



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

xFusion

SPECspeed®2017_fp_base = 168

FusionServer 2288H V7 (Intel Xeon Silver 4509Y)

SPECspeed®2017_fp_peak = 168

CPU2017 License: 6488

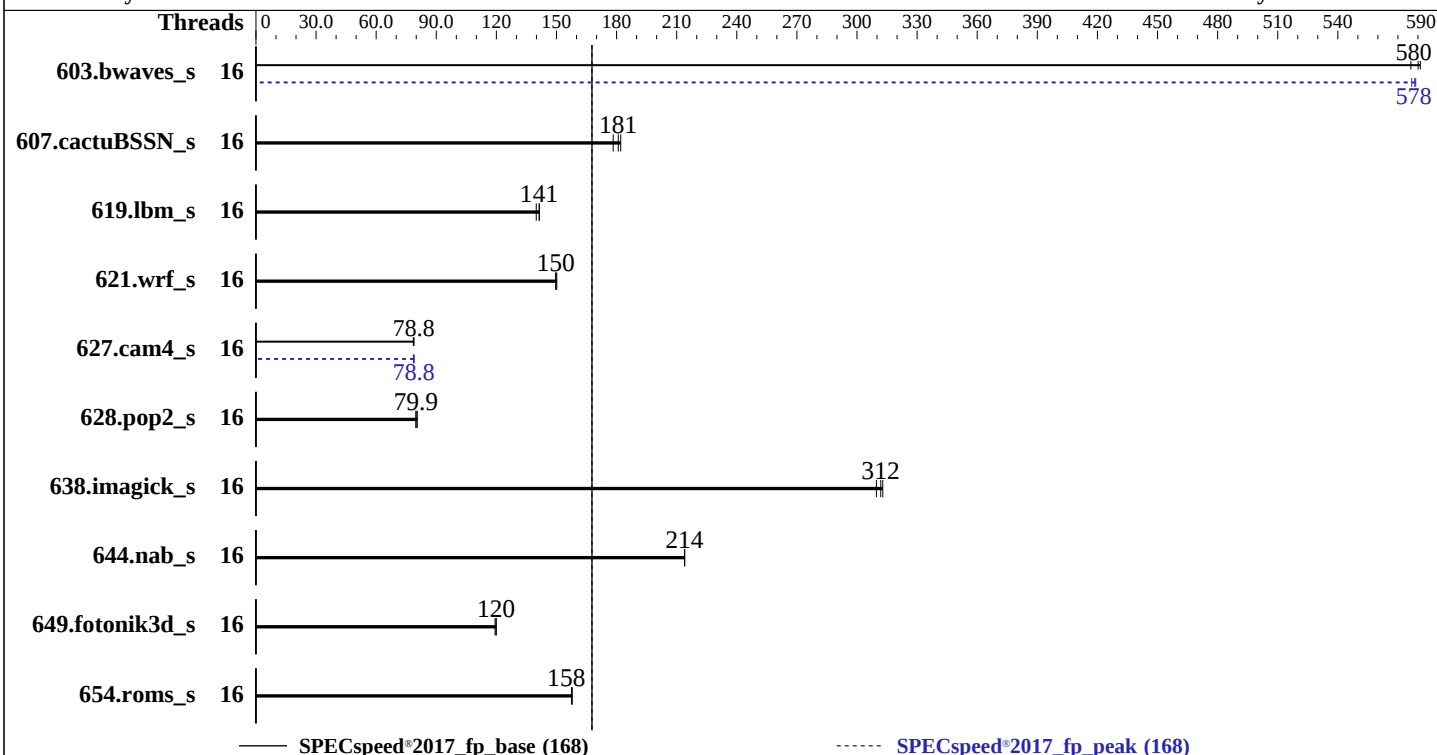
Test Sponsor: xFusion

Tested by: xFusion

Test Date: Jun-2025

Hardware Availability: Dec-2023

Software Availability: Mar-2024



Hardware

CPU Name: Intel Xeon Silver 4509Y
Max MHz: 4100
Nominal: 2600
Enabled: 16 cores, 2 chips
Orderable: 1,2 chips
Cache L1: 32 KB I + 48 KB D on chip per core
L2: 2 MB I+D on chip per core
L3: 22.5 MB I+D on chip per chip
Other: None
Memory: 512 GB (16 x 32 GB 2Rx8 PC5-4800B-R, running at 4400)
Storage: 1 x 960 GB SATA SSD
Other: CPU Cooling: Air

Software

OS: Red Hat Enterprise Linux 9.2 (Plow)
5.14.0-284.11.1.el9_2.x86_64
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 01.01.06.16 Released May-2025
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 and OS set to prefer performance at the cost of additional power usage.



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

xFusion

SPECSpeed®2017_fp_base = 168

FusionServer 2288H V7 (Intel Xeon Silver 4509Y)

SPECSpeed®2017_fp_peak = 168

CPU2017 License: 6488
Test Sponsor: xFusion
Tested by: xFusion

Test Date: Jun-2025
Hardware Availability: Dec-2023
Software Availability: Mar-2024

Results Table

Benchmark	Base							Peak						
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
603.bwaves_s	16	102	580	102	576	102	581	16	102	577	102	578	102	579
607.cactuBSSN_s	16	92.2	181	91.6	182	93.5	178	16	92.2	181	91.6	182	93.5	178
619.lbm_s	16	37.1	141	37.0	142	37.4	140	16	37.1	141	37.0	142	37.4	140
621.wrf_s	16	88.3	150	88.1	150	88.4	150	16	88.3	150	88.1	150	88.4	150
627.cam4_s	16	112	78.8	113	78.5	113	78.8	16	112	78.8	112	78.9	113	78.6
628.pop2_s	16	149	79.9	149	79.9	147	80.5	16	149	79.9	149	79.9	147	80.5
638.imagick_s	16	46.1	313	46.6	310	46.3	312	16	46.1	313	46.6	310	46.3	312
644.nab_s	16	81.6	214	81.7	214	81.7	214	16	81.6	214	81.7	214	81.7	214
649.fotonik3d_s	16	76.0	120	76.0	120	76.4	119	16	76.0	120	76.0	120	76.4	119
654.roms_s	16	99.9	158	99.8	158	99.9	158	16	99.9	158	99.8	158	99.9	158

SPECSpeed®2017_fp_base = **168**

SPECSpeed®2017_fp_peak = **168**

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"
MALLOCONF = "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>



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

xFusion

SPECspeed®2017_fp_base = 168

FusionServer 2288H V7 (Intel Xeon Silver 4509Y)

SPECspeed®2017_fp_peak = 168

CPU2017 License: 6488

Test Sponsor: xFusion

Tested by: xFusion

Test Date: Jun-2025

Hardware Availability: Dec-2023

Software Availability: Mar-2024

Platform Notes

BIOS configuration:
Performance Profile Set to Load Balance
Enable LP [Global] Set to Single LP
SNC Set to Disable

Sysinfo program /home/cpu2017/bin/sysinfo
Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197
running on localhost.localdomain Thu Jun 26 03:50:06 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 252 (252-13.el9_2)
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 localhost.localdomain 5.14.0-284.11.1.el9_2.x86_64 #1 SMP PREEMPT_DYNAMIC Wed Apr 12 10:45:03 EDT 2023 x86_64 x86_64 x86_64 GNU/Linux

2. w
03:50:06 up 3:18, 2 users, load average: 6.07, 5.27, 3.14
USER TTY LOGIN@ IDLE JCPU PCPU WHAT
root tty1 00:33 3:16m 0.86s 0.00s -bash
root pts/0 00:32 3:17m 0.00s 0.00s -bash

3. Username
From environment variable \$USER: root

4. ulimit -a
real-time non-blocking time (microseconds, -R) unlimited
core file size (blocks, -c) 0
data seg size (kbytes, -d) unlimited
scheduling priority (-e) 0

(Continued on next page)



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

xFusion

SPECspeed®2017_fp_base = 168

FusionServer 2288H V7 (Intel Xeon Silver 4509Y)

SPECspeed®2017_fp_peak = 168

CPU2017 License: 6488

Test Sponsor: xFusion

Tested by: xFusion

Test Date: Jun-2025

Hardware Availability: Dec-2023

Software Availability: Mar-2024

Platform Notes (Continued)

file size	(blocks, -f)	unlimited
pending signals	(-i)	2060257
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)	2060257
virtual memory	(kbytes, -v)	unlimited
file locks	(-x)	unlimited

```
-----
5. sysinfo process ancestry
/usr/lib/systemd/systemd --switched-root --system --deserialize 31
login -- root
-bash
-bash
runcpu --define default-platform-flags -c ic2024.1-lin-sapphirerapids-speed-20240308.cfg --define cores=16
--tune base,peak -o all --define drop_caches fpspeed
runcpu --define default-platform-flags --configfile ic2024.1-lin-sapphirerapids-speed-20240308.cfg --define
cores=16 --tune base,peak --output_format all --define drop_caches --nopower --runmode speed --tune
base:peak --size refspped fpspeed --nopreenv --note-preenv --logfile
$SPEC/tmp/CPU2017.002/templogs/preenv.fpspeed.002.0.log --lognum 002.0 --from_runcpu 2
specperl $SPEC/bin/sysinfo
$SPEC = /home/cpu2017
```

```
-----
6. /proc/cpuinfo
model name      : INTEL(R) XEON(R) SILVER 4509Y
vendor_id       : GenuineIntel
cpu family      : 6
model           : 143
stepping        : 8
microcode       : 0x2b000603
bugs            : spectre_v1 spectre_v2 spec_store_bypass swapgs eibrs_pbrsb
cpu cores       : 8
siblings        : 8
2 physical ids (chips)
16 processors (hardware threads)
physical id 0: core ids 0-7
physical id 1: core ids 0-7
physical id 0: apicids 0,2,4,6,8,10,12,14
physical id 1: apicids 64,66,68,70,72,74,76,78
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 2.37.4:
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):             16
On-line CPU(s) list: 0-15
Vendor ID:          GenuineIntel
```

(Continued on next page)



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

xFusion

SPECspeed®2017_fp_base = 168

FusionServer 2288H V7 (Intel Xeon Silver 4509Y)

SPECspeed®2017_fp_peak = 168

CPU2017 License: 6488

Test Sponsor: xFusion

Tested by: xFusion

Test Date: Jun-2025

Hardware Availability: Dec-2023

Software Availability: Mar-2024

Platform Notes (Continued)

BIOS Vendor ID: Intel(R) Corporation
Model name: INTEL(R) XEON(R) SILVER 4509Y
BIOS Model name: INTEL(R) XEON(R) SILVER 4509Y
CPU family: 6
Model: 143
Thread(s) per core: 1
Core(s) per socket: 8
Socket(s): 2
Stepping: 8
CPU max MHz: 4100.0000
CPU min MHz: 800.0000
BogoMIPS: 5200.00
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 aperfperf 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 intel_ppin cdp_l2 ssbd mba ibrs ibpb stibp ibrs_enhanced tpr_shadow vnmi flexpriority ept vpid ept_ad fsgsbase tsc_adjust bmi1 avx2 smep bmi2 erms invpcid 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 split_lock_detect avx_vnni avx512_bf16 wbnoinvd dtherm ida arat pln pts hfi 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 ibt amx_bf16 avx512_fp16 amx_tile amx_int8 flush_l1d arch_capabilities
Virtualization: VT-x
L1d cache: 768 KiB (16 instances)
L1i cache: 512 KiB (16 instances)
L2 cache: 32 MiB (16 instances)
L3 cache: 45 MiB (2 instances)
NUMA node(s): 2
NUMA node0 CPU(s): 0-7
NUMA node1 CPU(s): 8-15
Vulnerability Itlb multihit: Not affected
Vulnerability L1tf: Not affected
Vulnerability Mds: Not affected
Vulnerability Meltdown: Not affected
Vulnerability Mmio stale data: Not affected
Vulnerability Retbleed: 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 IBRS, IBPB conditional, RSB filling, PBRSE-eIBRS SW sequence
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	768K	12	Data	1	64	1	64
L1i	32K	512K	8	Instruction	1	64	1	64
L2	2M	32M	16	Unified	2	2048	1	64
L3	22.5M	45M	15	Unified	3	24576	1	64

8. numactl --hardware

(Continued on next page)



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

xFusion

SPECSpeed®2017_fp_base = 168

FusionServer 2288H V7 (Intel Xeon Silver 4509Y)

SPECSpeed®2017_fp_peak = 168

CPU2017 License: 6488

Test Sponsor: xFusion

Tested by: xFusion

Test Date: Jun-2025

Hardware Availability: Dec-2023

Software Availability: Mar-2024

Platform Notes (Continued)

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

```
available: 2 nodes (0-1)
node 0 cpus: 0-7
node 0 size: 257064 MB
node 0 free: 253522 MB
node 1 cpus: 8-15
node 1 size: 258041 MB
node 1 free: 253759 MB
node distances:
node  0  1
  0:  10  21
  1:  21  10
```

9. /proc/meminfo
MemTotal: 527468464 kB

10. who -r
run-level 3 Jun 26 00:31

11. Systemd service manager version: systemd 252 (252-13.el9_2)
Default Target Status
multi-user running

12. Services, from systemctl list-unit-files

STATE	UNIT FILES
enabled	NetworkManager NetworkManager-dispatcher NetworkManager-wait-online auditd chronyd crond dbus-broker firewalld getty@ insights-client-boot irqbalance kdump low-memory-monitor lvm2-monitor mdmonitor microcode nis-domainname rhsmcertd rsyslog rtkit-daemon selinux-autorelabel-mark sshd sssd systemd-boot-update systemd-network-generator udisks2 upower
enabled-runtime	systemd-remount-fs
disabled	blk-availability canberra-system-bootup canberra-system-shutdown canberra-system-shutdown-reboot chrony-wait console-getty cpupower debug-shell dnf-system-upgrade kvm_stat man-db-restart-cache-update nftables pesign rdisc rhcd rhsm rhsm-facts rpmdm-rebuild selinux-check-proper-disable serial-getty@ sshd-keygen@ systemd-boot-check-no-failures systemd-pstore systemd-sysex
indirect	sssd-autofs sssd-kcm sssd-nss sssd-pac sssd-pam sssd-ssh sssd-sudo systemd-sysupdate systemd-sysupdate-reboot

13. Linux kernel boot-time arguments, from /proc/cmdline
BOOT_IMAGE=(hd0,gpt2)/vmlinuz-5.14.0-284.11.1.el9_2.x86_64
root=/dev/mapper/rhel-root
ro
crashkernel=1G-4G:192M,4G-64G:256M,64G-:512M
resume=/dev/mapper/rhel-swap
rd.lvm.lv=rhel/root
rd.lvm.lv=rhel/swap

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:

(Continued on next page)



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

xFusion

SPECspeed®2017_fp_base = 168

FusionServer 2288H V7 (Intel Xeon Silver 4509Y)

SPECspeed®2017_fp_peak = 168

CPU2017 License: 6488

Test Sponsor: xFusion

Tested by: xFusion

Test Date: Jun-2025

Hardware Availability: Dec-2023

Software Availability: Mar-2024

Platform Notes (Continued)

Supported: yes

Active: yes

15. 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               60
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+madvice [madvice] never
enabled     [always] madvice 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      Red Hat Enterprise Linux 9.2 (Plow)
redhat-release  Red Hat Enterprise Linux release 9.2 (Plow)
system-release  Red Hat Enterprise Linux release 9.2 (Plow)
```

19. Disk information

SPEC is set to: /home/cpu2017

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
/dev/mapper/rhel-home	xfs	819G	27G	793G	4%	/home

20. /sys/devices/virtual/dmi/id

```
Vendor:      XFUSION
Product:     2288H V7
Product Family: Eagle Stream
```

(Continued on next page)



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

xFusion

SPECspeed®2017_fp_base = 168

FusionServer 2288H V7 (Intel Xeon Silver 4509Y)

SPECspeed®2017_fp_peak = 168

CPU2017 License: 6488

Test Sponsor: xFusion

Tested by: xFusion

Test Date: Jun-2025

Hardware Availability: Dec-2023

Software Availability: Mar-2024

Platform Notes (Continued)

21. dmidecode

Additional information from dmidecode 3.3 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:

14x Samsung M321R4GA3BB6-CQKDG 32 GB 2 rank 4800, configured at 4400
2x Samsung M321R4GA3BB6-CQKMG 32 GB 2 rank 4800, configured at 4400

22. BIOS

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

BIOS Vendor: XFUSION
BIOS Version: 01.01.06.16
BIOS Date: 05/08/2025
BIOS Revision: 6.16

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.cactuBSSN_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
Copyright (C) 1985-2024 Intel Corporation. All rights reserved.
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.

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
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.



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

xFusion

SPECspeed®2017_fp_base = 168

FusionServer 2288H V7 (Intel Xeon Silver 4509Y)

SPECspeed®2017_fp_peak = 168

CPU2017 License: 6488

Test Sponsor: xFusion

Tested by: xFusion

Test Date: Jun-2025

Hardware Availability: Dec-2023

Software Availability: Mar-2024

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

-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

(Continued on next page)



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

xFusion

SPECspeed®2017_fp_base = 168

FusionServer 2288H V7 (Intel Xeon Silver 4509Y)

SPECspeed®2017_fp_peak = 168

CPU2017 License: 6488

Test Sponsor: xFusion

Tested by: xFusion

Test Date: Jun-2025

Hardware Availability: Dec-2023

Software Availability: Mar-2024

Base Optimization Flags (Continued)

Benchmarks using both Fortran and C (continued):

-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

Peak Portability Flags

Same as Base Portability Flags

Peak Optimization Flags

C benchmarks:

619.lbm_s: basepeak = yes

638.imagick_s: basepeak = yes

(Continued on next page)



SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

xFusion

SPECspeed®2017_fp_base = 168

FusionServer 2288H V7 (Intel Xeon Silver 4509Y)

SPECspeed®2017_fp_peak = 168

CPU2017 License: 6488

Test Sponsor: xFusion

Tested by: xFusion

Test Date: Jun-2025

Hardware Availability: Dec-2023

Software Availability: Mar-2024

Peak Optimization Flags (Continued)

644.nab_s: basepeak = yes

Fortran benchmarks:

```
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-ic2024-official-linux64.html>

<http://www.spec.org/cpu2017/flags/xFusion-Platform-Settings-EMR-V1.1.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/xFusion-Platform-Settings-EMR-V1.1.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.

Tested with SPEC CPU®2017 v1.1.9 on 2025-06-26 03:50:06-0400.

Report generated on 2025-07-16 11:04:21 by CPU2017 PDF formatter v6716.

Originally published on 2025-07-15.