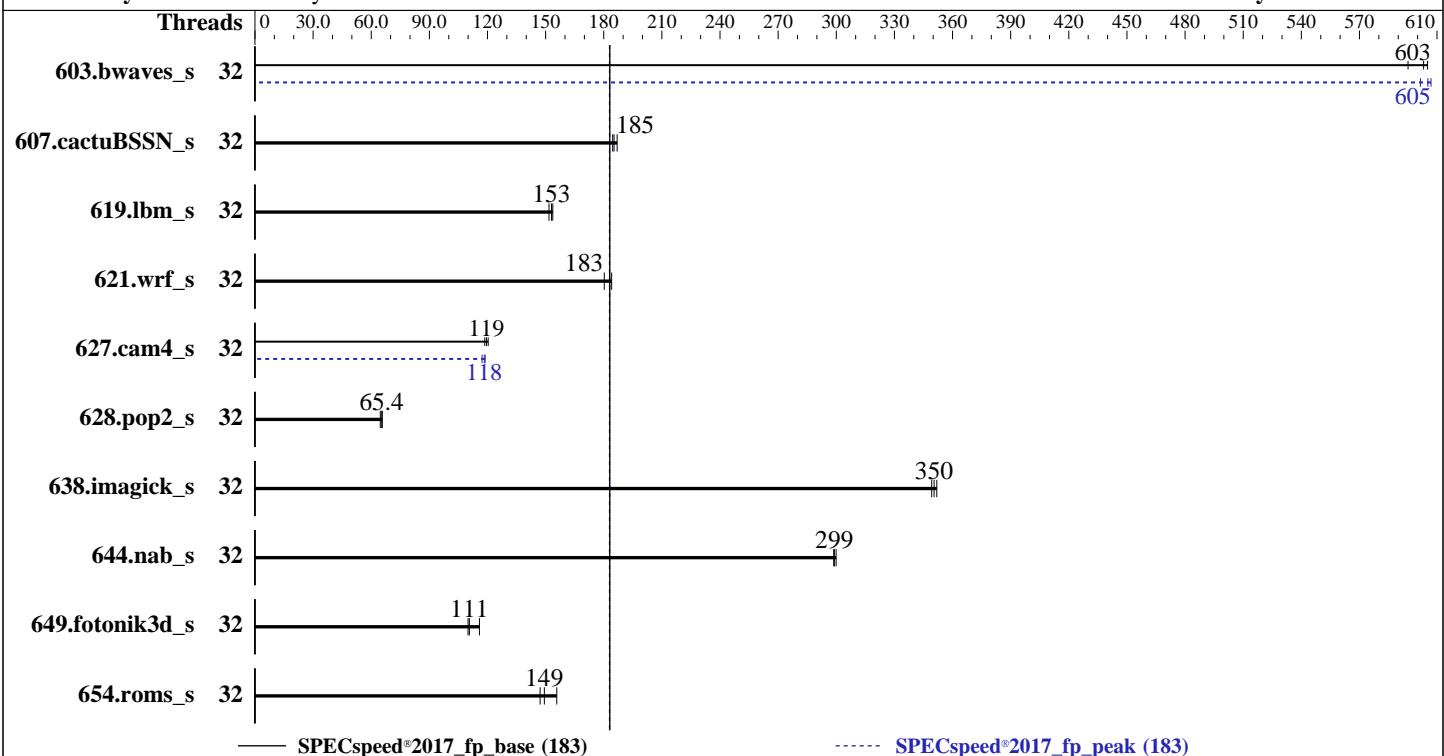
**Test Date:** Sep-2025

**Test Sponsor:** Cisco Systems

**Hardware Availability:** Feb-2025

**Tested by:** Cisco Systems

**Software Availability:** Jun-2024



### Hardware

CPU Name: Intel Xeon 6507P  
 Max MHz: 4300  
 Nominal: 3500  
 Enabled: 16 cores, 2 chips, 2 threads/core  
 Orderable: 1,2 chips  
 Cache L1: 64 KB I + 48 KB D on chip per core  
 L2: 2 MB I+D on chip per core  
 L3: 48 MB I+D on chip per chip  
 Other: None  
 Memory: 1 TB (16 x 64 GB 2Rx4 PC5-6400B-R)  
 Storage: 1 x 960 GB SSD  
 Other: CPU Cooling: Air

### Software

OS: SUSE Linux Enterprise Server 15 SP6 6.4.0-150600.21-default  
 Compiler: C/C++: Version 2024.1 of Intel oneAPI DPC++/C++ Compiler for Linux;  
 Fortran: Version 2024.1 of Intel Fortran Compiler for Linux;  
 Parallel: Yes  
 Firmware: Version 6.0.1a released Jul-2025  
 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 set to prefer performance at the cost of additional power usage



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## Results Table

Benchmark	Base							Peak						
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
603.bwaves_s	32	97.5	605	<b>97.8</b>	<b>603</b>	99.1	595	32	97.2	607	98.1	601	<b>97.5</b>	<b>605</b>
607.cactuBSSN_s	32	90.3	185	<b>90.0</b>	<b>185</b>	89.2	187	32	90.3	185	<b>90.0</b>	<b>185</b>	89.2	187
619.lbm_s	32	34.5	152	<b>34.2</b>	<b>153</b>	34.1	154	32	34.5	152	<b>34.2</b>	<b>153</b>	34.1	154
621.wrf_s	32	73.4	180	71.9	184	<b>72.3</b>	<b>183</b>	32	73.4	180	71.9	184	<b>72.3</b>	<b>183</b>
627.cam4_s	32	73.6	120	74.7	119	<b>74.2</b>	<b>119</b>	32	74.6	119	<b>74.9</b>	<b>118</b>	75.6	117
628.pop2_s	32	<b>181</b>	<b>65.4</b>	181	65.7	184	64.7	32	<b>181</b>	<b>65.4</b>	181	65.7	184	64.7
638.imagick_s	32	41.3	349	41.0	352	<b>41.2</b>	<b>350</b>	32	41.3	349	41.0	352	<b>41.2</b>	<b>350</b>
644.nab_s	32	58.5	299	<b>58.4</b>	<b>299</b>	58.3	300	32	58.5	299	<b>58.4</b>	<b>299</b>	58.3	300
649.fotonik3d_s	32	<b>82.4</b>	<b>111</b>	82.9	110	78.7	116	32	<b>82.4</b>	<b>111</b>	82.9	110	78.7	116
654.roms_s	32	<b>105</b>	<b>149</b>	101	156	107	147	32	<b>105</b>	<b>149</b>	101	156	107	147
<b>SPECSpeed®2017_fp_base = 183</b>							<b>SPECSpeed®2017_fp_peak = 183</b>							

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"

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

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>



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## Platform Notes

BIOS settings:  
Sub NUMA clustering set to Disabled  
Hardware prefetcher set to Enabled  
Adjacent cache line prefetcher set to Disabled  
XPT prefetch set to Auto  
LLC prefetch set to Enabled  
Enhanced CPU performance set to Auto

Sysinfo program /home/cpu2017/bin/sysinfo  
Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197  
running on X210M8-SPEC Fri Sep 5 06:03:04 2025

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 254 (254.10+suse.84.ge8d77af424)
  12. Failed units, from systemctl list-units --state=failed
  13. Services, from systemctl list-unit-files
  14. Linux kernel boot-time arguments, from /proc/cmdline
  15. cpupower frequency-info
  16. sysctl
  17. /sys/kernel/mm/transparent\_hugepage
  18. /sys/kernel/mm/transparent\_hugepage/khugepaged
  19. OS release
  20. Disk information
  21. /sys/devices/virtual/dmi/id
  22. dmidecode
  23. BIOS
- 

1. uname -a  
Linux X210M8-SPEC 6.4.0-150600.21-default #1 SMP PREEMPT\_DYNAMIC Thu May 16 11:09:22 UTC 2024 (36c1e09)  
x86\_64 x86\_64 x86\_64 GNU/Linux

2. w  
06:03:04 up 1 min, 2 users, load average: 0.16, 0.07, 0.02  
USER TTY FROM LOGIN@ IDLE JCPU PCPU WHAT  
root tty1 - 06:02 8.00s 1.49s 0.14s -bash

3. Username  
From environment variable \$USER: root

4. ulimit -a

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## Platform Notes (Continued)

```
core file size          (blocks, -c) unlimited
data seg size           (kbytes, -d) unlimited
scheduling priority     (-e) 0
file size               (blocks, -f) unlimited
pending signals          (-i) 4124019
max locked memory       (kbytes, -l) 8192
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) 4124019
virtual memory            (kbytes, -v) unlimited
file locks                  (-x) unlimited
```

```
-----  
5. sysinfo process ancestry  
/usr/lib/systemd/systemd --switched-root --system --deserialize=42  
login -- root  
-bash  
-bash  
runcpu --define default-platform-flags -c ic2024.1-lin-sapphirerapids-speed-20240308.cfg --define cores=32  
--tune all -o all --define drop_caches fpspeed  
runcpu --define default-platform-flags --configfile ic2024.1-lin-sapphirerapids-speed-20240308.cfg --define  
cores=32 --tune all --output_format all --define drop_caches --nopower --runmode speed --tune base:peak  
--size refspeed fpspeed --nopreenv --note-preenv --logfile  
$SPEC/tmp/CPU2017.038/templogs/preenv.fpspeed.038.0.log --lognum 038.0 --from_runcpu 2  
specperl $SPEC/bin/sysinfo  
$SPEC = /home/cpu2017
```

```
-----  
6. /proc/cpuinfo  
model name      : Intel(R) Xeon(R) 6507P  
vendor_id       : GenuineIntel  
cpu family     : 6  
model          : 173  
stepping        : 1  
microcode       : 0x10003c2  
bugs            : spectre_v1 spectre_v2 spec_store_bypass swapgs bhi  
cpu cores       : 8  
siblings        : 16  
2 physical ids (chips)  
32 processors (hardware threads)  
physical id 0: core ids 0-7  
physical id 1: core ids 0-7  
physical id 0: apicids 0-15  
physical id 1: apicids 128-143  
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 2.39.3:  
Architecture:          x86_64  
CPU op-mode(s):       32-bit, 64-bit  
Address sizes:        46 bits physical, 57 bits virtual  
Byte Order:           Little Endian
```

(Continued on next page)



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## Platform Notes (Continued)

CPU(s):	32
On-line CPU(s) list:	0-31
Vendor ID:	GenuineIntel
BIOS Vendor ID:	Intel(R) Corporation
Model name:	Intel(R) Xeon(R) 6507P
BIOS Model name:	Intel(R) Xeon(R) 6507P CPU @ 3.5GHz
BIOS CPU family:	179
CPU family:	6
Model:	173
Thread(s) per core:	2
Core(s) per socket:	8
Socket(s):	2
Stepping:	1
CPU(s) scaling MHz:	19%
CPU max MHz:	4300.0000
CPU min MHz:	800.0000
BogoMIPS:	7000.00
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 xtTopology nonstop_tsc cpuid aperfmpf tsc_known_freq pn1 pclmulqdq dtes64 monitor ds_cpl vmx smx est tm2 ssse3 sdbe 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_13 cat_12 cdp_13 intel_ppin cdp_12 ssbd mba ibrs ibpb stibz ibrs_enhanced tpr_shadow flexpriority ept vpid ept_ad fsgsbase tsc_adjust bmil hle avx2 smep bmi2 erms invpcid rtm cqmq rdt_a avx512f avx512dq rdseed adx smap avx512ifma clflushopt clwb intel_pt avx512cd sha_ni avx512bw avx512vl xsaveopt xsavec xgetbv1 xsaves cqmq_llc cqmq_occup_llc cqmq_mbm_total cqmq_mbm_local split_lock_detect user_shstx avx_vnni avx512_bf16 wbnoinvd dtherm ida arat pln pts hwp hwp_act_window hwp_epp hwp_pkg_req vnmi avx512vbm1 umip pkru ospte waitpkg avx512_vbm12_gfni vaes vpclmulqdq avx512_vnni avx512_bitalg tme avx512_vpocntdq la57 rdpid bus_lock_detect cldemote movdiri movdir64b enqcmd fsrm md_clear serialize tsxldtrk pconfig arch_lbr ibt amx_bf16 avx512_fp16 amx_tile amx_int8 flush_l1d arch_capabilities
Virtualization:	VT-x
L1d cache:	768 KiB (16 instances)
L1i cache:	1 MiB (16 instances)
L2 cache:	32 MiB (16 instances)
L3 cache:	96 MiB (2 instances)
NUMA node(s):	2
NUMA node0 CPU(s):	0-7,16-23
NUMA node1 CPU(s):	8-15,24-31
Vulnerability Gather data sampling:	Not affected
Vulnerability Itlb multihit:	Not affected
Vulnerability Llft:	Not affected
Vulnerability Mds:	Not affected
Vulnerability Meltdown:	Not affected
Vulnerability Mmio stale data:	Not affected
Vulnerability Reg file data sampling:	Not affected
Vulnerability Retbleed:	Not affected
Vulnerability Spec rstack overflow:	Not affected
Vulnerability Spec store bypass:	Mitigation; Speculative Store Bypass disabled via prctl
Vulnerability Spectre v1:	Mitigation; usercopy/swapgs barriers and __user pointer sanitization
Vulnerability Spectre v2:	Mitigation; Enhanced / Automatic IBRS; IBPB conditional; RSB filling; PBRSB-eIBRS Not affected; BHI BHI_DIS_S
Vulnerability Srbds:	Not affected
Vulnerability Tsx async abort:	Not affected

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## Platform Notes (Continued)

```
From lscpu --cache:
  NAME ONE-SIZE ALL-SIZE WAYS TYPE      LEVEL    SETS PHY-LINE COHERENCY-SIZE
  L1d   48K    768K   12 Data        1       64      1          64
  L1i   64K    1M     16 Instruction  1       64      1          64
  L2    2M     32M   16 Unified      2      2048     1          64
  L3    48M    96M   16 Unified      3     49152     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: 0-7,16-23
node 0 size: 515356 MB
node 0 free: 514315 MB
node 1 cpus: 8-15,24-31
node 1 size: 515674 MB
node 1 free: 514920 MB
node distances:
node 0 1
  0: 10 21
  1: 21 10

-----
9. /proc/meminfo
MemTotal: 1055776012 kB

-----
10. who -r
run-level 3 Sep 5 06:01

-----
11. Systemd service manager version: systemd 254 (254.10+suse.84.ge8d77af424)
Default Target Status
multi-user degraded

-----
12. Failed units, from systemctl list-units --state=failed
UNIT           LOAD ACTIVE SUB DESCRIPTION
* postfix.service loaded failed Postfix Mail Transport Agent

-----
13. Services, from systemctl list-unit-files
STATE          UNIT FILES
enabled        YaST2-Firstboot YaST2-Second-Stage apparmor auditd cron display-manager getty@ irqbalance
                issue-generator kbdsettings kdump kdump-early kdump-notify klog lvm2-monitor nsqd
                nvmefc-boot-connections nvmf-autoconnect postfix purge-kernels rollback rsyslog smartd
                sshd systemd-pstore wickedd-wickedd-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
                firewalld fsidd gpm grub2-once haveged ipmi ipmievfd issue-add-ssh-keys kexec-load lunmask
                man-db-create multipathd nfs nfs-blkmap rpcbind rpmconfigcheck rsyncd serial-getty@
                smartd_generate_opts snmpd snmptrapd systemd-boot-check-no-failures systemd-confext
                systemd-network-generator systemd-sysext systemd-time-wait-sync systemd-timesyncd
                vncserver@
indirect       systemd-userdbd wickedd

-----
14. Linux kernel boot-time arguments, from /proc/cmdline
```

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## Platform Notes (Continued)

```
BOOT_IMAGE=/boot/vmlinuz-6.4.0-150600.21-default
root=UUID=601b83fb-dbdc-483c-b5e6-60a9c5104a01
splash=silent
mitigations=auto
quiet
security=apparmor
crashkernel=363M,high
crashkernel=72M,low

-----
15. cpupower frequency-info
analyzing CPU 3:
    current policy: frequency should be within 800 MHz and 4.30 GHz.
                    The governor "powersave" may decide which speed to use
                    within this range.

    boost state support:
        Supported: yes
        Active: yes

-----
16. sysctl
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

-----
17. /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

-----
18. /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

-----
19. OS release
```

(Continued on next page)



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## Platform Notes (Continued)

From /etc/\*-release /etc/\*-version  
os-release SUSE Linux Enterprise Server 15 SP6

-----  
20. Disk information

SPEC is set to: /home/cpu2017

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
/dev/nvme0n1p2	btrfs	371G	13G	354G	4%	/home

-----  
21. /sys/devices/virtual/dmi/id

Vendor:	Cisco Systems Inc
Product:	UCSX-210C-M8
Serial:	FCH2842725Z

-----  
22. dmidecode

Additional information from dmidecode 3.4 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.

Memory:

2x	0xCE00	M321R8GA0PB2-CCPEC	64 GB	2 rank	6400
7x	0xCE00	M321R8GA0PB2-CCPKC	64 GB	2 rank	6400
7x	0xCE00	M321R8GA0PB2-CCPPC	64 GB	2 rank	6400

-----  
23. BIOS

(This section combines info from /sys/devices and dmidecode.)

BIOS Vendor:	Cisco Systems, Inc.
BIOS Version:	X210M8.6.0.1a.3.0718251042
BIOS Date:	07/18/2025
BIOS Revision:	5.35

## 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 2024.1.0 Build 20240308  
Copyright (C) 1985-2024 Intel Corporation. All rights reserved.

=====

=====

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

=====

Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2024.1.0 Build 20240308  
Copyright (C) 1985-2024 Intel Corporation. All rights reserved.

Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2024.1.0 Build 20240308  
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Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2024.1.0 Build 20240308  
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=====

=====

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 2024.1.0 Build 20240308

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## Compiler Version Notes (Continued)

Copyright (C) 1985-2024 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 2024.1.0 Build 20240308  
Copyright (C) 1985-2024 Intel Corporation. All rights reserved.

Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2024.1.0 Build 20240308  
Copyright (C) 1985-2024 Intel Corporation. All rights reserved.

## Base 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

## 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

(Continued on next page)



# SPEC CPU®2017 Floating Point Speed Result

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## Cisco Systems

Cisco UCS X210c M8 (Intel Xeon 6507P 3.50 GHz processor)

**SPECspeed®2017\_fp\_base = 183**

**SPECspeed®2017\_fp\_peak = 183**

**CPU2017 License:** 9019

**Test Sponsor:** Cisco Systems

**Tested by:** Cisco Systems

**Test Date:** Sep-2025

**Hardware Availability:** Feb-2025

**Software Availability:** Jun-2024

## Base Optimization Flags (Continued)

C benchmarks (continued):

```
-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
```

Benchmarks using Fortran, C, and C++:

```
-w -std=c++14 -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
```

## 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



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## 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:

```
603.bwaves_s: -w -m64 -Wl,-z,muldefs -DSPEC_OPENMP -xsapphirerapids  
-Ofast -ffast-math -fsto -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 -fsto -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



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**Test Date:** Sep-2025

**Hardware Availability:** Feb-2025

**Software Availability:** Jun-2024

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

<http://www.spec.org/cpu2017/flags/Intel-ic2024-official-linux64.html>

<http://www.spec.org/cpu2017/flags/Cisco-Platform-Settings-V1.2-GNR-revE.html>

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

<http://www.spec.org/cpu2017/flags/Intel-ic2024-official-linux64.xml>

<http://www.spec.org/cpu2017/flags/Cisco-Platform-Settings-V1.2-GNR-revE.xml>

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