



# SPEC CPU®2017 Floating Point Rate Result

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## xFusion

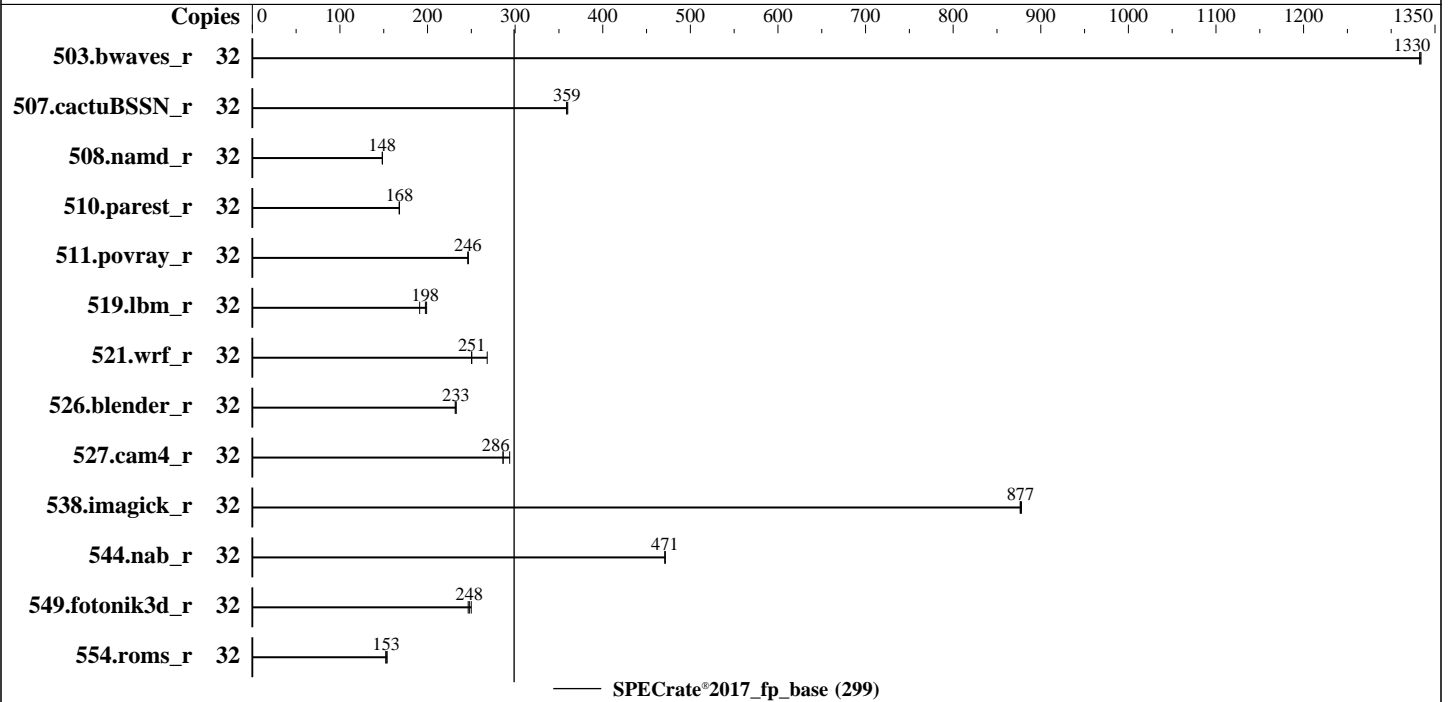
SPECrate®2017\_fp\_base = 299

FusionServer 2288H V7 (Intel Xeon Gold 6544Y)

SPECrate®2017\_fp\_peak = Not Run

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

Test Date: Sep-2024  
Hardware Availability: Dec-2023  
Software Availability: Mar-2024



### Hardware

CPU Name: Intel Xeon Gold 6544Y  
Max MHz: 4100  
Nominal: 3600  
Enabled: 16 cores, 1 chip, 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: 512 GB (8 x 64 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 2024.1 of Intel oneAPI DPC++/C++ Compiler for Linux;  
Fortran: Version 2024.1 of Intel Fortran Compiler for Linux;  
Parallel: No  
Firmware: Version 01.01.03.16 Released Aug-2024  
File System: xfs  
System State: Run level 5 (multi-user)  
Base Pointers: 64-bit  
Peak Pointers: Not Applicable  
Other: jemalloc memory allocator V5.0.1  
Power Management: BIOS and OS set to prefer performance at the cost of additional power usage.



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## Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
503.bwaves_r	32	<b>241</b>	<b>1330</b>	241	1330	241	1330							
507.cactuBSSN_r	32	<b>113</b>	<b>359</b>	113	360	113	359							
508.namd_r	32	205	148	<b>205</b>	<b>148</b>	205	148							
510.parest_r	32	500	168	498	168	<b>498</b>	<b>168</b>							
511.povray_r	32	304	246	<b>303</b>	<b>246</b>	303	246							
519.lbm_r	32	170	199	<b>171</b>	<b>198</b>	177	191							
521.wrf_r	32	<b>286</b>	<b>251</b>	267	268	286	250							
526.blender_r	32	210	232	<b>210</b>	<b>233</b>	210	233							
527.cam4_r	32	191	294	<b>195</b>	<b>286</b>	196	286							
538.imagick_r	32	90.8	877	<b>90.8</b>	<b>877</b>	90.6	878							
544.nab_r	32	114	471	114	471	<b>114</b>	<b>471</b>							
549.fotonik3d_r	32	<b>503</b>	<b>248</b>	506	246	499	250							
554.roms_r	32	330	154	<b>332</b>	<b>153</b>	334	152							

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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"  
MALLOC\_CONF = "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.

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### 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)  
LLC Prefetch Set to Disabled  
LLC dead line alloc Set to Disabled  
Stale AtoS Set to Disabled

Sysinfo program /home/spec2017/bin/sysinfo  
Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197  
running on root Wed Sep 11 02:39:06 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.el9\_2)
12. Services, from systemctl list-unit-files
13. Linux kernel boot-time arguments, from /proc/cmdline
14. cpupower frequency-info
15. tuned-adm active
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 root 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  
02:39:06 up 3:24, 4 users, load average: 19.22, 28.59, 30.46

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### Platform Notes (Continued)

USER	TTY	LOGIN@	IDLE	JCPU	PCPU	WHAT
yoe	seat0	23:14	0.00s	0.00s	0.00s	/usr/libexec/gdm-x-session --register-session --run-script
gnome-session						
yoe	:0	23:14	?xdm?	32.23s	0.00s	/usr/libexec/gdm-x-session --register-session --run-script
gnome-session						
root	tty3	23:43	2:13m	0.97s	0.06s	-bash
root	pts/1	00:21	2:08m	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  
file size (blocks, -f) unlimited  
pending signals (-i) 2060159  
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) 2060159  
virtual memory (kbytes, -v) unlimited  
file locks (-x) unlimited

-----  
5. sysinfo process ancestry  
/usr/lib/systemd/systemd rhgb --switched-root --system --deserialize 31  
login -- root  
-bash  
-bash  
runcpu --nobuild --action validate --define default-platform-flags --define numcopies=32 -c  
ic2024.1-lin-sapphirerapids-rate-20240308.cfg --define smt-on --define cores=16 --define physicalfirst  
--define invoke\_with\_interleave --define drop\_caches --tune base -o all fprate  
runcpu --nobuild --action validate --define default-platform-flags --define numcopies=32 --configfile  
ic2024.1-lin-sapphirerapids-rate-20240308.cfg --define smt-on --define cores=16 --define physicalfirst  
--define invoke\_with\_interleave --define drop\_caches --tune base --output\_format all --nopower --runmode  
rate --tune base --size refrate fprate --nopreenv --note-preenv --logfile  
\$SPEC/tmp/CPU2017.002/templogs/preenv.fprate.002.0.log --lognum 002.0 --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 : 0x21000200  
bugs : spectre\_v1 spectre\_v2 spec\_store\_bypass swapgs eibrs\_pbrsb  
cpu cores : 16  
siblings : 32

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### Platform Notes (Continued)

1 physical ids (chips)  
32 processors (hardware threads)  
physical id 0: core ids 0-15  
physical id 0: apicids 0-31

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):                 32
On-line CPU(s) list:   0-31
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):              1
Stepping:               2
Frequency boost:        enabled
CPU max MHz:           3601.0000
CPU min MHz:            800.0000
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 aperfperf 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 bmil 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_vpopcndq 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_lld 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 (1 instance)
NUMA node(s):          2
NUMA node0 CPU(s):    0-7,16-23
NUMA node1 CPU(s):    8-15,24-31
Vulnerability Itlb multihit: Not affected
Vulnerability L1tf:    Not affected
Vulnerability Mds:     Not affected
Vulnerability Meltdown: Not affected

```

(Continued on next page)



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### Platform Notes (Continued)

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/swaps 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	45M	45M	15	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: 257062 MB
node 0 free: 255077 MB
node 1 cpus: 8-15,24-31
node 1 size: 258039 MB
node 1 free: 256280 MB
node distances:
node  0  1
  0: 10 12
  1: 12 10
```

9. /proc/meminfo

MemTotal: 527464828 kB

10. who -r

run-level 5 Sep 10 23:15

11. Systemd service manager version: systemd 252 (252-13.el9\_2)

```
Default Target Status
graphical      running
```

12. Services, from systemctl list-unit-files

```
STATE UNIT FILES
enabled ModemManager NetworkManager NetworkManager-dispatcher NetworkManager-wait-online
accounts-daemon atd auditd avahi-daemon bluetooth chronyd crond cups dbus-broker firewalld
gdm getty@ insights-client-boot irqbalance iscsi iscsi-onboot kdump libstoragemgmt
low-memory-monitor lvm2-monitor mcelog mdmonitor microcode multipathd nis-domainname
nvme-fc-boot-connections ostree-remount power-profiles-daemon qemu-guest-agent rhsmcertd
rsyslog rtkit-daemon selinux-autorelabel-mark smartd sshd sssd switcheroo-control
systemd-boot-update systemd-network-generator tuned udisks2 upower vgauthd vmtoolsd
enabled-runtime systemd-remount-fs
disabled arp-ethers blk-availability brltty canberra-system-bootup canberra-system-shutdown
canberra-system-shutdown-reboot chrony-wait cni-dhcp console-getty cpupower cups-browsed
dbus-daemon debug-shell dnf-system-upgrade dnsmasq iprdump iprinit iprupdate iscsid
iscsiuio kpatch kvm_stat ledmon man-db-restart-cache-update nftables nvme-autoconnect
ostree-readonly-sysroot-migration podman podman-auto-update podman-clean-transient
```

(Continued on next page)



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### Platform Notes (Continued)

indirect  
podman-kube@ podman-restart psacct ras-mc-ctl rasdaemon rdisc rhcd rhsm rhsm-facts  
rpmdb-rebuild selinux-check-proper-disable serial-getty@ speech-dispatcherd sshd-keygen@  
systemd-boot-check-no-failures systemd-pstore systemd-sysext wpa\_supplicant  
spice-vdagentd 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\_huawei-root  
ro  
crashkernel=1G-4G:192M,4G-64G:256M,64G-:512M  
resume=/dev/mapper/rhel\_huawei-swap  
rd.lvm.lv=rhel\_huawei/root  
rd.lvm.lv=rhel\_huawei/swap  
rhgb  
quiet

-----  
14. cpupower frequency-info  
analyzing CPU 0:  
current policy: frequency should be within 800 MHz and 3.60 GHz.  
The governor "performance" may decide which speed to use  
within this range.  
boost state support:  
Supported: yes  
Active: yes

-----  
15. tuned-adm active  
It seems that tuned daemon is not running, preset profile is not activated.  
Preset profile: throughput-performance

-----  
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 60  
vm.watermark\_boost\_factor 15000  
vm.watermark\_scale\_factor 10  
vm.zone\_reclaim\_mode 0

-----  
17. /sys/kernel/mm/transparent\_hugepage  
defrag always defer+madvice [madvice] never  
enabled [always] madvice never  
hpage\_pmd\_size 2097152

(Continued on next page)



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### Platform Notes (Continued)

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
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)
-----
```

```
-----
20. Disk information
SPEC is set to: /home/spec2017
Filesystem Type Size Used Avail Use% Mounted on
/dev/mapper/rhel_huawei-home xfs 1.7T 26G 1.7T 2% /home
-----
```

```
-----
21. /sys/devices/virtual/dmi/id
Vendor: XFUSION
Product: 2288H V7
Product Family: Eagle Stream
Serial: 2106182101X3N8000006
-----
```

```
-----
22. 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:
8x Samsung M321R8GA0PB0-CWMKH 64 GB 2 rank 5600, configured at 5200
-----
```

```
-----
23. BIOS
(This section combines info from /sys/devices and dmidecode.)
BIOS Vendor: XFUSION
BIOS Version: 01.01.03.16
BIOS Date: 08/09/2024
BIOS Revision: 3.16
-----
```

### Compiler Version Notes

=====  
C | 519.lbm\_r(base) 538.imagick\_r(base) 544.nab\_r(base)  
=====

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.  
=====

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### Compiler Version Notes (Continued)

=====  
C++ | 508.namd\_r(base) 510.parest\_r(base)  
=====

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) 526.blender\_r(base)  
=====

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)  
=====

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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) 549.fotonik3d\_r(base) 554.roms\_r(base)  
=====

Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version 2024.1.0 Build 20240308  
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=====

=====  
Fortran, C | 521.wrf\_r(base) 527.cam4\_r(base)  
=====

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

### Base Compiler Invocation

C benchmarks:  
icx

C++ benchmarks:  
icpx

Fortran benchmarks:  
ifx

(Continued on next page)



# SPEC CPU®2017 Floating Point Rate Result

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**xFusion**

SPECrate®2017\_fp\_base = 299

FusionServer 2288H V7 (Intel Xeon Gold 6544Y)

SPECrate®2017\_fp\_peak = Not Run

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

**Test Date:** Sep-2024  
**Hardware Availability:** Dec-2023  
**Software Availability:** Mar-2024

## Base Compiler Invocation (Continued)

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

## 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 -xsaphirerapids -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 -xsaphirerapids -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 -xsaphirerapids -Ofast -ffast-math -flto  
-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4

(Continued on next page)



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## xFusion

SPECrate®2017\_fp\_base = 299

FusionServer 2288H V7 (Intel Xeon Gold 6544Y)

SPECrate®2017\_fp\_peak = Not Run

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

**Test Date:** Sep-2024  
**Hardware Availability:** Dec-2023  
**Software Availability:** Mar-2024

## Base Optimization Flags (Continued)

Fortran benchmarks (continued):

```
-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 -xsapfirerapids -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 -xsapfirerapids -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 -xsapfirerapids -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>

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