



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2021 Standard Performance Evaluation Corporation

## Tyrone Systems

(Test Sponsor: Netweb Pte Ltd)

Tyrone Camarero SDI100A3TB-26  
(2.80 GHz, Intel Xeon Gold 6342)

SPECrate®2017\_fp\_base = 267

SPECrate®2017\_fp\_peak = 279

CPU2017 License: 006042

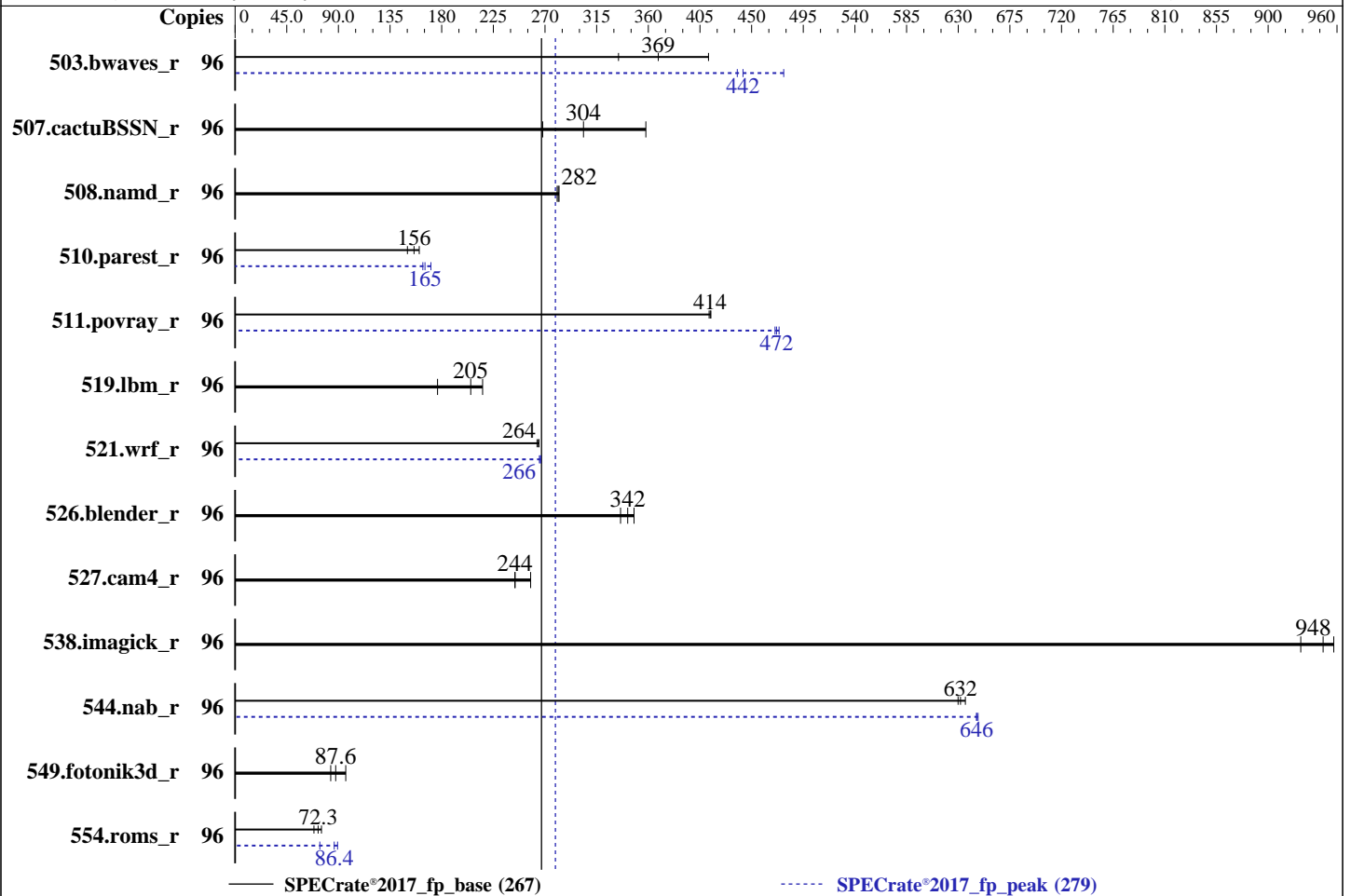
Test Sponsor: Netweb Pte Ltd

Tested by: Tyrone Systems

Test Date: Aug-2021

Hardware Availability: Apr-2021

Software Availability: Jun-2021



### Hardware

CPU Name: Intel Xeon Gold 6342  
 Max MHz: 3500  
 Nominal: 2800  
 Enabled: 48 cores, 2 chips, 2 threads/core  
 Orderable: 1,2 Chips  
 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: 256 GB (16 x 16 GB 1Rx4 PC4-3200AA-R)  
 Storage: 1 x 480 GB SATA SSD  
 Other: None

### Software

OS: CentOS Linux release 8.4.2105  
 Kernel 4.18.0-305.3.1.el8.x86\_64  
 Compiler: C/C++: Version 2021.1 of Intel oneAPI DPC++/C++ Compiler Build 20201113 for Linux;  
 Fortran: Version 2021.1 of Intel Fortran Compiler Classic Build 20201112 for Linux;  
 C/C++: Version 2021.1 of Intel C/C++ Compiler Classic Build 20201112 for Linux  
 Parallel: No  
 Firmware: Version 1.1a released Jun-2021  
 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 set to prefer performance at the cost of additional power usage.



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2021 Standard Performance Evaluation Corporation

## Tyrone Systems

(Test Sponsor: Netweb Pte Ltd)

Tyrone Camarero SDI100A3TB-26  
(2.80 GHz, Intel Xeon Gold 6342)

SPECrate®2017\_fp\_base = 267

SPECrate®2017\_fp\_peak = 279

CPU2017 License: 006042

Test Sponsor: Netweb Pte Ltd

Tested by: Tyrone Systems

Test Date: Aug-2021

Hardware Availability: Apr-2021

Software Availability: Jun-2021

## Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
503.bwaves_r	96	2882	334	<b><u>2611</u></b>	<b><u>369</u></b>	2334	412	96	2200	438	<b><u>2176</u></b>	<b><u>442</u></b>	2014	478
507.cactuBSSN_r	96	454	268	<b><u>400</u></b>	<b><u>304</u></b>	340	358	96	454	268	<b><u>400</u></b>	<b><u>304</u></b>	340	358
508.namd_r	96	325	281	<b><u>324</u></b>	<b><u>282</u></b>	323	282	96	325	281	<b><u>324</u></b>	<b><u>282</u></b>	323	282
510.parest_r	96	1673	150	<b><u>1611</u></b>	<b><u>156</u></b>	1565	160	96	<b><u>1518</u></b>	<b><u>165</u></b>	1535	164	1472	171
511.povray_r	96	543	413	<b><u>541</u></b>	<b><u>414</u></b>	541	415	96	<b><u>475</u></b>	<b><u>472</u></b>	473	474	477	470
519.lbm_r	96	574	176	<b><u>493</u></b>	<b><u>205</u></b>	469	216	96	574	176	<b><u>493</u></b>	<b><u>205</u></b>	469	216
521.wrf_r	96	812	265	<b><u>814</u></b>	<b><u>264</u></b>	817	263	96	811	265	808	266	<b><u>809</u></b>	<b><u>266</u></b>
526.blender_r	96	435	336	<b><u>427</u></b>	<b><u>342</u></b>	421	348	96	435	336	<b><u>427</u></b>	<b><u>342</u></b>	421	348
527.cam4_r	96	689	244	<b><u>688</u></b>	<b><u>244</u></b>	652	257	96	689	244	<b><u>688</u></b>	<b><u>244</u></b>	652	257
538.imagick_r	96	257	928	<b><u>252</u></b>	<b><u>948</u></b>	249	957	96	257	928	<b><u>252</u></b>	<b><u>948</u></b>	249	957
544.nab_r	96	257	630	<b><u>256</u></b>	<b><u>632</u></b>	254	636	96	250	647	<b><u>250</u></b>	<b><u>646</u></b>	250	646
549.fotonik3d_r	96	4491	83.3	<b><u>4269</u></b>	<b><u>87.6</u></b>	3881	96.4	96	4491	83.3	<b><u>4269</u></b>	<b><u>87.6</u></b>	3881	96.4
554.roms_r	96	2221	68.7	<b><u>2109</u></b>	<b><u>72.3</u></b>	2027	75.2	96	2067	73.8	<b><u>1766</u></b>	<b><u>86.4</u></b>	1709	89.3

SPECrate®2017\_fp\_base = 267

SPECrate®2017\_fp\_peak = 279

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/cpu2017/lib/intel64:/home/cpu2017/je5.0.1-64"  
MALLOCONF = "retain:true"

## General Notes

Binaries compiled locally by Netweb  
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.:

(Continued on next page)



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2021 Standard Performance Evaluation Corporation

**Tyrone Systems**

(Test Sponsor: Netweb Pte Ltd)

**Tyrone Camarero SDI100A3TB-26**  
(2.80 GHz, Intel Xeon Gold 6342)

**SPECrate®2017\_fp\_base = 267**

**SPECrate®2017\_fp\_peak = 279**

**CPU2017 License:** 006042

**Test Sponsor:** Netweb Pte Ltd

**Tested by:** Tyrone Systems

**Test Date:** Aug-2021

**Hardware Availability:** Apr-2021

**Software Availability:** Jun-2021

## General Notes (Continued)

```
numactl --interleave=all runcpu <etc>
```

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.

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.

NA: The test sponsor attests, as of date of publication, that CVE-2017-5754 (Meltdown) 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 Settings:

Power Technology set to Custom

Power Performance Tuning set to BIOS Controls EPB

ENERGY\_PERF\_BIAS\_CFG mode set to Performance

LLC Dead Line Alloc set to Disable

Sysinfo program /home/cpu2017/bin/sysinfo

Rev: r6622 of 2021-04-07 982a61ec0915b55891ef0e16acafc64d

running on spec-6342 Sun Aug 22 18:34:40 2021

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 6342 CPU @ 2.80GHz

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:

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

(Continued on next page)



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2021 Standard Performance Evaluation Corporation

**Tyrone Systems**

(Test Sponsor: Netweb Pte Ltd)

**Tyrone Camarero SDI100A3TB-26**  
(2.80 GHz, Intel Xeon Gold 6342)

**SPECrate®2017\_fp\_base = 267**

**SPECrate®2017\_fp\_peak = 279**

**CPU2017 License:** 006042

**Test Sponsor:** Netweb Pte Ltd

**Tested by:** Tyrone Systems

**Test Date:** Aug-2021

**Hardware Availability:** Apr-2021

**Software Availability:** Jun-2021

## Platform Notes (Continued)

```

Core(s) per socket: 24
Socket(s): 2
NUMA node(s): 2
Vendor ID: GenuineIntel
BIOS Vendor ID: Intel(R) Corporation
CPU family: 6
Model: 106
Model name: Intel(R) Xeon(R) Gold 6342 CPU @ 2.80GHz
BIOS Model name: Intel(R) Xeon(R) Gold 6342 CPU @ 2.80GHz
Stepping: 6
CPU MHz: 3285.597
CPU max MHz: 3500.0000
CPU min MHz: 800.0000
BogoMIPS: 5600.00
Virtualization: VT-x
L1d cache: 48K
L1i cache: 32K
L2 cache: 1280K
L3 cache: 36864K
NUMA node0 CPU(s): 0-23,48-71
NUMA node1 CPU(s): 24-47,72-95
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
aperfmpperf 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 bmi1 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 avx512vbmi umip pku
ospke avx512_vbmi2 gfni vaes vpclmulqdq avx512_vnni avx512_bitalg tme
avx512_vpopcntdq la57 rdpid fsrm md_clear pconfig flush_l1d arch_capabilities

```

```

/proc/cpuinfo cache data
cache size : 36864 KB

```

From numactl --hardware

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

```

available: 2 nodes (0-1)
node 0 cpus: 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 48 49 50 51
52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71
node 0 size: 128603 MB
node 0 free: 15813 MB
node 1 cpus: 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 72
73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95

```

(Continued on next page)



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2021 Standard Performance Evaluation Corporation

**Tyrone Systems**

(Test Sponsor: Netweb Pte Ltd)

**Tyrone Camarero SDI100A3TB-26**  
(2.80 GHz, Intel Xeon Gold 6342)

**SPECrate®2017\_fp\_base = 267**

**SPECrate®2017\_fp\_peak = 279**

**CPU2017 License:** 006042

**Test Sponsor:** Netweb Pte Ltd

**Tested by:** Tyrone Systems

**Test Date:** Aug-2021

**Hardware Availability:** Apr-2021

**Software Availability:** Jun-2021

## Platform Notes (Continued)

```
node 1 size: 128974 MB
node 1 free: 97112 MB
node distances:
node  0  1
  0:  10  20
  1:  20  10
```

From /proc/meminfo

```
MemTotal:      263759376 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\*

```
centos-release: CentOS Linux release 8.4.2105
centos-release-upstream: Derived from Red Hat Enterprise Linux 8.4
os-release:
  NAME="CentOS Linux"
  VERSION="8"
  ID="centos"
  ID_LIKE="rhel fedora"
  VERSION_ID="8"
  PLATFORM_ID="platform:el8"
  PRETTY_NAME="CentOS Linux 8"
  ANSI_COLOR="0;31"
redhat-release: CentOS Linux release 8.4.2105
system-release: CentOS Linux release 8.4.2105
system-release-cpe: cpe:/o:centos:centos:8
```

uname -a:

```
Linux spec-6342 4.18.0-305.3.1.el8.x86_64 #1 SMP Tue Jun 1 16:14:33 UTC 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
```

(Continued on next page)



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2021 Standard Performance Evaluation Corporation

**Tyrone Systems**

(Test Sponsor: Netweb Pte Ltd)

**Tyrone Camarero SDI100A3TB-26**  
(2.80 GHz, Intel Xeon Gold 6342)

**SPECrate®2017\_fp\_base = 267**

**SPECrate®2017\_fp\_peak = 279**

**CPU2017 License:** 006042

**Test Sponsor:** Netweb Pte Ltd

**Tested by:** Tyrone Systems

**Test Date:** Aug-2021

**Hardware Availability:** Apr-2021

**Software Availability:** Jun-2021

## Platform Notes (Continued)

CVE-2017-5753 (Spectre variant 1):

Mitigation: usercopy/swaggs  
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 2 22:32

SPEC is set to: /home/cpu2017

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
/dev/mapper/cl-home	xfs	372G	110G	263G	30%	/home

From /sys/devices/virtual/dmi/id

Vendor: Tyrone Systems  
 Product: SDI100A3TB-26  
 Product Family: SMC X12  
 Serial: 123456789

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 M393A2K40DB3-CWE 16 GB 1 rank 3200

BIOS:

BIOS Vendor: American Megatrends International, LLC.  
 BIOS Version: 1.1a  
 BIOS Date: 06/25/2021  
 BIOS Revision: 5.22

(End of data from sysinfo program)

## 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 2021.1 Build 20201113
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.
=====

```

(Continued on next page)



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2021 Standard Performance Evaluation Corporation

**Tyrone Systems**

(Test Sponsor: Netweb Pte Ltd)

**Tyrone Camarero SDI100A3TB-26**  
(2.80 GHz, Intel Xeon Gold 6342)

**SPECrate®2017\_fp\_base = 267**

**SPECrate®2017\_fp\_peak = 279**

**CPU2017 License:** 006042

**Test Sponsor:** Netweb Pte Ltd

**Tested by:** Tyrone Systems

**Test Date:** Aug-2021

**Hardware Availability:** Apr-2021

**Software Availability:** Jun-2021

## Compiler Version Notes (Continued)

=====  
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 2021.1 Build 20201113  
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.  
-----

=====  
C++, C | 511.povray\_r(peak)  
-----

Intel(R) C++ Intel(R) 64 Compiler Classic for applications running on  
Intel(R) 64, Version 2021.1 Build 20201112\_000000  
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.  
Intel(R) C Intel(R) 64 Compiler Classic for applications running on Intel(R)  
64, Version 2021.1 Build 20201112\_000000  
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.  
-----

=====  
C++, C | 511.povray\_r(base) 526.blender\_r(base, peak)  
-----

Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64,  
Version 2021.1 Build 20201113  
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.  
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64,  
Version 2021.1 Build 20201113  
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.  
-----

=====  
C++, C | 511.povray\_r(peak)  
-----

Intel(R) C++ Intel(R) 64 Compiler Classic for applications running on  
Intel(R) 64, Version 2021.1 Build 20201112\_000000  
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.  
Intel(R) C Intel(R) 64 Compiler Classic for applications running on Intel(R)  
64, Version 2021.1 Build 20201112\_000000  
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.  
-----

=====  
C++, C | 511.povray\_r(base) 526.blender\_r(base, peak)  
-----

Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64,  
Version 2021.1 Build 20201113  
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.

(Continued on next page)



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2021 Standard Performance Evaluation Corporation

**Tyrone Systems**

(Test Sponsor: Netweb Pte Ltd)

**Tyrone Camarero SDI100A3TB-26**  
(2.80 GHz, Intel Xeon Gold 6342)

**SPECrate®2017\_fp\_base = 267**

**SPECrate®2017\_fp\_peak = 279**

**CPU2017 License:** 006042

**Test Sponsor:** Netweb Pte Ltd

**Tested by:** Tyrone Systems

**Test Date:** Aug-2021

**Hardware Availability:** Apr-2021

**Software Availability:** Jun-2021

## Compiler Version Notes (Continued)

Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64,  
Version 2021.1 Build 20201113  
Copyright (C) 1985-2020 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 2021.1 Build 20201113  
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.

Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64,  
Version 2021.1 Build 20201113  
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.

Intel(R) Fortran Intel(R) 64 Compiler Classic for applications running on  
Intel(R) 64, Version 2021.1 Build 20201112\_000000  
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.

=====  
Fortran | 503.bwaves\_r(base, peak) 549.fotonik3d\_r(base, peak)  
| 554.roms\_r(base, peak)

Intel(R) Fortran Intel(R) 64 Compiler Classic for applications running on  
Intel(R) 64, Version 2021.1 Build 20201112\_000000  
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.

=====  
Fortran, C | 521.wrf\_r(peak)

Intel(R) Fortran Intel(R) 64 Compiler Classic for applications running on  
Intel(R) 64, Version 2021.1 Build 20201112\_000000  
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.

Intel(R) C Intel(R) 64 Compiler Classic for applications running on Intel(R)  
64, Version 2021.1 Build 20201112\_000000  
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.

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

Intel(R) Fortran Intel(R) 64 Compiler Classic for applications running on  
Intel(R) 64, Version 2021.1 Build 20201112\_000000  
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.

Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64,  
Version 2021.1 Build 20201113

(Continued on next page)





# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2021 Standard Performance Evaluation Corporation

**Tyrone Systems**  
 (Test Sponsor: Netweb Pte Ltd)  
**Tyrone Camarero SDI100A3TB-26**  
 (2.80 GHz, Intel Xeon Gold 6342)

**SPECrate®2017\_fp\_base = 267**  
**SPECrate®2017\_fp\_peak = 279**

**CPU2017 License:** 006042  
**Test Sponsor:** Netweb Pte Ltd  
**Tested by:** Tyrone Systems

**Test Date:** Aug-2021  
**Hardware Availability:** Apr-2021  
**Software Availability:** Jun-2021

## Compiler Version Notes (Continued)

Copyright (C) 1985-2020 Intel Corporation. All rights reserved.

```
=====
Fortran, C      | 521.wrf_r(peak)
=====
```

```
Intel(R) Fortran Intel(R) 64 Compiler Classic for applications running on
  Intel(R) 64, Version 2021.1 Build 20201112_000000
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.
Intel(R) C Intel(R) 64 Compiler Classic for applications running on Intel(R)
  64, Version 2021.1 Build 20201112_000000
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.
```

```
=====
Fortran, C      | 521.wrf_r(base) 527.cam4_r(base, peak)
=====
```

```
Intel(R) Fortran Intel(R) 64 Compiler Classic for applications running on
  Intel(R) 64, Version 2021.1 Build 20201112_000000
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.
Intel(R) oneAPI DPC++/C++ Compiler for applications running on Intel(R) 64,
  Version 2021.1 Build 20201113
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.
```

## Base Compiler Invocation

C benchmarks:  
icx

C++ benchmarks:  
icpx

Fortran benchmarks:  
ifort

Benchmarks using both Fortran and C:  
ifort icx

Benchmarks using both C and C++:  
icpx icx

Benchmarks using Fortran, C, and C++:  
icpx icx ifort



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2021 Standard Performance Evaluation Corporation

**Tyrone Systems**  
(Test Sponsor: Netweb Pte Ltd)  
**Tyrone Camarero SDI100A3TB-26**  
(2.80 GHz, Intel Xeon Gold 6342)

**SPECrate®2017\_fp\_base = 267**

**SPECrate®2017\_fp\_peak = 279**

**CPU2017 License:** 006042  
**Test Sponsor:** Netweb Pte Ltd  
**Tested by:** Tyrone Systems

**Test Date:** Aug-2021  
**Hardware Availability:** Apr-2021  
**Software Availability:** Jun-2021

## 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 -xCORE-AVX512 -Ofast -ffast-math  
-flto -mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4  
-mbranches-within-32B-boundaries -ljemalloc -L/usr/local/je5.0.1-64/lib
```

### C++ benchmarks:

```
-w -m64 -Wl,-z,muldefs -xCORE-AVX512 -Ofast -ffast-math -flto  
-mfpmath=sse -funroll-loops -qopt-mem-layout-trans=4  
-mbranches-within-32B-boundaries -ljemalloc -L/usr/local/je5.0.1-64/lib
```

### Fortran benchmarks:

```
-w -m64 -Wl,-z,muldefs -xCORE-AVX512 -O3 -ipo -no-prec-div  
-qopt-prefetch -ffinite-math-only  
-qopt-multiple-gather-scatter-by-shuffles -qopt-mem-layout-trans=4  
-nostandard-realloc-lhs -align array32byte -auto  
-mbranches-within-32B-boundaries -ljemalloc -L/usr/local/je5.0.1-64/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 -O3 -ipo  
-no-prec-div -qopt-prefetch -ffinite-math-only  
-qopt-multiple-gather-scatter-by-shuffles  
-mbranches-within-32B-boundaries -nostandard-realloc-lhs  
-align array32byte -auto -ljemalloc -L/usr/local/je5.0.1-64/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
```

(Continued on next page)



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2021 Standard Performance Evaluation Corporation

**Tyrone Systems**  
(Test Sponsor: Netweb Pte Ltd)  
**Tyrone Camarero SDI100A3TB-26**  
(2.80 GHz, Intel Xeon Gold 6342)

**SPECrate®2017\_fp\_base = 267**

**SPECrate®2017\_fp\_peak = 279**

**CPU2017 License:** 006042  
**Test Sponsor:** Netweb Pte Ltd  
**Tested by:** Tyrone Systems

**Test Date:** Aug-2021  
**Hardware Availability:** Apr-2021  
**Software Availability:** Jun-2021

## Base Optimization Flags (Continued)

Benchmarks using both C and C++ (continued):

```
-mbranches-within-32B-boundaries -ljemalloc -L/usr/local/je5.0.1-64/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 -O3  
-no-prec-div -qopt-prefetch -ffinite-math-only  
-qopt-multiple-gather-scatter-by-shuffles  
-mbranches-within-32B-boundaries -nostandard-realloc-lhs  
-align array32byte -auto -ljemalloc -L/usr/local/je5.0.1-64/lib
```

## Peak Compiler Invocation

C benchmarks:

```
icx
```

C++ benchmarks:

```
icpx
```

Fortran benchmarks:

```
ifort
```

Benchmarks using both Fortran and C:

```
521.wrf_r: ifort icc
```

```
527.cam4_r: ifort icx
```

Benchmarks using both C and C++:

```
511.povray_r: icpc icc
```

```
526.blender_r: icpx icx
```

Benchmarks using Fortran, C, and C++:

```
icpx icx ifort
```

## Peak Portability Flags

Same as Base Portability Flags



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2021 Standard Performance Evaluation Corporation

**Tyrone Systems**

(Test Sponsor: Netweb Pte Ltd)

**Tyrone Camarero SDI100A3TB-26**  
(2.80 GHz, Intel Xeon Gold 6342)

**SPECrate®2017\_fp\_base = 267**

**SPECrate®2017\_fp\_peak = 279**

**CPU2017 License:** 006042

**Test Sponsor:** Netweb Pte Ltd

**Tested by:** Tyrone Systems

**Test Date:** Aug-2021

**Hardware Availability:** Apr-2021

**Software Availability:** Jun-2021

## 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 -flto  
-Ofast -qopt-mem-layout-trans=4  
-fimf-accuracy-bits=14:sqrt  
-mbranches-within-32B-boundaries -ljemalloc  
-L/usr/local/je5.0.1-64/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 -mbranches-within-32B-boundaries  
-ljemalloc -L/usr/local/je5.0.1-64/lib

Fortran benchmarks:

503.bwaves\_r: -w -m64 -Wl,-z,muldefs -xCORE-AVX512 -O3 -ipo  
-no-prec-div -qopt-prefetch -ffinite-math-only  
-qopt-multiple-gather-scatter-by-shuffles  
-qopt-mem-layout-trans=4 -nostandard-realloc-lhs  
-align array32byte -auto -mbranches-within-32B-boundaries  
-ljemalloc -L/usr/local/je5.0.1-64/lib

549.fotonik3d\_r: basepeak = yes

554.roms\_r: Same as 503.bwaves\_r

Benchmarks using both Fortran and C:

521.wrf\_r: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX512 -O3  
-ipo -no-prec-div -qopt-prefetch -ffinite-math-only  
-qopt-multiple-gather-scatter-by-shuffles  
-qopt-mem-layout-trans=4 -mbranches-within-32B-boundaries  
-nostandard-realloc-lhs -align array32byte -auto  
-L/usr/local/je5.0.1-64/lib -ljemalloc

527.cam4\_r: basepeak = yes

(Continued on next page)



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2021 Standard Performance Evaluation Corporation

**Tyrone Systems**

(Test Sponsor: Netweb Pte Ltd)

**Tyrone Camarero SDI100A3TB-26**  
(2.80 GHz, Intel Xeon Gold 6342)

**SPECrate®2017\_fp\_base = 267**

**SPECrate®2017\_fp\_peak = 279**

**CPU2017 License:** 006042

**Test Sponsor:** Netweb Pte Ltd

**Tested by:** Tyrone Systems

**Test Date:** Aug-2021

**Hardware Availability:** Apr-2021

**Software Availability:** Jun-2021

## Peak Optimization Flags (Continued)

Benchmarks using both C and C++:

```
511.povray_r: -prof-gen(pass 1) -prof-use(pass 2) -xCORE-AVX512 -O3  
-ipo -no-prec-div -qopt-prefetch -ffinite-math-only  
-qopt-multiple-gather-scatter-by-shuffles  
-qopt-mem-layout-trans=4 -mbranches-within-32B-boundaries  
-L/usr/local/je5.0.1-64/lib -ljemalloc
```

526.blender\_r: basepeak = yes

Benchmarks using Fortran, C, and C++:

507.cactuBSSN\_r: basepeak = yes

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

[http://www.spec.org/cpu2017/flags/Intel-ic2021-official-linux64\\_revA.html](http://www.spec.org/cpu2017/flags/Intel-ic2021-official-linux64_revA.html)

<http://www.spec.org/cpu2017/flags/Tyrone-Platform-Settings-V1.2-CLX-revI.html>

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

[http://www.spec.org/cpu2017/flags/Intel-ic2021-official-linux64\\_revA.xml](http://www.spec.org/cpu2017/flags/Intel-ic2021-official-linux64_revA.xml)

<http://www.spec.org/cpu2017/flags/Tyrone-Platform-Settings-V1.2-CLX-revI.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 v1.1.8 on 2021-08-22 18:34:40-0400.

Report generated on 2021-09-21 16:18:56 by CPU2017 PDF formatter v6442.

Originally published on 2021-09-21.