



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

xFusion

SPECrate®2017_fp_base = 586

FusionServer 2288H V7 (Intel Xeon Gold 6544Y)

SPECrate®2017_fp_peak = 589

CPU2017 License: 6488

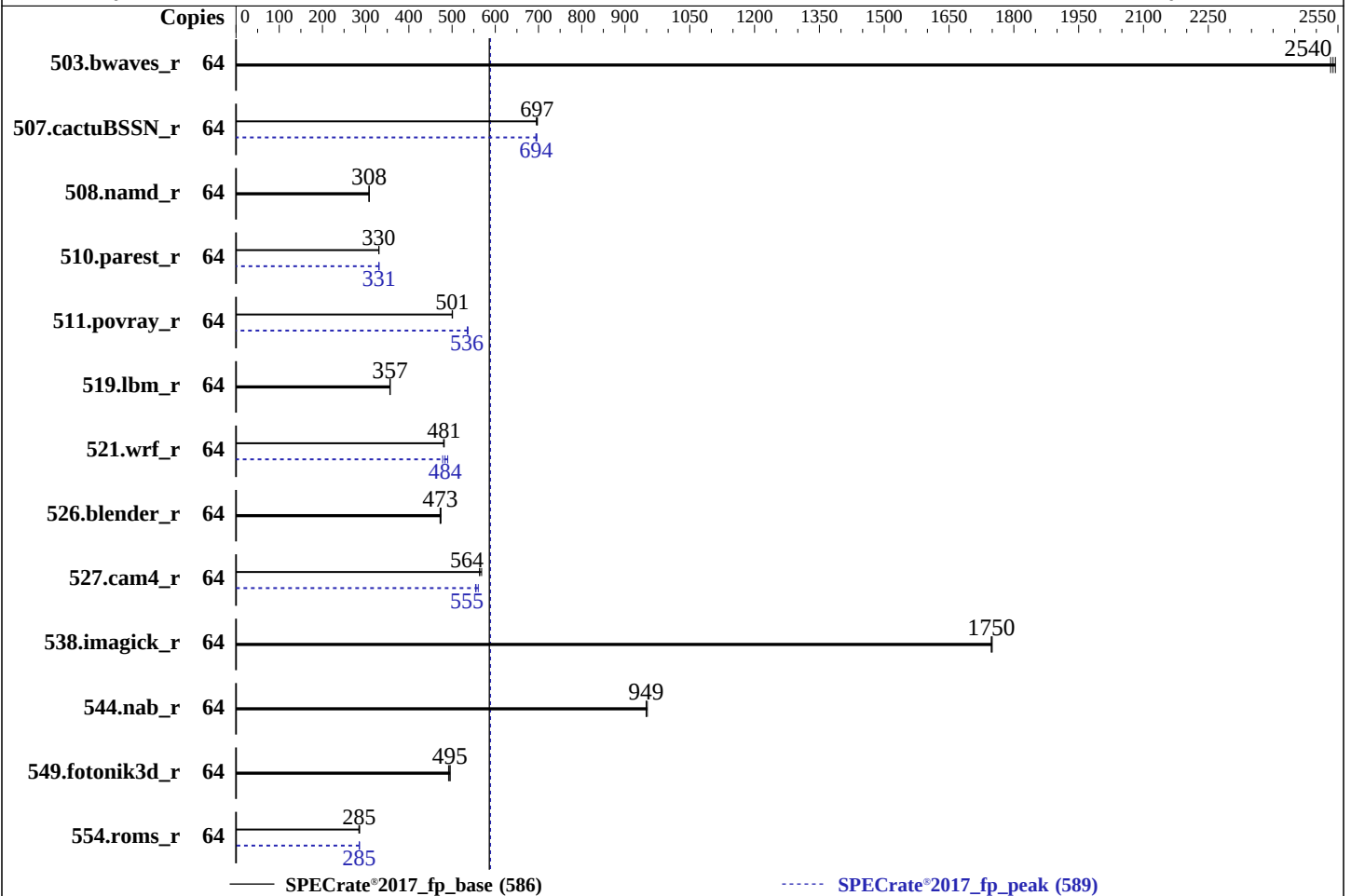
Test Sponsor: xFusion

Tested by: xFusion

Test Date: Jul-2025

Hardware Availability: Dec-2023

Software Availability: Mar-2024



Hardware

CPU Name: Intel Xeon Gold 6544Y
Max MHz: 4100
Nominal: 3600
Enabled: 32 cores, 2 chips, 2 threads/core
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: 45 MB I+D on chip per chip
Other: None
Memory: 1 TB (16 x 64 GB 2Rx4 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 2024.1 of Intel oneAPI DPC++/C++ Compiler for Linux;
Fortran: Version 2024.1 of Intel Fortran Compiler for Linux;
Parallel: No
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 Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

xFusion

SPECrate®2017_fp_base = 586

FusionServer 2288H V7 (Intel Xeon Gold 6544Y)

SPECrate®2017_fp_peak = 589

CPU2017 License: 6488

Test Sponsor: xFusion

Tested by: xFusion

Test Date: Jul-2025

Hardware Availability: Dec-2023

Software Availability: Mar-2024

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
503.bwaves_r	64	253	2530	252	2540	<u>253</u>	<u>2540</u>	64	253	2530	252	2540	<u>253</u>	<u>2540</u>
507.cactuBSSN_r	64	116	697	116	698	117	695	64	<u>117</u>	<u>694</u>	117	694	116	696
508.namd_r	64	197	308	198	308	<u>197</u>	<u>308</u>	64	197	308	198	308	<u>197</u>	<u>308</u>
510.parest_r	64	506	331	<u>507</u>	<u>330</u>	507	330	64	506	331	<u>506</u>	<u>331</u>	507	330
511.povray_r	64	<u>298</u>	<u>501</u>	298	501	299	500	64	279	535	278	537	<u>279</u>	<u>536</u>
519.lbm_r	64	<u>189</u>	<u>357</u>	189	357	189	356	64	<u>189</u>	<u>357</u>	189	357	189	356
521.wrf_r	64	<u>298</u>	<u>481</u>	298	482	298	480	64	293	490	300	478	<u>296</u>	<u>484</u>
526.blender_r	64	206	472	206	474	<u>206</u>	<u>473</u>	64	206	472	206	474	<u>206</u>	<u>473</u>
527.cam4_r	64	<u>198</u>	<u>564</u>	197	568	199	564	64	202	554	200	561	<u>202</u>	<u>555</u>
538.imagick_r	64	91.1	1750	91.0	1750	<u>91.0</u>	<u>1750</u>	64	91.1	1750	91.0	1750	<u>91.0</u>	<u>1750</u>
544.nab_r	64	114	949	113	952	<u>113</u>	<u>949</u>	64	114	949	113	952	<u>113</u>	<u>949</u>
549.fotonik3d_r	64	<u>504</u>	<u>495</u>	507	492	503	495	64	<u>504</u>	<u>495</u>	507	492	503	495
554.roms_r	64	355	286	357	285	<u>357</u>	<u>285</u>	64	<u>357</u>	<u>285</u>	357	285	356	286

SPECrate®2017_fp_base = 586

SPECrate®2017_fp_peak = 589

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Submit Notes

The numactl mechanism was used to bind copies to processors. The config file option 'submit' was used to generate numactl commands to bind each copy to a specific processor. For details, please see the config file.

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:
LD_LIBRARY_PATH = "/home/spec2017/lib/intel64:/home/spec2017/je5.0.1-64"
MALLOCONF = "retain:true"

General Notes

Binaries compiled on a system with 2x Intel Xeon Platinum 8280M CPU + 384GB RAM
memory using Red Hat Enterprise Linux 8.4
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
runcpu command invoked through numactl i.e.:
numactl --interleave=all runcpu <etc>
NA: The test sponsor attests, as of date of publication, that CVE-2017-5754 (Meltdown) is mitigated in the system as tested and documented.

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

xFusion

SPECrate®2017_fp_base = 586

FusionServer 2288H V7 (Intel Xeon Gold 6544Y)

SPECrate®2017_fp_peak = 589

CPU2017 License: 6488

Test Sponsor: xFusion

Tested by: xFusion

Test Date: Jul-2025

Hardware Availability: Dec-2023

Software Availability: Mar-2024

General Notes (Continued)

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 configuration:

Performance Profile Set to Performance

SNC Set to Enable SNC2 (2-clusters)

Sysinfo program /home/spec2017/bin/sysinfo

Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197

running on localhost.localdomain Thu Jul 10 06:41:00 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. 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.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
06:41:00 up 2 min, 2 users, load average: 0.17, 0.16, 0.06
USER TTY LOGIN@ IDLE JCPU PCPU WHAT
root tty1 06:39 9.00s 0.94s 0.04s -bash

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

xFusion

SPECrate®2017_fp_base = 586

FusionServer 2288H V7 (Intel Xeon Gold 6544Y)

SPECrate®2017_fp_peak = 589

CPU2017 License: 6488

Test Sponsor: xFusion

Tested by: xFusion

Test Date: Jul-2025

Hardware Availability: Dec-2023

Software Availability: Mar-2024

Platform Notes (Continued)

root pts/0 06:39 12.00s 0.03s 0.03s -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) 4124605
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) 4124605
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 --copies 64 -c ic2024.1-lin-sapphirerapids-rate-20240308.cfg --define
smt-on --define cores=32 --define physicalfirst --define invoke_with_interleave --define drop_caches
--tune base,peak -o all fprate
runcpu --define default-platform-flags --copies 64 --configfile
ic2024.1-lin-sapphirerapids-rate-20240308.cfg --define smt-on --define cores=32 --define physicalfirst
--define invoke_with_interleave --define drop_caches --tune base,peak --output_format all --nopower
--runmode rate --tune base:peak --size refrate fprate --nopreenv --note-preenv --logfile
$SPEC/tmp/CPU2017.012/templots/preenv.fprate.012.0.log --lognum 012.0 --from_runcpu 2
specperl $SPEC/bin/sysinfo
$SPEC = /home/spec2017
```

6. /proc/cpuinfo

```
model name      : INTEL(R) XEON(R) GOLD 6544Y
vendor_id       : GenuineIntel
cpu family      : 6
model           : 207
stepping        : 2
microcode       : 0x21000283
bugs            : spectre_v1 spectre_v2 spec_store_bypass swapgs eibrs_pbrsb
cpu cores       : 16
siblings        : 32
2 physical ids (chips)
64 processors (hardware threads)
physical id 0:  core ids 0-15
physical id 1:  core ids 0-15
physical id 0:  apicids 0-31
physical id 1:  apicids 128-159
```

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

xFusion

SPECrate®2017_fp_base = 586

FusionServer 2288H V7 (Intel Xeon Gold 6544Y)

SPECrate®2017_fp_peak = 589

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

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

Platform Notes (Continued)

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):                 64
On-line CPU(s) list:   0-63
Vendor ID:              GenuineIntel
BIOS Vendor ID:         Intel(R) Corporation
Model name:             INTEL(R) XEON(R) GOLD 6544Y
BIOS Model name:        INTEL(R) XEON(R) GOLD 6544Y
CPU family:             6
Model:                  207
Thread(s) per core:     2
Core(s) per socket:     16
Socket(s):              2
Stepping:               2
BogoMIPS:               7200.00
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 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_l1d arch_capabilities
```

```
Virtualization:         VT-x
L1d cache:              1.5 MiB (32 instances)
L1i cache:              1 MiB (32 instances)
L2 cache:               64 MiB (32 instances)
L3 cache:               90 MiB (2 instances)
NUMA node(s):           4
NUMA node0 CPU(s):      0-7,32-39
NUMA node1 CPU(s):      8-15,40-47
NUMA node2 CPU(s):      16-23,48-55
NUMA node3 CPU(s):      24-31,56-63
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
```

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

xFusion

SPECrate®2017_fp_base = 586

FusionServer 2288H V7 (Intel Xeon Gold 6544Y)

SPECrate®2017_fp_peak = 589

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

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

Platform Notes (Continued)

Vulnerability Srbds: sequence
Vulnerability Tsx async abort: Not affected
Not affected

From lscpu --cache:

NAME	ONE-SIZE	ALL-SIZE	WAYS	TYPE	LEVEL	SETS	PHY-LINE	COHERENCY-SIZE
L1d	48K	1.5M	12	Data	1	64	1	64
L1i	32K	1M	8	Instruction	1	64	1	64
L2	2M	64M	16	Unified	2	2048	1	64
L3	45M	90M	15	Unified	3	49152	1	64

8. numactl --hardware

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

```
available: 4 nodes (0-3)
node 0 cpus: 0-7,32-39
node 0 size: 257102 MB
node 0 free: 256398 MB
node 1 cpus: 8-15,40-47
node 1 size: 258044 MB
node 1 free: 257229 MB
node 2 cpus: 16-23,48-55
node 2 size: 258004 MB
node 2 free: 257404 MB
node 3 cpus: 24-31,56-63
node 3 size: 258039 MB
node 3 free: 257378 MB
node distances:
node  0  1  2  3
 0:  10  12  21  21
 1:  12  10  21  21
 2:  21  21  10  12
 3:  21  21  12  10
```

9. /proc/meminfo

MemTotal: 1055939832 kB

10. who -r

run-level 3 Jul 10 06:39

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 chronyd crond dbus-broker firewalld getty@ insights-client-boot irqbalance kdump low-memory-monitor lvm2-monitor mdmonitor microcode nis-domainname nvme-fc-boot-connections rhsmcertd rsyslog rtkit-daemon selinux-autorelabel-mark sep5 smartd sshd sssd sysstat systemd-boot-update systemd-network-generator tuned udisks2 upower

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

xFusion

SPECrate®2017_fp_base = 586

FusionServer 2288H V7 (Intel Xeon Gold 6544Y)

SPECrate®2017_fp_peak = 589

CPU2017 License: 6488

Test Sponsor: xFusion

Tested by: xFusion

Test Date: Jul-2025

Hardware Availability: Dec-2023

Software Availability: Mar-2024

Platform Notes (Continued)

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 nvme-autoconnect pesign
rdisc rhcd rhsm rhsm-facts rpmbd-rebuild selinux-check-proper-disable serial-getty@
sshd-keygen@ systemd-boot-check-no-failures systemd-pstore systemd-sysext
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:
Unable to determine current policy
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

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

xFusion

SPECrate®2017_fp_base = 586

FusionServer 2288H V7 (Intel Xeon Gold 6544Y)

SPECrate®2017_fp_peak = 589

CPU2017 License: 6488

Test Sponsor: xFusion

Tested by: xFusion

Test Date: Jul-2025

Hardware Availability: Dec-2023

Software Availability: Mar-2024

Platform Notes (Continued)

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/spec2017

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
/dev/mapper/rhel-home	xfs	819G	48G	772G	6%	/home

22. /sys/devices/virtual/dmi/id

```
Vendor: XFUSION
Product: 2288H V7
Product Family: Eagle Stream
Serial: 2106182101X3N8000006
```

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:

16x Samsung M321R8GA0EB0-CWMCH 64 GB 2 rank 5600, configured at 5200

24. BIOS

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

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

Compiler Version Notes

```
=====  
C | 519.lbm_r(base, peak) 538.imagick_r(base, peak) 544.nab_r(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++ | 508.namd_r(base, peak) 510.parest_r(base, peak)  
=====
```

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

xFusion

SPECrate®2017_fp_base = 586

FusionServer 2288H V7 (Intel Xeon Gold 6544Y)

SPECrate®2017_fp_peak = 589

CPU2017 License: 6488

Test Sponsor: xFusion

Tested by: xFusion

Test Date: Jul-2025

Hardware Availability: Dec-2023

Software Availability: Mar-2024

Compiler Version Notes (Continued)

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 | 511.povray_r(base, peak) 526.blender_r(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.

=====

C++, C, Fortran | 507.cactuBSSN_r(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 | 503.bwaves_r(base, peak) 549.fotonik3d_r(base, peak) 554.roms_r(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 | 521.wrf_r(base, peak) 527.cam4_r(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

C++ benchmarks:

icpx

Fortran benchmarks:

ifx

Benchmarks using both Fortran and C:

ifx icx

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

xFusion

SPECrate®2017_fp_base = 586

FusionServer 2288H V7 (Intel Xeon Gold 6544Y)

SPECrate®2017_fp_peak = 589

CPU2017 License: 6488

Test Sponsor: xFusion

Tested by: xFusion

Test Date: Jul-2025

Hardware Availability: Dec-2023

Software Availability: Mar-2024

Base Compiler Invocation (Continued)

Benchmarks using both C and C++:

icpx icx

Benchmarks using Fortran, C, and C++:

icpx icx ifx

Base Portability Flags

503.bwaves_r: -DSPEC_LP64
507.cactuBSSN_r: -DSPEC_LP64
508.namd_r: -DSPEC_LP64
510.parest_r: -DSPEC_LP64
511.povray_r: -DSPEC_LP64
519.lbm_r: -DSPEC_LP64
521.wrf_r: -DSPEC_LP64 -DSPEC_CASE_FLAG -convert big_endian
526.blender_r: -DSPEC_LP64 -DSPEC_LINUX -funsigned-char
527.cam4_r: -DSPEC_LP64 -DSPEC_CASE_FLAG
538.imagick_r: -DSPEC_LP64
544.nab_r: -DSPEC_LP64
549.fotonik3d_r: -DSPEC_LP64
554.roms_r: -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
-Wno-implicit-int -mprefer-vector-width=512 -ljemalloc
-L/usr/local/jemalloc64-5.0.1/lib

C++ benchmarks:

-w -std=c++14 -m64 -Wl,-z,muldefs -xsapphirerapids -Ofast
-ffast-math -flto -mfpmath=sse -funroll-loops
-qopt-mem-layout-trans=4 -mprefer-vector-width=512 -ljemalloc
-L/usr/local/jemalloc64-5.0.1/lib

Fortran benchmarks:

-w -m64 -Wl,-z,muldefs -xsapphirerapids -Ofast -ffast-math -flto
-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4
-nostandard-realloc-lhs -align array32byte -auto -ljemalloc

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

xFusion

SPECrate®2017_fp_base = 586

FusionServer 2288H V7 (Intel Xeon Gold 6544Y)

SPECrate®2017_fp_peak = 589

CPU2017 License: 6488

Test Sponsor: xFusion

Tested by: xFusion

Test Date: Jul-2025

Hardware Availability: Dec-2023

Software Availability: Mar-2024

Base Optimization Flags (Continued)

Fortran benchmarks (continued):

`-L/usr/local/jemalloc64-5.0.1/lib`

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
-Wno-implicit-int -mprefer-vector-width=512 -nostandard-realloc-lhs
-align array32byte -auto -ljemalloc -L/usr/local/jemalloc64-5.0.1/lib`

Benchmarks using both 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 -Wno-implicit-int -mprefer-vector-width=512
-ljemalloc -L/usr/local/jemalloc64-5.0.1/lib`

Benchmarks using Fortran, C, and C++:

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

Peak Compiler Invocation

C benchmarks:

`icx`

C++ benchmarks:

`icpx`

Fortran benchmarks:

`ifx`

Benchmarks using both Fortran and C:

`ifx icx`

Benchmarks using both C and C++:

`icpx icx`

Benchmarks using Fortran, C, and C++:

`icpx icx ifx`



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

xFusion

SPECrate®2017_fp_base = 586

FusionServer 2288H V7 (Intel Xeon Gold 6544Y)

SPECrate®2017_fp_peak = 589

CPU2017 License: 6488

Test Sponsor: xFusion

Tested by: xFusion

Test Date: Jul-2025

Hardware Availability: Dec-2023

Software Availability: Mar-2024

Peak Portability Flags

Same as Base Portability Flags

Peak Optimization Flags

C benchmarks:

519.lbm_r: basepeak = yes

538.imagick_r: basepeak = yes

544.nab_r: basepeak = yes

C++ benchmarks:

508.namd_r: basepeak = yes

510.parest_r: -w -std=c++14 -m64 -Wl,-z,muldefs -xsapphirerapids -Ofast -ffast-math -flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4 -mprefer-vector-width=512 -ljemalloc -L/usr/local/jemalloc64-5.0.1/lib

Fortran benchmarks:

503.bwaves_r: basepeak = yes

549.fotonik3d_r: basepeak = yes

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

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 -Wno-implicit-int -mprefer-vector-width=512 -nostandard-realloc-lhs -align array32byte -auto -ljemalloc -L/usr/local/jemalloc64-5.0.1/lib

Benchmarks using both C and C++:

511.povray_r: -w -std=c++14 -m64 -std=c11 -Wl,-z,muldefs -fprofile-generate(pass 1) -fprofile-use=default.profdata(pass 2) -xCORE-AVX2(pass 1)

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2025 Standard Performance Evaluation Corporation

xFusion

SPECrate®2017_fp_base = 586

FusionServer 2288H V7 (Intel Xeon Gold 6544Y)

SPECrate®2017_fp_peak = 589

CPU2017 License: 6488

Test Sponsor: xFusion

Tested by: xFusion

Test Date: Jul-2025

Hardware Availability: Dec-2023

Software Availability: Mar-2024

Peak Optimization Flags (Continued)

511.povray_r (continued):

```
-flto -Ofast -xCORE-AVX512 -ffast-math -mfpmath=sse  
-funroll-loops -qopt-mem-layout-trans=4 -Wno-implicit-int  
-mprefer-vector-width=512 -ljemalloc  
-L/usr/local/jemalloc64-5.0.1/lib
```

526.blender_r: basepeak = yes

Benchmarks using Fortran, C, and C++:

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

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 SPECrate 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 2025-07-10 06:41:00-0400.

Report generated on 2025-07-30 15:12:58 by CPU2017 PDF formatter v6716.

Originally published on 2025-07-29.