



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2023 Standard Performance Evaluation Corporation

## ASUSTeK Computer Inc.

ASUS RS720-E10-RS12(Z12PP-D32) Server System  
(2.40 GHz, Intel Xeon Gold 6336Y)

SPECrate®2017\_fp\_base = 449

SPECrate®2017\_fp\_peak = 468

CPU2017 License: 9016

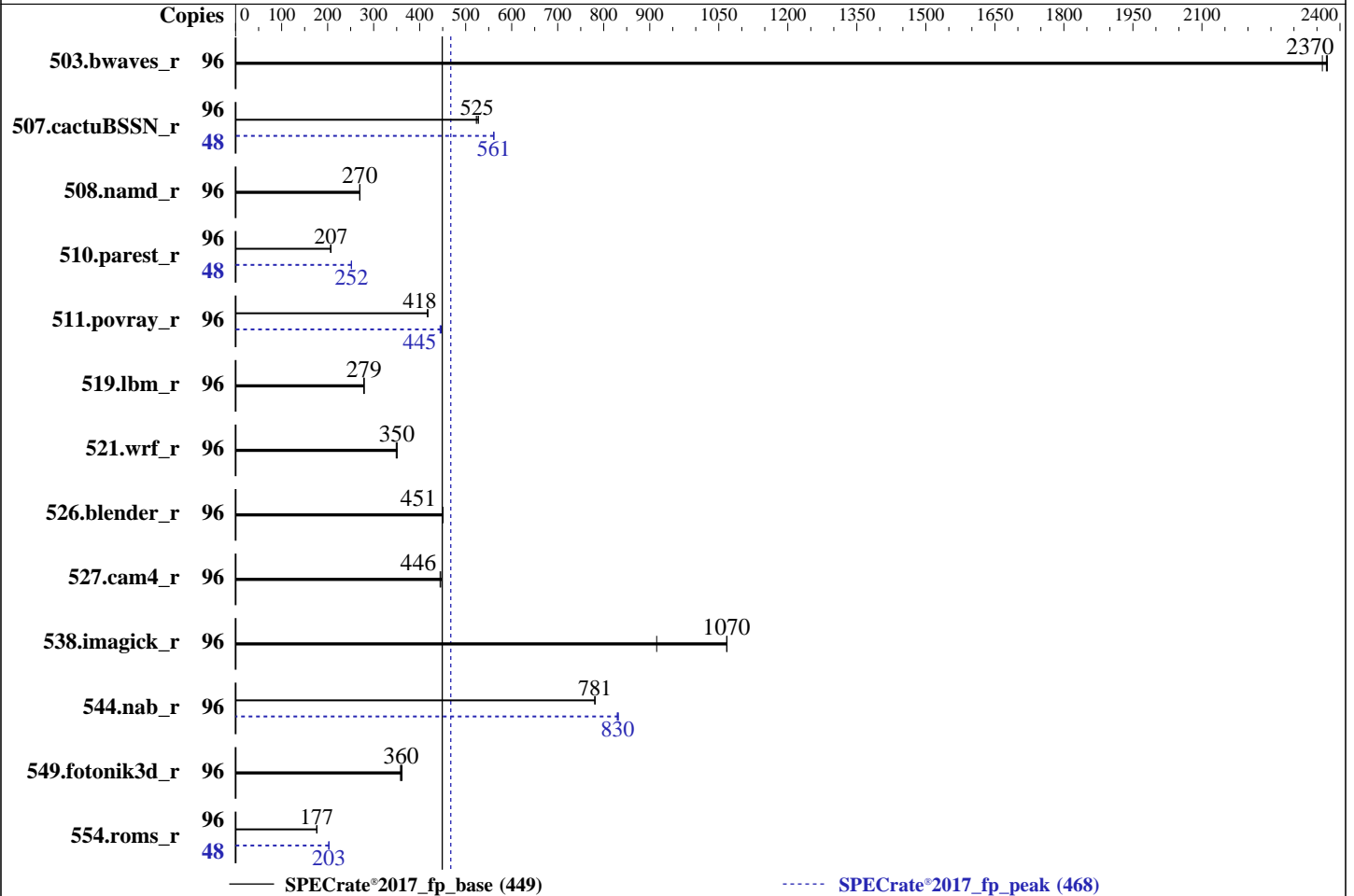
Test Sponsor: ASUSTeK Computer Inc.

Tested by: ASUSTeK Computer Inc.

Test Date: Jan-2023

Hardware Availability: Apr-2022

Software Availability: May-2022



### Hardware

CPU Name: Intel Xeon Gold 6336Y  
 Max MHz: 3600  
 Nominal: 2400  
 Enabled: 48 cores, 2 chips, 2 threads/core  
 Orderable: 1, 2 chip(s)  
 Cache L1: 32 KB I + 48 KB D on chip per core  
 L2: 1.25 MB I+D on chip per core  
 L3: 36 MB I+D on chip per chip  
 Other: None  
 Memory: 1 TB (16 x 64 GB 2Rx4 PC4-3200AA-R)  
 Storage: 1 x 1 TB SATA SSD  
 Other: None

### Software

OS: Red Hat Enterprise Linux release 8.4 (Ootpa)  
 4.18.0-305.25.1.el8\_4.x86\_64  
 Compiler: C/C++: Version 2022.1 of Intel oneAPI DPC++/C++  
 Compiler for Linux;  
 Fortran: Version 2022.1 of Intel Fortran Compiler  
 for Linux;  
 Parallel: No  
 Firmware: Version 0802 released Apr-2022  
 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 2017-2023 Standard Performance Evaluation Corporation

**ASUSTeK Computer Inc.**  
ASUS RS720-E10-RS12(Z12PP-D32) Server System  
(2.40 GHz, Intel Xeon Gold 6336Y)

SPECrate®2017\_fp\_base = 449

SPECrate®2017\_fp\_peak = 468

**CPU2017 License:** 9016  
**Test Sponsor:** ASUSTeK Computer Inc.  
**Tested by:** ASUSTeK Computer Inc.

**Test Date:** Jan-2023  
**Hardware Availability:** Apr-2022  
**Software Availability:** May-2022

## Results Table

| Benchmark       | Base   |             |            |            |             |             |            | Peak   |             |            |            |             |            |            |
|-----------------|--------|-------------|------------|------------|-------------|-------------|------------|--------|-------------|------------|------------|-------------|------------|------------|
|                 | Copies | Seconds     | Ratio      | Seconds    | Ratio       | Seconds     | Ratio      | Copies | Seconds     | Ratio      | Seconds    | Ratio       | Seconds    | Ratio      |
| 503.bwaves_r    | 96     | 406         | 2370       | <b>406</b> | <b>2370</b> | 408         | 2360       | 96     | 406         | 2370       | <b>406</b> | <b>2370</b> | 408        | 2360       |
| 507.cactuBSSN_r | 96     | 232         | 523        | <b>232</b> | <b>525</b>  | 230         | 528        | 48     | <b>108</b>  | <b>561</b> | 108        | 561         | 108        | 561        |
| 508.namd_r      | 96     | 337         | 270        | 338        | 270         | <b>338</b>  | <b>270</b> | 96     | 337         | 270        | 338        | 270         | <b>338</b> | <b>270</b> |
| 510.parest_r    | 96     | 1218        | 206        | 1212       | 207         | <b>1212</b> | <b>207</b> | 48     | 499         | 252        | 499        | 252         | <b>499</b> | <b>252</b> |
| 511.povray_r    | 96     | 538         | 417        | <b>537</b> | <b>418</b>  | 537         | 418        | 96     | 504         | 444        | <b>504</b> | <b>445</b>  | 502        | 447        |
| 519.lbm_r       | 96     | <b>362</b>  | <b>279</b> | 363        | 279         | 362         | 279        | 96     | <b>362</b>  | <b>279</b> | 363        | 279         | 362        | 279        |
| 521.wrf_r       | 96     | 613         | 351        | 616        | 349         | <b>614</b>  | <b>350</b> | 96     | 613         | 351        | 616        | 349         | <b>614</b> | <b>350</b> |
| 526.blender_r   | 96     | <b>324</b>  | <b>451</b> | 324        | 451         | 325         | 450        | 96     | <b>324</b>  | <b>451</b> | 324        | 451         | 325        | 450        |
| 527.cam4_r      | 96     | 378         | 444        | <b>377</b> | <b>446</b>  | 374         | 449        | 96     | 378         | 444        | <b>377</b> | <b>446</b>  | 374        | 449        |
| 538.imagick_r   | 96     | 224         | 1070       | <b>224</b> | <b>1070</b> | 261         | 915        | 96     | 224         | 1070       | <b>224</b> | <b>1070</b> | 261        | 915        |
| 544.nab_r       | 96     | 207         | 781        | 207        | 781         | <b>207</b>  | <b>781</b> | 96     | <b>195</b>  | <b>830</b> | 194        | 832         | 195        | 829        |
| 549.fotonik3d_r | 96     | <b>1040</b> | <b>360</b> | 1044       | 358         | 1034        | 362        | 96     | <b>1040</b> | <b>360</b> | 1044       | 358         | 1034       | 362        |
| 554.roms_r      | 96     | 862         | 177        | 866        | 176         | <b>864</b>  | <b>177</b> | 48     | 376         | 203        | 376        | 203         | <b>376</b> | <b>203</b> |

SPECrate®2017\_fp\_base = **449**

SPECrate®2017\_fp\_peak = **468**

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"  
OS set to performance mode via cpupower frequency-set -g performance

## Environment Variables Notes

Environment variables set by runcpu before the start of the run:  
LD\_LIBRARY\_PATH = "/home/ic22u1/lib/intel64:/home/ic22u1/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

(Continued on next page)



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2023 Standard Performance Evaluation Corporation

**ASUSTeK Computer Inc.**  
ASUS RS720-E10-RS12(Z12PP-D32) Server System  
(2.40 GHz, Intel Xeon Gold 6336Y)

**SPECrate®2017\_fp\_base = 449**  
**SPECrate®2017\_fp\_peak = 468**

**CPU2017 License:** 9016  
**Test Sponsor:** ASUSTeK Computer Inc.  
**Tested by:** ASUSTeK Computer Inc.

**Test Date:** Jan-2023  
**Hardware Availability:** Apr-2022  
**Software Availability:** May-2022

## General Notes (Continued)

```
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.  
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:  
VT-d = Disabled  
Patrol Scrub = Disabled  
SNC = Enable SNC2 (2-clusters)  
Engine Boost = Aggressive  
SR-IOV Support = Disabled  
BMC Configuration:  
Fan mode = Full speed mode

```
Sysinfo program /home/ic22ul/bin/sysinfo
Rev: r6622 of 2021-04-07 982a61ec0915b55891ef0e16acafc64d
running on localhost.localdomain Wed Jan 11 12:21:23 2023
```

SUT (System Under Test) info as seen by some common utilities.  
For more information on this section, see <https://www.spec.org/cpu2017/Docs/config.html#sysinfo>

```
From /proc/cpuinfo
model name : Intel(R) Xeon(R) Gold 6336Y CPU @ 2.40GHz
 2 "physical id"s (chips)
 96 "processors"
cores, siblings (Caution: counting these is hw and system dependent. The following
excerpts from /proc/cpuinfo might not be reliable. Use with caution.)
cpu cores : 24
siblings : 48
physical 0: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
physical 1: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
```

From lscpu from util-linux 2.32.1:

(Continued on next page)



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2023 Standard Performance Evaluation Corporation

**ASUSTeK Computer Inc.**  
ASUS RS720-E10-RS12(Z12PP-D32) Server System  
(2.40 GHz, Intel Xeon Gold 6336Y)

SPECrate®2017\_fp\_base = 449

SPECrate®2017\_fp\_peak = 468

**CPU2017 License:** 9016  
**Test Sponsor:** ASUSTeK Computer Inc.  
**Tested by:** ASUSTeK Computer Inc.

**Test Date:** Jan-2023  
**Hardware Availability:** Apr-2022  
**Software Availability:** May-2022

## Platform Notes (Continued)

```

Architecture:          x86_64
CPU op-mode(s):        32-bit, 64-bit
Byte Order:            Little Endian
CPU(s):                96
On-line CPU(s) list:  0-95
Thread(s) per core:    2
Core(s) per socket:   24
Socket(s):             2
NUMA node(s):         4
Vendor ID:             GenuineIntel
BIOS Vendor ID:       Intel
CPU family:            6
Model:                 106
Model name:            Intel(R) Xeon(R) Gold 6336Y CPU @ 2.40GHz
BIOS Model name:      Intel(R) Xeon(R) Gold 6336Y CPU @ 2.40GHz
Stepping:              6
CPU MHz:               3027.257
CPU max MHz:           3600.0000
CPU min MHz:           800.0000
BogoMIPS:              4800.00
Virtualization:       VT-x
L1d cache:             48K
L1i cache:             32K
L2 cache:              1280K
L3 cache:              36864K
NUMA node0 CPU(s):    0-11,48-59
NUMA node1 CPU(s):    12-23,60-71
NUMA node2 CPU(s):    24-35,72-83
NUMA node3 CPU(s):    36-47,84-95
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 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 invpcid_single
intel_ppin ssbd mba ibrs ibpb stibp ibrs_enhanced tpr_shadow vnmi flexpriority ept
vpid ept_ad fsgsbase tsc_adjust bmil hle 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 wbnoinvd dtherm ida arat pln pts hwp hwp_act_window
hwp_epp hwp_pkg_req avx512vbmi umip pku ospke avx512_vbmi2 gfni vaes vpclmulqdq
avx512_vnni avx512_bitalg tme avx512_vpopcntdq la57 rdpid fsrm md_clear pconfig
flush_lld arch_capabilities

```

```
/proc/cpuinfo cache data
cache size : 36864 KB
```

(Continued on next page)



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2023 Standard Performance Evaluation Corporation

**ASUSTeK Computer Inc.**  
ASUS RS720-E10-RS12(Z12PP-D32) Server System  
(2.40 GHz, Intel Xeon Gold 6336Y)

**SPECrate®2017\_fp\_base = 449**  
**SPECrate®2017\_fp\_peak = 468**

**CPU2017 License:** 9016  
**Test Sponsor:** ASUSTeK Computer Inc.  
**Tested by:** ASUSTeK Computer Inc.

**Test Date:** Jan-2023  
**Hardware Availability:** Apr-2022  
**Software Availability:** May-2022

## Platform Notes (Continued)

```

From numactl --hardware
WARNING: a numactl 'node' might or might not correspond to a physical chip.
  available: 4 nodes (0-3)
  node 0 cpus: 0 1 2 3 4 5 6 7 8 9 10 11 48 49 50 51 52 53 54 55 56 57 58 59
  node 0 size: 257581 MB
  node 0 free: 243582 MB
  node 1 cpus: 12 13 14 15 16 17 18 19 20 21 22 23 60 61 62 63 64 65 66 67 68 69 70 71
  node 1 size: 258042 MB
  node 1 free: 247863 MB
  node 2 cpus: 24 25 26 27 28 29 30 31 32 33 34 35 72 73 74 75 76 77 78 79 80 81 82 83
  node 2 size: 258042 MB
  node 2 free: 248441 MB
  node 3 cpus: 36 37 38 39 40 41 42 43 44 45 46 47 84 85 86 87 88 89 90 91 92 93 94 95
  node 3 size: 258040 MB
  node 3 free: 248450 MB
  node distances:
  node   0   1   2   3
    0:  10  11  20  20
    1:  11  10  20  20
    2:  20  20  10  11
    3:  20  20  11  10

From /proc/meminfo
MemTotal:      1056467852 kB
HugePages_Total:       0
Hugepagesize:       2048 kB

/sbin/tuned-adm active
  Current active profile: throughput-performance

/sys/devices/system/cpu/cpu*/cpufreq/scaling_governor has
performance

From /etc/*release* /etc/*version*
os-release:
  NAME="Red Hat Enterprise Linux"
  VERSION="8.4 (Ootpa)"
  ID="rhel"
  ID_LIKE="fedora"
  VERSION_ID="8.4"
  PLATFORM_ID="platform:el8"
  PRETTY_NAME="Red Hat Enterprise Linux 8.4 (Ootpa)"
  ANSI_COLOR="0;31"
redhat-release: Red Hat Enterprise Linux release 8.4 (Ootpa)
system-release: Red Hat Enterprise Linux release 8.4 (Ootpa)
system-release-cpe: cpe:/o:redhat:enterprise_linux:8.4:ga

```

(Continued on next page)



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2023 Standard Performance Evaluation Corporation

**ASUSTeK Computer Inc.**  
ASUS RS720-E10-RS12(Z12PP-D32) Server System  
(2.40 GHz, Intel Xeon Gold 6336Y)

**SPECrate®2017\_fp\_base = 449**  
**SPECrate®2017\_fp\_peak = 468**

**CPU2017 License:** 9016  
**Test Sponsor:** ASUSTeK Computer Inc.  
**Tested by:** ASUSTeK Computer Inc.

**Test Date:** Jan-2023  
**Hardware Availability:** Apr-2022  
**Software Availability:** May-2022

## Platform Notes (Continued)

```
uname -a:
Linux localhost.localdomain 4.18.0-305.25.1.el8_4.x86_64 #1 SMP Mon Oct 18 14:34:11
EDT 2021 x86_64 x86_64 x86_64 GNU/Linux
```

Kernel self-reported vulnerability status:

|  |   |
|--|---|
| CVE-2018-12207 (iTLB Multihit):                        | Not affected  |
| CVE-2018-3620 (L1 Terminal Fault):                     | Not affected  |
| Microarchitectural Data Sampling:                      | Not affected  |
| CVE-2017-5754 (Meltdown):                              | Not affected  |
| CVE-2018-3639 (Speculative Store Bypass):              | Mitigation: Speculative Store Bypass disabled via prctl and seccomp |
| CVE-2017-5753 (Spectre variant 1):                     | Mitigation: usercopy/swaps barriers and __user pointer sanitization |
| CVE-2017-5715 (Spectre variant 2):                     | Mitigation: Enhanced IBRS, IBPB: conditional, RSB filling           |
| CVE-2020-0543 (Special Register Buffer Data Sampling): | Not affected  |
| CVE-2019-11135 (TSX Asynchronous Abort):               | Not affected  |

```
run-level 3 Jan 11 05:30
```

```
SPEC is set to: /home/ic22u1
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/mapper/rhel-home xfs   878G  159G  720G  19% /home
```

```
From /sys/devices/virtual/dmi/id
Vendor:          ASUSTeK COMPUTER INC.
Product:         RS720-E10-RS12
Product Family: Server
Serial:          012345678901
```

Additional information from dmidecode 3.2 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 M393A8G40AB2-CWE 64 GB 2 rank 3200
```

```
BIOS:
BIOS Vendor:     American Megatrends Inc.
BIOS Version:    0802
BIOS Date:       04/29/2022
BIOS Revision:   8.2
```

(End of data from sysinfo program)



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2023 Standard Performance Evaluation Corporation

**ASUSTeK Computer Inc.**  
ASUS RS720-E10-RS12(Z12PP-D32) Server System  
(2.40 GHz, Intel Xeon Gold 6336Y)

**SPECrate®2017\_fp\_base = 449**  
**SPECrate®2017\_fp\_peak = 468**

**CPU2017 License:** 9016  
**Test Sponsor:** ASUSTeK Computer Inc.  
**Tested by:** ASUSTeK Computer Inc.

**Test Date:** Jan-2023  
**Hardware Availability:** Apr-2022  
**Software Availability:** May-2022

## 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 2022.1.0 Build 20220316  
Copyright (C) 1985-2022 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 2022.1.0 Build 20220316  
Copyright (C) 1985-2022 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 2022.1.0 Build 20220316  
Copyright (C) 1985-2022 Intel Corporation. All rights reserved.  
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64,  
Version 2022.1.0 Build 20220316  
Copyright (C) 1985-2022 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 2022.1.0 Build 20220316  
Copyright (C) 1985-2022 Intel Corporation. All rights reserved.  
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64,  
Version 2022.1.0 Build 20220316  
Copyright (C) 1985-2022 Intel Corporation. All rights reserved.  
Intel(R) Fortran Compiler for applications running on Intel(R) 64, Version  
2022.1.0 Build 20220316  
Copyright (C) 1985-2022 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

(Continued on next page)



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2023 Standard Performance Evaluation Corporation

**ASUSTeK Computer Inc.**  
ASUS RS720-E10-RS12(Z12PP-D32) Server System  
(2.40 GHz, Intel Xeon Gold 6336Y)

SPECrate®2017\_fp\_base = 449  
SPECrate®2017\_fp\_peak = 468

**CPU2017 License:** 9016  
**Test Sponsor:** ASUSTeK Computer Inc.  
**Tested by:** ASUSTeK Computer Inc.

**Test Date:** Jan-2023  
**Hardware Availability:** Apr-2022  
**Software Availability:** May-2022

## Compiler Version Notes (Continued)

2022.1.0 Build 20220316  
Copyright (C) 1985-2022 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  
2022.1.0 Build 20220316  
Copyright (C) 1985-2022 Intel Corporation. All rights reserved.  
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64,  
Version 2022.1.0 Build 20220316  
Copyright (C) 1985-2022 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

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

(Continued on next page)





# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2023 Standard Performance Evaluation Corporation

**ASUSTeK Computer Inc.**  
ASUS RS720-E10-RS12(Z12PP-D32) Server System  
(2.40 GHz, Intel Xeon Gold 6336Y)

SPECrate®2017\_fp\_base = 449

SPECrate®2017\_fp\_peak = 468

**CPU2017 License:** 9016

**Test Sponsor:** ASUSTeK Computer Inc.

**Tested by:** ASUSTeK Computer Inc.

**Test Date:** Jan-2023

**Hardware Availability:** Apr-2022

**Software Availability:** May-2022

## Base Portability Flags (Continued)

```
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 -xCORE-AVX512 -Ofast -ffast-math
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4 -ljemalloc
-L/usr/local/jemalloc64-5.0.1/lib
```

### C++ benchmarks:

```
-w -m64 -Wl,-z,muldefs -xCORE-AVX512 -Ofast -ffast-math -flto
-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4 -ljemalloc
-L/usr/local/jemalloc64-5.0.1/lib
```

### Fortran benchmarks:

```
-w -m64 -Wl,-z,muldefs -xCORE-AVX512 -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 -xCORE-AVX512 -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 C and C++:

```
-w -m64 -std=c11 -Wl,-z,muldefs -xCORE-AVX512 -Ofast -ffast-math
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4 -ljemalloc
-L/usr/local/jemalloc64-5.0.1/lib
```

### Benchmarks using Fortran, C, and C++:

```
-w -m64 -std=c11 -Wl,-z,muldefs -xCORE-AVX512 -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
```



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2023 Standard Performance Evaluation Corporation

**ASUSTeK Computer Inc.**  
ASUS RS720-E10-RS12(Z12PP-D32) Server System  
(2.40 GHz, Intel Xeon Gold 6336Y)

SPECrate®2017\_fp\_base = 449  
SPECrate®2017\_fp\_peak = 468

**CPU2017 License:** 9016  
**Test Sponsor:** ASUSTeK Computer Inc.  
**Tested by:** ASUSTeK Computer Inc.

**Test Date:** Jan-2023  
**Hardware Availability:** Apr-2022  
**Software Availability:** May-2022

## 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

## 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: -w -std=c11 -m64 -Wl,-z,muldefs -xCORE-AVX512 -Ofast  
-ffast-math -flto -mfpmath=sse -funroll-loops  
-qopt-mem-layout-trans=4 -qopt-zmm-usage=high -ljemalloc  
-L/usr/local/jemalloc64-5.0.1/lib

C++ benchmarks:

508.namd\_r: basepeak = yes

510.parest\_r: -w -m64 -Wl,-z,muldefs -xCORE-AVX512 -Ofast -ffast-math  
-flto -mfpmath=sse -funroll-loops  
-qopt-mem-layout-trans=4 -ljemalloc

(Continued on next page)



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2023 Standard Performance Evaluation Corporation

**ASUSTeK Computer Inc.**  
ASUS RS720-E10-RS12(Z12PP-D32) Server System  
(2.40 GHz, Intel Xeon Gold 6336Y)

SPECrate®2017\_fp\_base = 449  
SPECrate®2017\_fp\_peak = 468

**CPU2017 License:** 9016  
**Test Sponsor:** ASUSTeK Computer Inc.  
**Tested by:** ASUSTeK Computer Inc.

**Test Date:** Jan-2023  
**Hardware Availability:** Apr-2022  
**Software Availability:** May-2022

## Peak Optimization Flags (Continued)

510.parest\_r (continued):  
-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 -xCORE-AVX512 -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:

521.wrf\_r: basepeak = yes

527.cam4\_r: basepeak = yes

Benchmarks using both C and C++:

511.povray\_r: -w -m64 -std=c11 -Wl,-z,muldefs  
-fprofile-generate(pass 1)  
-fprofile-use=default.profddata(pass 2) -xCORE-AVX512  
-Ofast -ffast-math -flto -mfpmath=sse -funroll-loops  
-qopt-mem-layout-trans=4 -ljemalloc  
-L/usr/local/jemalloc64-5.0.1/lib

526.blender\_r: basepeak = yes

Benchmarks using Fortran, C, and C++:

-w -m64 -std=c11 -Wl,-z,muldefs -xCORE-AVX512 -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

The flags files that were used to format this result can be browsed at

[http://www.spec.org/cpu2017/flags/Intel-ic2022-official-linux64\\_revA.2022-10-12.html](http://www.spec.org/cpu2017/flags/Intel-ic2022-official-linux64_revA.2022-10-12.html)  
<http://www.spec.org/cpu2017/flags/ASUSTekPlatform-Settings-z12-V1.2.html>

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

[http://www.spec.org/cpu2017/flags/Intel-ic2022-official-linux64\\_revA.2022-10-12.xml](http://www.spec.org/cpu2017/flags/Intel-ic2022-official-linux64_revA.2022-10-12.xml)  
<http://www.spec.org/cpu2017/flags/ASUSTekPlatform-Settings-z12-V1.2.xml>



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2023 Standard Performance Evaluation Corporation

**ASUSTeK Computer Inc.**

ASUS RS720-E10-RS12(Z12PP-D32) Server System  
(2.40 GHz, Intel Xeon Gold 6336Y)

SPECrate®2017\_fp\_base = 449

SPECrate®2017\_fp\_peak = 468

**CPU2017 License:** 9016

**Test Sponsor:** ASUSTeK Computer Inc.

**Tested by:** ASUSTeK Computer Inc.

**Test Date:** Jan-2023

**Hardware Availability:** Apr-2022

**Software Availability:** May-2022

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 v1.1.8 on 2023-01-11 12:21:23-0500.

Report generated on 2023-03-15 10:17:19 by CPU2017 PDF formatter v6442.

Originally published on 2023-03-14.