



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## xFusion

SPECrate®2017\_fp\_base = 986

FusionServer G8600 V7 (Intel Xeon Platinum 8480+)

SPECrate®2017\_fp\_peak = 988

CPU2017 License: 6488

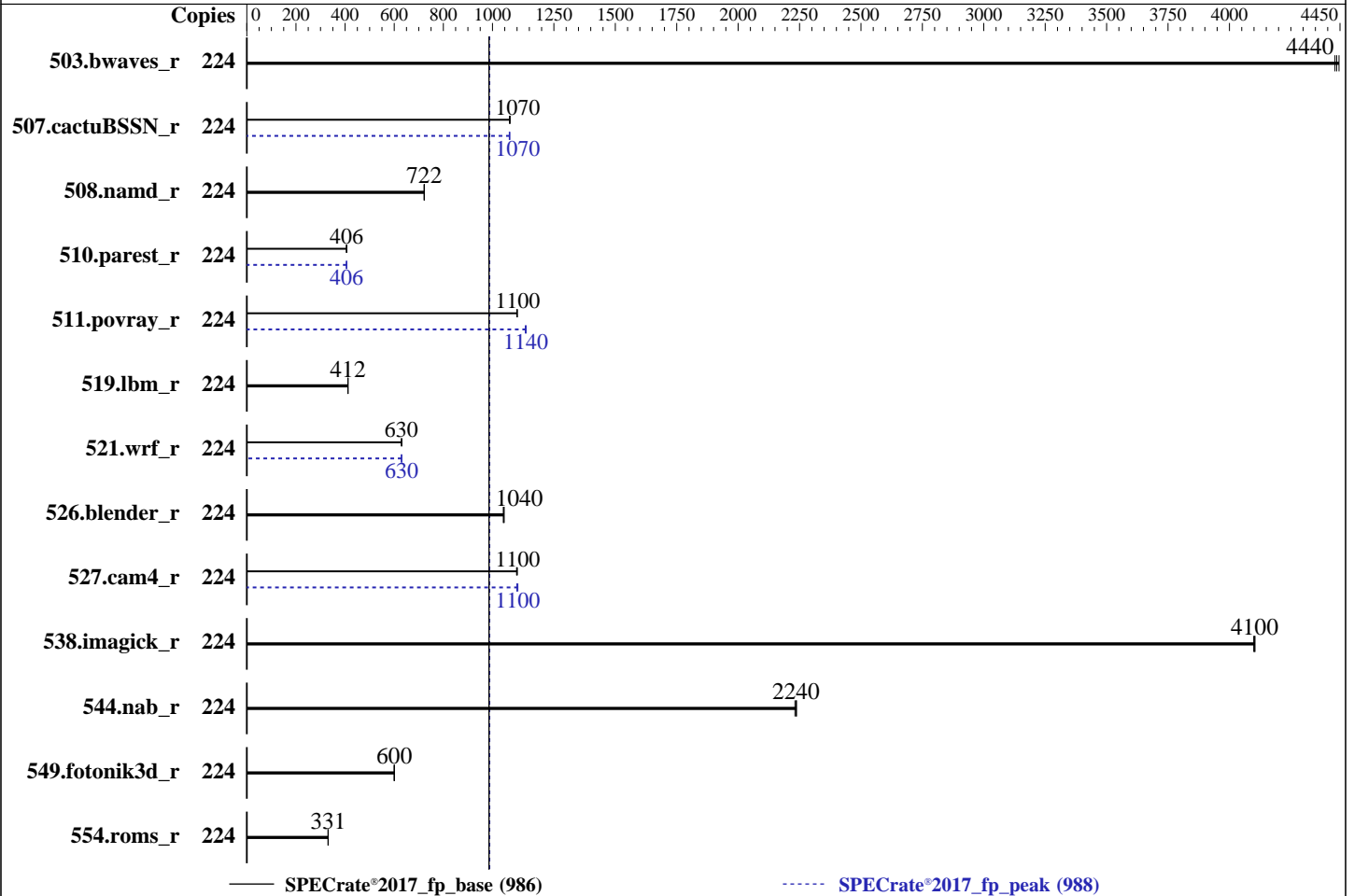
Test Sponsor: xFusion

Tested by: xFusion

Test Date: Jun-2024

Hardware Availability: May-2023

Software Availability: Dec-2023



### Hardware

CPU Name: Intel Xeon Platinum 8480+  
 Max MHz: 3800  
 Nominal: 2000  
 Enabled: 112 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: 105 MB I+D on chip per chip  
 Other: None  
 Memory: 512 GB (16 x 32 GB 2Rx8 PC5-4800B-R)  
 Storage: 1 x 480 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 2024.0.2 of Intel oneAPI DPC++/C++  
 Compiler for Linux;  
 Fortran: Version 2024.0.2 of Intel Fortran  
 Compiler for Linux;  
 Parallel: No  
 Firmware: Version 01.02.02.09 Released Mar-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 Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## xFusion

SPECrate®2017\_fp\_base = 986

FusionServer G8600 V7 (Intel Xeon Platinum 8480+)

SPECrate®2017\_fp\_peak = 988

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

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

## Results Table

| Benchmark       | Base   |             |            |            |             |             |             | Peak   |            |            |             |             |             |            |
|-----------------|--------|-------------|------------|------------|-------------|-------------|-------------|--------|------------|------------|-------------|-------------|-------------|------------|
|                 | Copies | Seconds     | Ratio      | Seconds    | Ratio       | Seconds     | Ratio       | Copies | Seconds    | Ratio      | Seconds     | Ratio       | Seconds     | Ratio      |
| 503.bwaves_r    | 224    | 505         | 4450       | <b>506</b> | <b>4440</b> | 507         | 4430        | 224    | 505        | 4450       | <b>506</b>  | <b>4440</b> | 507         | 4430       |
| 507.cactuBSSN_r | 224    | 265         | 1070       | <b>265</b> | <b>1070</b> | 265         | 1070        | 224    | 265        | 1070       | <b>265</b>  | <b>1070</b> | 265         | 1070       |
| 508.namd_r      | 224    | 295         | 721        | <b>295</b> | <b>722</b>  | 294         | 723         | 224    | 295        | 721        | <b>295</b>  | <b>722</b>  | 294         | 723        |
| 510.parest_r    | 224    | <b>1444</b> | <b>406</b> | 1440       | 407         | 1446        | 405         | 224    | 1447       | 405        | <b>1443</b> | <b>406</b>  | 1442        | 406        |
| 511.povray_r    | 224    | 475         | 1100       | 476        | 1100        | <b>475</b>  | <b>1100</b> | 224    | 461        | 1130       | <b>461</b>  | <b>1140</b> | 460         | 1140       |
| 519.lbm_r       | 224    | 573         | 412        | <b>573</b> | <b>412</b>  | 574         | 411         | 224    | 573        | 412        | <b>573</b>  | <b>412</b>  | 574         | 411        |
| 521.wrf_r       | 224    | <b>797</b>  | <b>630</b> | 795        | 631         | 797         | 630         | 224    | <b>797</b> | <b>630</b> | 797         | 630         | 796         | 630        |
| 526.blender_r   | 224    | 326         | 1050       | <b>326</b> | <b>1040</b> | 327         | 1040        | 224    | 326        | 1050       | <b>326</b>  | <b>1040</b> | 327         | 1040       |
| 527.cam4_r      | 224    | 356         | 1100       | 357        | 1100        | <b>357</b>  | <b>1100</b> | 224    | 355        | 1100       | <b>356</b>  | <b>1100</b> | 356         | 1100       |
| 538.imagick_r   | 224    | 136         | 4100       | <b>136</b> | <b>4100</b> | 136         | 4100        | 224    | 136        | 4100       | <b>136</b>  | <b>4100</b> | 136         | 4100       |
| 544.nab_r       | 224    | 169         | 2230       | <b>169</b> | <b>2240</b> | 168         | 2240        | 224    | 169        | 2230       | <b>169</b>  | <b>2240</b> | 168         | 2240       |
| 549.fotonik3d_r | 224    | 1453        | 601        | 1456       | 600         | <b>1454</b> | <b>600</b>  | 224    | 1453       | 601        | 1456        | 600         | <b>1454</b> | <b>600</b> |
| 554.roms_r      | 224    | 1074        | 332        | 1078       | 330         | <b>1074</b> | <b>331</b>  | 224    | 1074       | 332        | 1078        | 330         | <b>1074</b> | <b>331</b> |

SPECrate®2017\_fp\_base = **986**

SPECrate®2017\_fp\_peak = **988**

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/speccpu2017/lib/intel64:/home/speccpu2017/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.

(Continued on next page)



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## xFusion

SPECrate®2017\_fp\_base = 986

FusionServer G8600 V7 (Intel Xeon Platinum 8480+)

SPECrate®2017\_fp\_peak = 988

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

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

### 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

Performance Profile Set to Performance  
SNC Set to Enable SNC4 (4-clusters)  
Enable LP [Global] Set to ALL LPs

Sysinfo program /home/speccpu2017/bin/sysinfo  
Rev: r6732 of 2022-11-07 fe91c89b7ed5c36ae2c92cc097bec197  
running on localhost.localdomain Fri Jun 14 21:58:37 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  
21:58:37 up 2:19, 2 users, load average: 0.29, 55.31, 141.86  
USER TTY LOGIN@ IDLE JCPU PCPU WHAT  
root tty1 19:39 8.00s 1.32s 0.09s -bash

(Continued on next page)



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## xFusion

SPECrate®2017\_fp\_base = 986

FusionServer G8600 V7 (Intel Xeon Platinum 8480+)

SPECrate®2017\_fp\_peak = 988

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

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

### Platform Notes (Continued)

```
root pts/0 19:49 28:28 0.32s 0.32s -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) 2060735
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) 2060735
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 224 -c ic2024.0.2-lin-sapphirerapids-rate-20231213.cfg
--define smt-on --define cores=112 --define physicalfirst --define invoke_with_interleave --define
drop_caches --tune base,peak -o all fprate
runcpu --define default-platform-flags --copies 224 --configfile
ic2024.0.2-lin-sapphirerapids-rate-20231213.cfg --define smt-on --define cores=112 --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/CPU2017.018/templogs/preenv.fprate.018.0.log --lognum 018.0 --from_runcpu 2
specperl $SPEC/bin/sysinfo
$SPEC = /home/speccpu2017
```

-----  
6. /proc/cpuinfo

```
model name      : Intel(R) Xeon(R) Platinum 8480+
vendor_id      : GenuineIntel
cpu family     : 6
model          : 143
stepping      : 8
microcode     : 0x2b0004d0
bugs           : spectre_v1 spectre_v2 spec_store_bypass swapgs eibrs_pbrsb
cpu cores     : 56
siblings      : 112
2 physical ids (chips)
224 processors (hardware threads)
physical id 0: core ids 0-55
physical id 1: core ids 0-55
physical id 0: apicids 0-111
physical id 1: apicids 128-239
```

(Continued on next page)



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## xFusion

## SPECrate®2017\_fp\_base = 986

### FusionServer G8600 V7 (Intel Xeon Platinum 8480+)

## SPECrate®2017\_fp\_peak = 988

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

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

### 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):                224
On-line CPU(s) list:   0-223
Vendor ID:             GenuineIntel
BIOS Vendor ID:       Intel(R) Corporation
Model name:            Intel(R) Xeon(R) Platinum 8480+
BIOS Model name:      Intel(R) Xeon(R) Platinum 8480+
CPU family:            6
Model:                 143
Thread(s) per core:   2
Core(s) per socket:   56
Socket(s):             2
Stepping:              8
BogoMIPS:              4000.00
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_13 cat_12 cdp_13 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 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_lld arch_capabilities
Virtualization:        VT-x
L1d cache:             5.3 MiB (112 instances)
L1i cache:             3.5 MiB (112 instances)
L2 cache:              224 MiB (112 instances)
L3 cache:              210 MiB (2 instances)
NUMA node(s):         8
NUMA node0 CPU(s):    0-13,112-125
NUMA node1 CPU(s):    14-27,126-139
NUMA node2 CPU(s):    28-41,140-153
NUMA node3 CPU(s):    42-55,154-167
NUMA node4 CPU(s):    56-69,168-181
NUMA node5 CPU(s):    70-83,182-195
NUMA node6 CPU(s):    84-97,196-209
NUMA node7 CPU(s):    98-111,210-223
Vulnerability Itlb multihit: Not affected
Vulnerability L1tf:    Not affected
Vulnerability Mds:     Not affected
Vulnerability Meltdown: Not affected
Vulnerability Mmio stale data: Not affected

```

(Continued on next page)



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## xFusion

SPECrate®2017\_fp\_base = 986

FusionServer G8600 V7 (Intel Xeon Platinum 8480+)

SPECrate®2017\_fp\_peak = 988

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

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

### Platform Notes (Continued)

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, PBR SB-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      | 5.3M     | 12   | Data        | 1     | 64     | 1        | 64             |
| L1i  | 32K      | 3.5M     | 8    | Instruction | 1     | 64     | 1        | 64             |
| L2   | 2M       | 224M     | 16   | Unified     | 2     | 2048   | 1        | 64             |
| L3   | 105M     | 210M     | 15   | Unified     | 3     | 114688 | 1        | 64             |

8. numactl --hardware

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

```

available: 8 nodes (0-7)
node 0 cpus: 0-13,112-125
node 0 size: 63699 MB
node 0 free: 60770 MB
node 1 cpus: 14-27,126-139
node 1 size: 64505 MB
node 1 free: 61204 MB
node 2 cpus: 28-41,140-153
node 2 size: 64505 MB
node 2 free: 61678 MB
node 3 cpus: 42-55,154-167
node 3 size: 64505 MB
node 3 free: 61684 MB
node 4 cpus: 56-69,168-181
node 4 size: 64505 MB
node 4 free: 61632 MB
node 5 cpus: 70-83,182-195
node 5 size: 64505 MB
node 5 free: 61663 MB
node 6 cpus: 84-97,196-209
node 6 size: 64505 MB
node 6 free: 61631 MB
node 7 cpus: 98-111,210-223
node 7 size: 64491 MB
node 7 free: 61497 MB
node distances:
node  0  1  2  3  4  5  6  7
0:  10 12 12 12 21 21 21 21
1:  12 10 12 12 21 21 21 21
2:  12 12 10 12 21 21 21 21
3:  12 12 12 10 21 21 21 21
4:  21 21 21 21 10 12 12 12
5:  21 21 21 21 12 10 12 12
6:  21 21 21 21 12 12 10 12
7:  21 21 21 21 12 12 12 10

```

9. /proc/meminfo

MemTotal: 527591048 kB

10. who -r

(Continued on next page)



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## xFusion

SPECrate®2017\_fp\_base = 986

FusionServer G8600 V7 (Intel Xeon Platinum 8480+)

SPECrate®2017\_fp\_peak = 988

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

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

### Platform Notes (Continued)

run-level 3 Jun 14 19:39

-----  
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 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 sshd sssd sysstat systemd-boot-update  
systemd-network-generator tuned udisks2 upower  
enabled-runtime systemd-remount-fs  
disabled blk-availability canberra-system-bootup canberra-system-shutdown  
canberra-system-shutdown-reboot chrony-wait chronyd console-getty cpupower debug-shell  
dnf-system-upgrade kvm\_stat man-db-restart-cache-update nftables nvmet nvmmf-autoconnect  
pesign 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:  
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

(Continued on next page)



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## xFusion

SPECrate®2017\_fp\_base = 986

FusionServer G8600 V7 (Intel Xeon Platinum 8480+)

SPECrate®2017\_fp\_peak = 988

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

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

### Platform Notes (Continued)

```

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/speccpu2017
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/mapper/rhel-home xfs   372G  190G  182G  52% /home

```

```

-----
22. /sys/devices/virtual/dmi/id
Vendor:          XFUSION
Product:         G8600 V7
Product Family: EagleStream

```

```

-----
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 M321R4GA3BB6-CQKDG 32 GB 2 rank 4800

```

(Continued on next page)





# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## xFusion

SPECrate®2017\_fp\_base = 986

FusionServer G8600 V7 (Intel Xeon Platinum 8480+)

SPECrate®2017\_fp\_peak = 988

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

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

### Platform Notes (Continued)

24. BIOS  
(This section combines info from /sys/devices and dmidecode.)  
BIOS Vendor: XFUSION  
BIOS Version: 01.02.02.09  
BIOS Date: 03/04/2024

### 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 2024.0.2 Build 20231213  
Copyright (C) 1985-2023 Intel Corporation. All rights reserved.  
=====

=====  
C++ | 508.namd\_r(base, peak) 510.parest\_r(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 | 511.povray\_r(base, peak) 526.blender\_r(base, peak)  
=====

Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64, Version 2024.0.2 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.  
=====

=====  
C++, C, Fortran | 507.cactuBSSN\_r(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 | 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 2024.0.2 Build 20231213  
Copyright (C) 1985-2023 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 2024.0.2 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.  
=====



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

**xFusion**

**SPECrate®2017\_fp\_base = 986**

**FusionServer G8600 V7 (Intel Xeon Platinum 8480+)**

**SPECrate®2017\_fp\_peak = 988**

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

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

## Base 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

## 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

(Continued on next page)



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## xFusion

SPECrate®2017\_fp\_base = 986

FusionServer G8600 V7 (Intel Xeon Platinum 8480+)

SPECrate®2017\_fp\_peak = 988

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

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

## Base Optimization Flags (Continued)

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
-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

(Continued on next page)



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## xFusion

SPECrate®2017\_fp\_base = 986

FusionServer G8600 V7 (Intel Xeon Platinum 8480+)

SPECrate®2017\_fp\_peak = 988

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

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

## Peak Compiler Invocation (Continued)

Benchmarks using both C and C++:

icpx icx

Benchmarks using Fortran, C, and C++:

icpx icx ifx

## 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: basepeak = yes

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

(Continued on next page)



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2024 Standard Performance Evaluation Corporation

## xFusion

SPECrate®2017\_fp\_base = 986

FusionServer G8600 V7 (Intel Xeon Platinum 8480+)

SPECrate®2017\_fp\_peak = 988

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

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

## Peak Optimization Flags (Continued)

Benchmarks using both Fortran and C (continued):

```
-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.profddata(pass 2) -xCORE-AVX2(pass 1)  
-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](mailto:info@spec.org).

Tested with SPEC CPU®2017 v1.1.9 on 2024-06-14 09:58:36-0400.  
Report generated on 2024-07-03 09:25:03 by CPU2017 PDF formatter v6716.  
Originally published on 2024-07-02.