



# SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## xFusion

SPECspeed®2017\_fp\_base = 330

FusionServer 1288H V7 (Intel Xeon Gold 6542Y)

SPECspeed®2017\_fp\_peak = 330

CPU2017 License: 6488

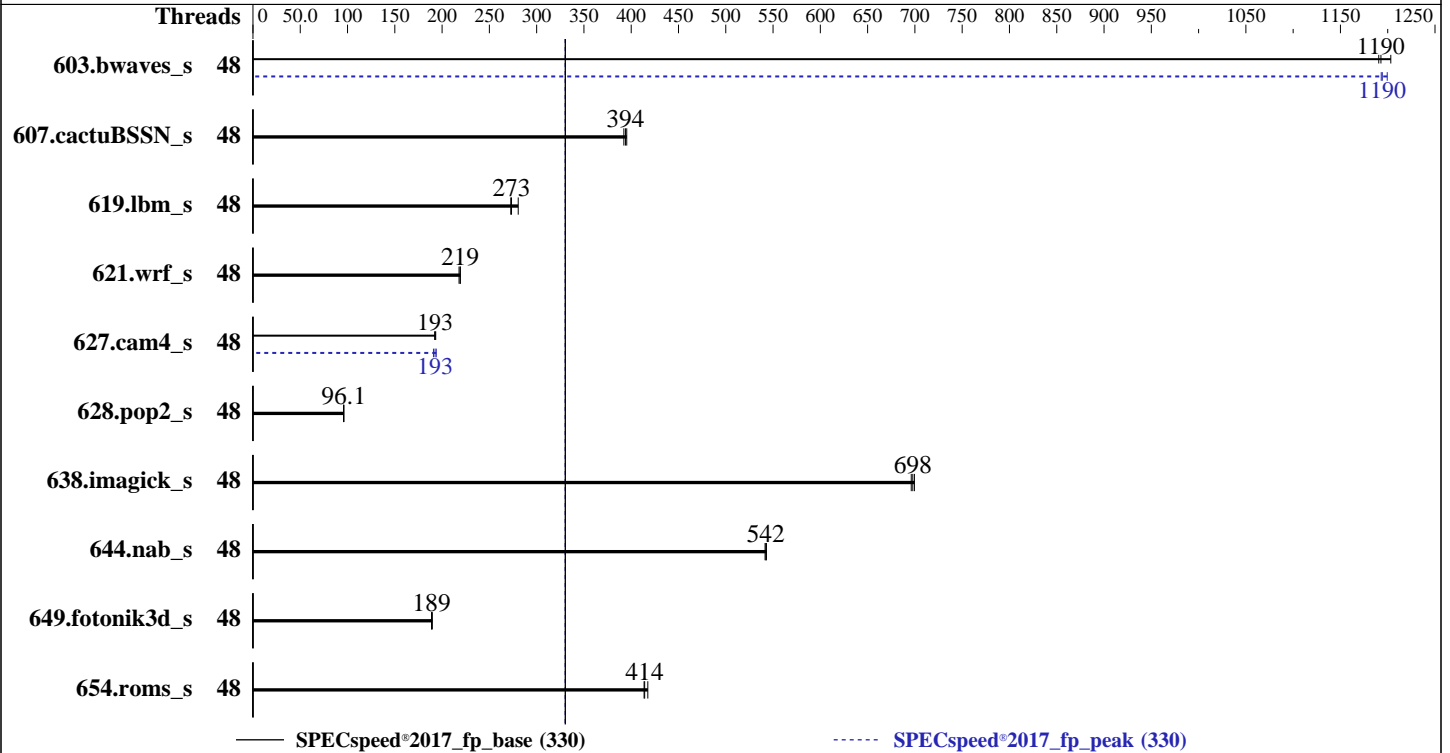
Test Sponsor: xFusion

Tested by: xFusion

Test Date: Jun-2024

Hardware Availability: Dec-2023

Software Availability: Apr-2024



### Hardware

CPU Name: Intel Xeon Gold 6542Y  
 Max MHz: 4100  
 Nominal: 2900  
 Enabled: 48 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: 60 MB I+D on chip per chip  
 Other: None  
 Memory: 512 GB (16 x 32 GB 2Rx8 PC5-5600B-R, running at 5200)  
 Storage: 1 x 1.92 TB 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 2024.0.2 of Intel oneAPI DPC++/C++ Compiler for Linux;  
 Fortran: Version 2024.0.2 of Intel Fortran Compiler for Linux;  
 Parallel: Yes  
 Firmware: Version 01.01.03.05 Released Apr-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 and OS set to prefer performance at the cost of additional power usage.



# SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## xFusion

SPECSpeed®2017\_fp\_base = 330

FusionServer 1288H V7 (Intel Xeon Gold 6542Y)

SPECSpeed®2017\_fp\_peak = 330

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

Test Date: Jun-2024  
Hardware Availability: Dec-2023  
Software Availability: Apr-2024

## Results Table

Benchmark	Base							Peak						
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
603.bwaves_s	48	49.6	1190	<b><u>49.5</u></b>	<b><u>1190</u></b>	49.0	1200	48	<b><u>49.4</u></b>	<b><u>1190</u></b>	49.4	1190	49.2	1200
607.cactuBSSN_s	48	<b><u>42.3</u></b>	<b><u>394</u></b>	42.5	392	42.2	395	48	<b><u>42.3</u></b>	<b><u>394</u></b>	42.5	392	42.2	395
619.lbm_s	48	19.2	273	18.7	281	<b><u>19.2</u></b>	<b><u>273</u></b>	48	19.2	273	18.7	281	<b><u>19.2</u></b>	<b><u>273</u></b>
621.wrf_s	48	60.3	219	<b><u>60.3</u></b>	<b><u>219</u></b>	60.7	218	48	60.3	219	<b><u>60.3</u></b>	<b><u>219</u></b>	60.7	218
627.cam4_s	48	45.9	193	46.1	192	<b><u>46.0</u></b>	<b><u>193</u></b>	48	45.7	194	<b><u>46.0</u></b>	<b><u>193</u></b>	46.4	191
628.pop2_s	48	124	96.1	<b><u>124</u></b>	<b><u>96.1</u></b>	124	95.8	48	124	96.1	<b><u>124</u></b>	<b><u>96.1</u></b>	124	95.8
638.imagick_s	48	20.6	699	<b><u>20.7</u></b>	<b><u>698</u></b>	20.7	696	48	20.6	699	<b><u>20.7</u></b>	<b><u>698</u></b>	20.7	696
644.nab_s	48	32.2	543	32.3	542	<b><u>32.2</u></b>	<b><u>542</u></b>	48	32.2	543	32.3	542	<b><u>32.2</u></b>	<b><u>542</u></b>
649.fotonik3d_s	48	48.1	190	<b><u>48.2</u></b>	<b><u>189</u></b>	48.3	189	48	48.1	190	<b><u>48.2</u></b>	<b><u>189</u></b>	48.3	189
654.roms_s	48	<b><u>38.0</u></b>	<b><u>414</u></b>	37.7	418	38.1	414	48	<b><u>38.0</u></b>	<b><u>414</u></b>	37.7	418	38.1	414

SPECSpeed®2017\_fp\_base = 330

SPECSpeed®2017\_fp\_peak = 330

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/Uniautos/speccpu2017/lib/intel64:/home/Uniautos/speccpu2017/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

## Platform Notes

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

(Continued on next page)



# SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## xFusion

SPECspeed®2017\_fp\_base = 330

FusionServer 1288H V7 (Intel Xeon Gold 6542Y)

SPECspeed®2017\_fp\_peak = 330

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

**Test Date:** Jun-2024  
**Hardware Availability:** Dec-2023  
**Software Availability:** Apr-2024

### Platform Notes (Continued)

Sysinfo program /home/Uniautos/speccpu2017/bin/sysinfo  
Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197  
running on localhost.localdomain Mon Jun 24 13:17:51 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 252 (252-13.e19\_2)
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. tuned-adm active
17. sysctl
18. /sys/kernel/mm/transparent\_hugepage
19. /sys/kernel/mm/transparent\_hugepage/khugepaged
20. OS release
21. Disk information
22. /sys/devices/virtual/dmi/id
23. dmidecode
24. BIOS

-----

1. uname -a  
Linux localhost.localdomain 5.14.0-284.11.1.e19\_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  
13:17:51 up 3:07, 1 user, load average: 5.96, 4.98, 2.98  
USER TTY LOGIN@ IDLE JCPU PCPU WHAT  
root tty1 10:15 3:01m 0.89s 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  
file size (blocks, -f) unlimited  
pending signals (-i) 2060224  
max locked memory (kbytes, -l) 64

(Continued on next page)



# SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## xFusion

SPECSpeed®2017\_fp\_base = 330

FusionServer 1288H V7 (Intel Xeon Gold 6542Y)

SPECSpeed®2017\_fp\_peak = 330

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

**Test Date:** Jun-2024  
**Hardware Availability:** Dec-2023  
**Software Availability:** Apr-2024

### Platform Notes (Continued)

```

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) 2060224
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 ic2024.0.2-lin-sapphirerapids-speed-20231213.cfg --define cores=48
--tune base,peak -o all --define drop_caches fpspeed
runcpu --define default-platform-flags --configfile ic2024.0.2-lin-sapphirerapids-speed-20231213.cfg
--define cores=48 --tune base,peak --output_format all --define drop_caches --nopower --runmode speed
--tune base:peak --size refspeed fpspeed --nopreenv --note-preenv --logfile
$SPEC/tmp/CPU2017.136/temlogs/preenv.fpspeed.136.0.log --lognum 136.0 --from_runcpu 2
specperl $SPEC/bin/sysinfo
$SPEC = /home/Uniautos/speccpu2017

```

```

-----
6. /proc/cpuinfo
model name      : INTEL(R) XEON(R) GOLD 6542Y
vendor_id      : GenuineIntel
cpu family     : 6
model          : 207
stepping      : 2
microcode     : 0x21000200
bugs           : spectre_v1 spectre_v2 spec_store_bypass swapgs eibrs_pbrsb
cpu cores     : 24
siblings      : 24
2 physical ids (chips)
48 processors (hardware threads)
physical id 0: core ids 0-23
physical id 1: core ids 0-23
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
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
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):                48
On-line CPU(s) list:   0-47
Vendor ID:             GenuineIntel
BIOS Vendor ID:       Intel(R) Corporation
Model name:            INTEL(R) XEON(R) GOLD 6542Y

```

(Continued on next page)



# SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## xFusion

SPECspeed®2017\_fp\_base = 330

FusionServer 1288H V7 (Intel Xeon Gold 6542Y)

SPECspeed®2017\_fp\_peak = 330

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

**Test Date:** Jun-2024  
**Hardware Availability:** Dec-2023  
**Software Availability:** Apr-2024

### Platform Notes (Continued)

```

BIOS Model name:          INTEL(R) XEON(R) GOLD 6542Y
CPU family:               6
Model:                    207
Thread(s) per core:      1
Core(s) per socket:      24
Socket(s):                2
Stepping:                 2
Frequency boost:         enabled
CPU max MHz:              2901.0000
CPU min MHz:              800.0000
BogoMIPS:                 5800.00
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 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 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_llid arch_capabilities

Virtualization:          VT-x
L1d cache:                2.3 MiB (48 instances)
L1i cache:                1.5 MiB (48 instances)
L2 cache:                 96 MiB (48 instances)
L3 cache:                 120 MiB (2 instances)
NUMA node(s):            2
NUMA node0 CPU(s):       0-23
NUMA node1 CPU(s):       24-47
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	2.3M	12	Data	1	64	1	64
L1i	32K	1.5M	8	Instruction	1	64	1	64
L2	2M	96M	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)

(Continued on next page)



# SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## xFusion

SPECspeed®2017\_fp\_base = 330

FusionServer 1288H V7 (Intel Xeon Gold 6542Y)

SPECspeed®2017\_fp\_peak = 330

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

**Test Date:** Jun-2024  
**Hardware Availability:** Dec-2023  
**Software Availability:** Apr-2024

### Platform Notes (Continued)

```
node 0 cpus: 0-23
node 0 size: 257061 MB
node 0 free: 250462 MB
node 1 cpus: 24-47
node 1 size: 258037 MB
node 1 free: 250199 MB
node distances:
node  0  1
  0:  10  21
  1:  21  10
```

9. /proc/meminfo  
MemTotal: 527461172 kB

10. who -r  
run-level 3 Jun 24 10:11

11. Systemd service manager version: systemd 252 (252-13.el9\_2)  
Default Target Status  
multi-user degraded

12. Failed units, from systemctl list-units --state=failed  
UNIT LOAD ACTIVE SUB DESCRIPTION  
\* sep5.service loaded failed failed systemd script to load sep5 driver at boot time

13. Services, from systemctl list-unit-files  
STATE UNIT FILES  
enabled NetworkManager NetworkManager-dispatcher NetworkManager-wait-online auditd crond  
dbus-broker getty@ insights-client-boot irqbalance kdump lvm2-monitor mdmonitor microcode  
nis-domainname rhsmcertd rsyslog selinux-autorelabel-mark sep5 sshd sssd  
systemd-boot-update systemd-network-generator tuned udisks2  
enabled-runtime systemd-remount-fs  
disabled blk-availability console-getty cpupower debug-shell dnf-system-upgrade firewallld kvm\_stat  
man-db-restart-cache-update nftables rdisc rhcd rhsm rhsm-facts rpmdb-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

14. 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

15. cpupower frequency-info  
analyzing CPU 0:  
current policy: frequency should be within 800 MHz and 2.90 GHz.  
The governor "performance" may decide which speed to use  
within this range.

(Continued on next page)



# SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## xFusion

SPECspeed®2017\_fp\_base = 330

FusionServer 1288H V7 (Intel Xeon Gold 6542Y)

SPECspeed®2017\_fp\_peak = 330

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

**Test Date:** Jun-2024  
**Hardware Availability:** Dec-2023  
**Software Availability:** Apr-2024

### Platform Notes (Continued)

boost state support:  
Supported: yes  
Active: yes

-----  
16. tuned-adm active  
Current active profile: throughput-performance

-----  
17. 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 40  
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 10  
vm.watermark\_boost\_factor 15000  
vm.watermark\_scale\_factor 10  
vm.zone\_reclaim\_mode 0

-----  
18. /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

-----  
19. /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

-----  
20. 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)

-----  
21. Disk information  
SPEC is set to: /home/Uniautos/speccpu2017  
Filesystem Type Size Used Avail Use% Mounted on  
/dev/mapper/rhel-home xfs 1.7T 242G 1.5T 15% /home

(Continued on next page)



# SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## xFusion

SPECspeed®2017\_fp\_base = 330

FusionServer 1288H V7 (Intel Xeon Gold 6542Y)

SPECspeed®2017\_fp\_peak = 330

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

**Test Date:** Jun-2024  
**Hardware Availability:** Dec-2023  
**Software Availability:** Apr-2024

### Platform Notes (Continued)

-----  
22. /sys/devices/virtual/dmi/id  
Vendor: XFUSION  
Product: 1288H V7  
Product Family: Eagle Stream  
Serial: 00000000  
-----

23. 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:  
2x Samsung M321R4GA3PB0-CWMCH 32 GB 2 rank 5600, configured at 5200  
14x Samsung M321R4GA3PB0-CWMXH 32 GB 2 rank 5600, configured at 5200  
-----

24. BIOS  
(This section combines info from /sys/devices and dmidecode.)  
BIOS Vendor: XFUSION  
BIOS Version: 01.01.03.05  
BIOS Date: 04/12/2024  
BIOS Revision: 3.5  
-----

### 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  
-----

(Continued on next page)





# SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

**xFusion**

SPECspeed®2017\_fp\_base = 330

FusionServer 1288H V7 (Intel Xeon Gold 6542Y)

SPECspeed®2017\_fp\_peak = 330

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

**Test Date:** Jun-2024  
**Hardware Availability:** Dec-2023  
**Software Availability:** Apr-2024

## Compiler Version Notes (Continued)

Copyright (C) 1985-2023 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
-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
```

(Continued on next page)



# SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## xFusion

SPECspeed®2017\_fp\_base = 330

FusionServer 1288H V7 (Intel Xeon Gold 6542Y)

SPECspeed®2017\_fp\_peak = 330

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

**Test Date:** Jun-2024  
**Hardware Availability:** Dec-2023  
**Software Availability:** Apr-2024

## Base Optimization Flags (Continued)

Fortran benchmarks (continued):

```
-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

## Peak Portability Flags

Same as Base Portability Flags

## Peak Optimization Flags

C benchmarks:

(Continued on next page)



# SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## xFusion

SPECspeed®2017\_fp\_base = 330

FusionServer 1288H V7 (Intel Xeon Gold 6542Y)

SPECspeed®2017\_fp\_peak = 330

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

**Test Date:** Jun-2024  
**Hardware Availability:** Dec-2023  
**Software Availability:** Apr-2024

## Peak Optimization Flags (Continued)

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 -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/xFusion-Platform-Settings-EMR-V1.1.html>

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

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

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

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



# SPEC CPU®2017 Floating Point Speed Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

**xFusion**

SPECspeed®2017\_fp\_base = 330

FusionServer 1288H V7 (Intel Xeon Gold 6542Y)

SPECspeed®2017\_fp\_peak = 330

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

**Test Date:** Jun-2024  
**Hardware Availability:** Dec-2023  
**Software Availability:** Apr-2024

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 2024-06-24 01:17:50-0400.  
Report generated on 2024-07-17 11:46:22 by CPU2017 PDF formatter v6716.  
Originally published on 2024-07-16.