



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

## ASUSTeK Computer Inc.

ASUS ESC8000 G4(Z11PG-D24) Server System  
(2.70 GHz, Intel Xeon Gold 6258R)

SPECrate®2017\_fp\_base = 299

SPECrate®2017\_fp\_peak = 321

CPU2017 License: 9016

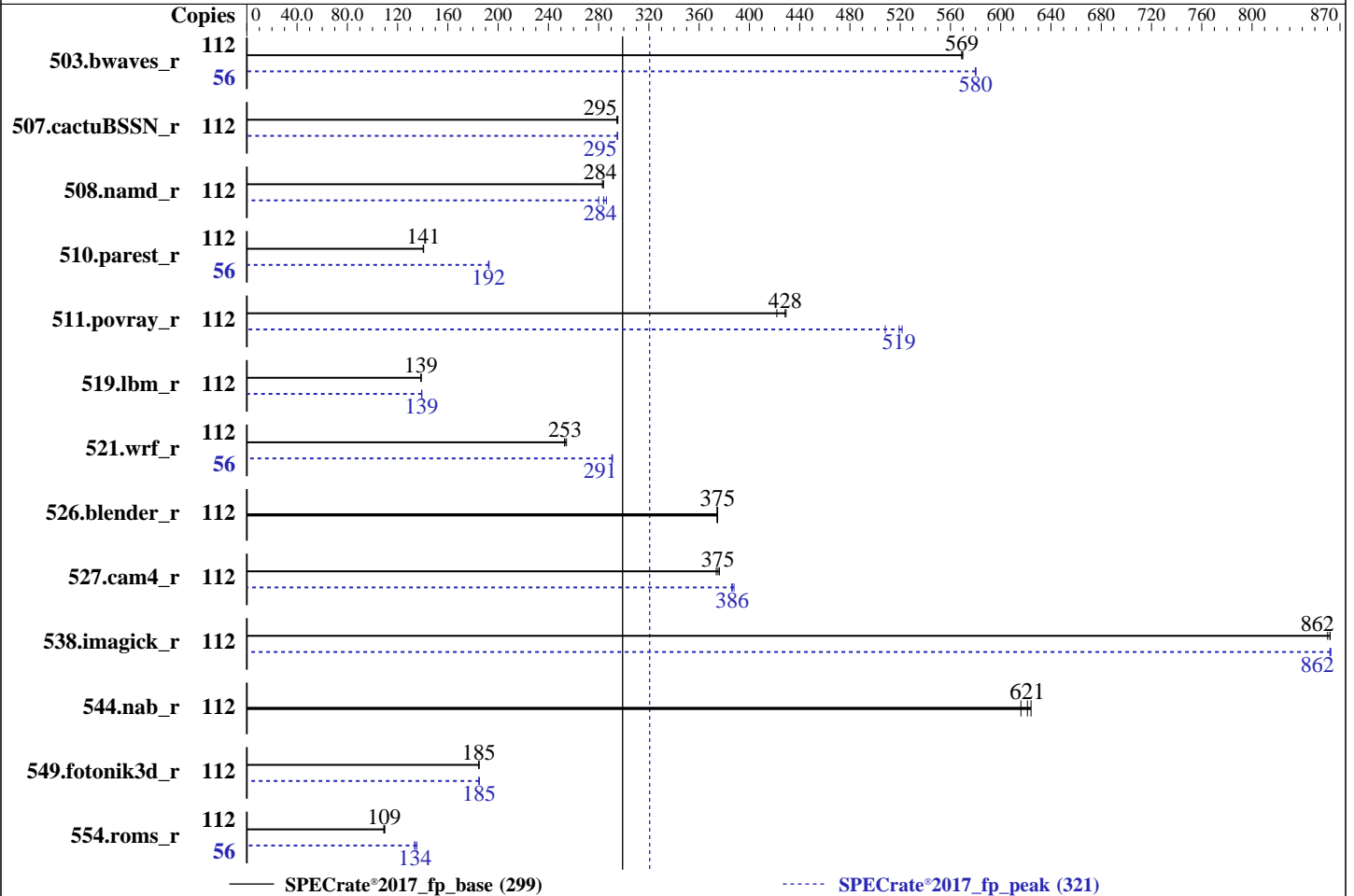
Test Sponsor: ASUSTeK Computer Inc.

Tested by: ASUSTeK Computer Inc.

Test Date: Feb-2020

Hardware Availability: Feb-2020

Software Availability: May-2019



### Hardware

CPU Name: Intel Xeon Gold 6258R  
 Max MHz: 4000  
 Nominal: 2700  
 Enabled: 56 cores, 2 chips, 2 threads/core  
 Orderable: 1, 2 chip(s)  
 Cache L1: 32 KB I + 32 KB D on chip per core  
 L2: 1 MB I+D on chip per core  
 L3: 38.5 MB I+D on chip per chip  
 Other: None  
 Memory: 768 GB (24 x 32 GB 2Rx4 PC4-2933Y-R)  
 Storage: 1 x 1 TB SATA SSD  
 Other: None

### Software

OS: SUSE Linux Enterprise Server 15  
 Kernel 4.12.14-23-default  
 Compiler: C/C++: Version 19.0.4.227 of Intel C/C++  
 Compiler Build 20190416 for Linux;  
 Fortran: Version 19.0.4.227 of Intel Fortran  
 Compiler Build 20190416 for Linux  
 Parallel: No  
 Firmware: Version 6102 released Dec-2019  
 File System: xfs  
 System State: Run level 3 (multi-user)  
 Base Pointers: 64-bit  
 Peak Pointers: 64-bit  
 Other: None  
 Power Management: BIOS and OS set to prefer performance at the cost of additional power usage



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

**ASUSTeK Computer Inc.**  
ASUS ESC8000 G4(Z11PG-D24) Server System  
(2.70 GHz, Intel Xeon Gold 6258R)

SPECrate®2017\_fp\_base = 299

SPECrate®2017\_fp\_peak = 321

CPU2017 License: 9016

Test Sponsor: ASUSTeK Computer Inc.

Tested by: ASUSTeK Computer Inc.

Test Date: Feb-2020

Hardware Availability: Feb-2020

Software Availability: May-2019

## Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
503.bwaves_r	112	<b>1974</b>	<b>569</b>	1974	569	1971	570	56	968	580	969	580	<b>968</b>	<b>580</b>
507.cactuBSSN_r	112	481	295	480	295	<b>481</b>	<b>295</b>	112	481	295	<b>481</b>	<b>295</b>	480	295
508.namd_r	112	375	284	<b>375</b>	<b>284</b>	376	283	112	372	286	<b>375</b>	<b>284</b>	380	280
510.parest_r	112	2088	140	2082	141	<b>2084</b>	<b>141</b>	56	761	192	<b>761</b>	<b>192</b>	760	193
511.povray_r	112	609	429	620	422	<b>611</b>	<b>428</b>	112	501	522	<b>504</b>	<b>519</b>	515	508
519.lbm_r	112	<b>851</b>	<b>139</b>	851	139	851	139	112	848	139	849	139	<b>848</b>	<b>139</b>
521.wrf_r	112	<b>991</b>	<b>253</b>	993	253	986	254	56	432	291	431	291	<b>431</b>	<b>291</b>
526.blender_r	112	<b>455</b>	<b>375</b>	456	374	455	375	112	<b>455</b>	<b>375</b>	456	374	455	375
527.cam4_r	112	<b>522</b>	<b>375</b>	521	376	524	374	112	508	386	<b>507</b>	<b>386</b>	505	388
538.imagick_r	112	<b>323</b>	<b>862</b>	324	860	323	862	112	323	862	323	863	<b>323</b>	<b>862</b>
544.nab_r	112	<b>303</b>	<b>621</b>	306	616	302	624	112	<b>303</b>	<b>621</b>	306	616	302	624
549.fotonik3d_r	112	<b>2363</b>	<b>185</b>	2362	185	2365	185	112	<b>2361</b>	<b>185</b>	2360	185	2362	185
554.roms_r	112	1632	109	<b>1628</b>	<b>109</b>	1620	110	56	667	133	<b>664</b>	<b>134</b>	657	135

SPECrate®2017\_fp\_base = **299**

SPECrate®2017\_fp\_peak = **321**

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 = "/spec2017\_110/lib/intel64"

## General Notes

Binaries compiled on a system with 1x Intel Core i9-7900X CPU + 32GB RAM  
memory using Redhat Enterprise Linux 7.5  
Transparent Huge Pages enabled by default  
Prior to runcpu invocation  
Filesystem page cache synced and cleared with:

(Continued on next page)



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

**ASUSTeK Computer Inc.**  
ASUS ESC8000 G4(Z11PG-D24) Server System  
(2.70 GHz, Intel Xeon Gold 6258R)

**SPECrate®2017\_fp\_base = 299**  
**SPECrate®2017\_fp\_peak = 321**

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

**Test Date:** Feb-2020  
**Hardware Availability:** Feb-2020  
**Software Availability:** May-2019

## General Notes (Continued)

sync; echo 3> /proc/sys/vm/drop\_caches  
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.

## Platform Notes

BIOS Configuration:  
VT-d = Disabled  
Patrol Scrub = Disabled  
ENERGY\_PERF\_BIAS\_CFG mode = performance  
SNC = Enabled  
IMC interleaving = 1 way

sysinfo program /spec2017\_110/bin/sysinfo  
Rev: r6365 of 2019-08-21 295195f888a3d7edble6e46a485a0011  
running on linux-gh78 Fri Feb 14 09:28:27 2020

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 6258R CPU @ 2.70GHz  
2 "physical id"s (chips)  
112 "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 : 28  
siblings : 56  
physical 0: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14 16 17 18 19 20 21 22 24 25 26 27 28 29 30  
physical 1: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14 16 17 18 19 20 21 22 24 25 26 27 28 29 30

From lscpu:  
Architecture: x86\_64  
CPU op-mode(s): 32-bit, 64-bit  
Byte Order: Little Endian  
CPU(s): 112  
On-line CPU(s) list: 0-111  
Thread(s) per core: 2  
Core(s) per socket: 28

(Continued on next page)



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

## ASUSTeK Computer Inc.

ASUS ESC8000 G4(Z11PG-D24) Server System  
(2.70 GHz, Intel Xeon Gold 6258R)

SPECrate®2017\_fp\_base = 299

SPECrate®2017\_fp\_peak = 321

CPU2017 License: 9016

Test Sponsor: ASUSTeK Computer Inc.

Tested by: ASUSTeK Computer Inc.

Test Date: Feb-2020

Hardware Availability: Feb-2020

Software Availability: May-2019

### Platform Notes (Continued)

```

Socket(s): 2
NUMA node(s): 4
Vendor ID: GenuineIntel
CPU family: 6
Model: 85
Model name: Intel(R) Xeon(R) Gold 6258R CPU @ 2.70GHz
Stepping: 7
CPU MHz: 2700.000
CPU max MHz: 4000.0000
CPU min MHz: 1000.0000
BogoMIPS: 5400.00
Virtualization: VT-x
L1d cache: 32K
L1i cache: 32K
L2 cache: 1024K
L3 cache: 39424K
NUMA node0 CPU(s): 0-3,7-9,14-17,21-23,56-59,63-65,70-73,77-79
NUMA node1 CPU(s): 4-6,10-13,18-20,24-27,60-62,66-69,74-76,80-83
NUMA node2 CPU(s): 28-31,35-37,42-45,49-51,84-87,91-93,98-101,105-107
NUMA node3 CPU(s): 32-34,38-41,46-48,52-55,88-90,94-97,102-104,108-111
Flags: fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov
pat pse36 clflush dts acpi mmx fxsr 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 tsc_known_freq 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 cdp_l3 invpcid_single intel_ppin mba tpr_shadow vnmi flexpriority ept
vpid fsgsbase tsc_adjust bmi1 hle avx2 smep bmi2 erms invpcid rtm cqm mpx rdt_a
avx512f avx512dq rdseed adx smap clflushopt clwb intel_pt avx512cd avx512bw avx512vl
xsaveopt xsavec xgetbv1 xsaves cqm_llc cqm_occup_llc cqm_mbm_total cqm_mbm_local
ibpb ibrs stibp dtherm ida arat pln pts hwp hwp_act_window hwp_epp hwp_pkg_req pku
ospke avx512_vnni arch_capabilities ssbd

```

```

/proc/cpuinfo cache data
cache size : 39424 KB

```

```

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 7 8 9 14 15 16 17 21 22 23 56 57 58 59 63 64 65 70 71 72 73 77 78
79
node 0 size: 192066 MB
node 0 free: 191765 MB
node 1 cpus: 4 5 6 10 11 12 13 18 19 20 24 25 26 27 60 61 62 66 67 68 69 74 75 76 80 81
82 83
node 1 size: 193520 MB
node 1 free: 193193 MB

```

(Continued on next page)



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

## ASUSTeK Computer Inc.

ASUS ESC8000 G4(Z11PG-D24) Server System  
(2.70 GHz, Intel Xeon Gold 6258R)

SPECrate®2017\_fp\_base = 299

SPECrate®2017\_fp\_peak = 321

CPU2017 License: 9016

Test Sponsor: ASUSTeK Computer Inc.

Tested by: ASUSTeK Computer Inc.

Test Date: Feb-2020

Hardware Availability: Feb-2020

Software Availability: May-2019

### Platform Notes (Continued)

```
node 2 cpus: 28 29 30 31 35 36 37 42 43 44 45 49 50 51 84 85 86 87 91 92 93 98 99 100
101 105 106 107
```

```
node 2 size: 193491 MB
```

```
node 2 free: 193111 MB
```

```
node 3 cpus: 32 33 34 38 39 40 41 46 47 48 52 53 54 55 88 89 90 94 95 96 97 102 103 104
108 109 110 111
```

```
node 3 size: 193517 MB
```

```
node 3 free: 193233 MB
```

```
node distances:
```

```
node  0  1  2  3
0:  10  11  21  21
1:  11  10  21  21
2:  21  21  10  11
3:  21  21  11  10
```

```
From /proc/meminfo
```

```
MemTotal: 791138596 kB
```

```
HugePages_Total: 0
```

```
Hugepagesize: 2048 kB
```

```
From /etc/*release* /etc/*version*
```

```
os-release:
```

```
NAME="SLES"
```

```
VERSION="15"
```

```
VERSION_ID="15"
```

```
PRETTY_NAME="SUSE Linux Enterprise Server 15"
```

```
ID="sles"
```

```
ID_LIKE="suse"
```

```
ANSI_COLOR="0;32"
```

```
CPE_NAME="cpe:/o:suse:sles:15"
```

```
uname -a:
```

```
Linux linux-gh78 4.12.14-23-default #1 SMP Tue May 29 21:04:44 UTC 2018 (cd0437b)
x86_64 x86_64 x86_64 GNU/Linux
```

```
Kernel self-reported vulnerability status:
```

```
CVE-2018-3620 (L1 Terminal Fault):
```

```
No status reported
```

```
Microarchitectural Data Sampling:
```

```
No status reported
```

```
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: __user pointer sanitization
```

```
CVE-2017-5715 (Spectre variant 2):
```

```
Mitigation: Indirect Branch Restricted Speculation, IBPB, IBRS_FW
```

```
run-level 3 Feb 14 09:28
```

(Continued on next page)



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

## ASUSTeK Computer Inc.

ASUS ESC8000 G4(Z11PG-D24) Server System  
(2.70 GHz, Intel Xeon Gold 6258R)

SPECrate®2017\_fp\_base = 299

SPECrate®2017\_fp\_peak = 321

CPU2017 License: 9016

Test Sponsor: ASUSTeK Computer Inc.

Tested by: ASUSTeK Computer Inc.

Test Date: Feb-2020

Hardware Availability: Feb-2020

Software Availability: May-2019

### Platform Notes (Continued)

SPEC is set to: /spec2017\_110

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
/dev/sda4	xf	929G	23G	906G	3%	/

From /sys/devices/virtual/dmi/id

BIOS: American Megatrends Inc. 6102 12/19/2019

Vendor: ASUSTeK COMPUTER INC.

Product: Z11PG-D24 Series

Product Family: Server

Serial: System Serial Number

Additional information from dmidecode 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:

24x Samsung M393A4K40CB2-CVF 32 GB 2 rank 2933

(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) C Intel(R) 64 Compiler for applications running on Intel(R) 64,  
Version 19.0.4.227 Build 20190416  
Copyright (C) 1985-2019 Intel Corporation. All rights reserved.

```
=====
C++       | 508.namd_r(base, peak) 510.parest_r(base, peak)
-----
```

Intel(R) C++ Intel(R) 64 Compiler for applications running on Intel(R) 64,  
Version 19.0.4.227 Build 20190416  
Copyright (C) 1985-2019 Intel Corporation. All rights reserved.

```
=====
C++, C    | 511.povray_r(base, peak) 526.blender_r(base, peak)
-----
```

Intel(R) C++ Intel(R) 64 Compiler for applications running on Intel(R) 64,  
Version 19.0.4.227 Build 20190416  
Copyright (C) 1985-2019 Intel Corporation. All rights reserved.

(Continued on next page)



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

## ASUSTeK Computer Inc.

ASUS ESC8000 G4(Z11PG-D24) Server System  
(2.70 GHz, Intel Xeon Gold 6258R)

SPECrate®2017\_fp\_base = 299

SPECrate®2017\_fp\_peak = 321

CPU2017 License: 9016

Test Sponsor: ASUSTeK Computer Inc.

Tested by: ASUSTeK Computer Inc.

Test Date: Feb-2020

Hardware Availability: Feb-2020

Software Availability: May-2019

### Compiler Version Notes (Continued)

Intel(R) C Intel(R) 64 Compiler for applications running on Intel(R) 64,  
Version 19.0.4.227 Build 20190416  
Copyright (C) 1985-2019 Intel Corporation. All rights reserved.

=====  
C++, C, Fortran | 507.cactuBSSN\_r(base, peak)

Intel(R) C++ Intel(R) 64 Compiler for applications running on Intel(R) 64,  
Version 19.0.4.227 Build 20190416

Copyright (C) 1985-2019 Intel Corporation. All rights reserved.

Intel(R) C Intel(R) 64 Compiler for applications running on Intel(R) 64,  
Version 19.0.4.227 Build 20190416

Copyright (C) 1985-2019 Intel Corporation. All rights reserved.

Intel(R) Fortran Intel(R) 64 Compiler for applications running on Intel(R)  
64, Version 19.0.4.227 Build 20190416

Copyright (C) 1985-2019 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 for applications running on Intel(R)  
64, Version 19.0.4.227 Build 20190416

Copyright (C) 1985-2019 Intel Corporation. All rights reserved.

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

Intel(R) Fortran Intel(R) 64 Compiler for applications running on Intel(R)  
64, Version 19.0.4.227 Build 20190416

Copyright (C) 1985-2019 Intel Corporation. All rights reserved.

Intel(R) C Intel(R) 64 Compiler for applications running on Intel(R) 64,  
Version 19.0.4.227 Build 20190416

Copyright (C) 1985-2019 Intel Corporation. All rights reserved.

### Base Compiler Invocation

C benchmarks:

icc -m64 -std=c11

C++ benchmarks:

icpc -m64

(Continued on next page)



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

**ASUSTeK Computer Inc.**

ASUS ESC8000 G4(Z11PG-D24) Server System  
(2.70 GHz, Intel Xeon Gold 6258R)

SPECrate®2017\_fp\_base = 299

SPECrate®2017\_fp\_peak = 321

**CPU2017 License:** 9016

**Test Sponsor:** ASUSTeK Computer Inc.

**Tested by:** ASUSTeK Computer Inc.

**Test Date:** Feb-2020

**Hardware Availability:** Feb-2020

**Software Availability:** May-2019

## Base Compiler Invocation (Continued)

Fortran benchmarks:

```
ifort -m64
```

Benchmarks using both Fortran and C:

```
ifort -m64 icc -m64 -std=c11
```

Benchmarks using both C and C++:

```
icpc -m64 icc -m64 -std=c11
```

Benchmarks using Fortran, C, and C++:

```
icpc -m64 icc -m64 -std=c11 ifort -m64
```

## 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:

```
-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch -ffinite-math-only
```

```
-qopt-mem-layout-trans=4
```

C++ benchmarks:

```
-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch -ffinite-math-only
```

```
-qopt-mem-layout-trans=4
```

Fortran benchmarks:

```
-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch -ffinite-math-only
```

(Continued on next page)





# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

**ASUSTeK Computer Inc.**

ASUS ESC8000 G4(Z11PG-D24) Server System  
(2.70 GHz, Intel Xeon Gold 6258R)

SPECrate®2017\_fp\_base = 299

SPECrate®2017\_fp\_peak = 321

**CPU2017 License:** 9016

**Test Sponsor:** ASUSTeK Computer Inc.

**Tested by:** ASUSTeK Computer Inc.

**Test Date:** Feb-2020

**Hardware Availability:** Feb-2020

**Software Availability:** May-2019

## Base Optimization Flags (Continued)

Fortran benchmarks (continued):

```
-qopt-mem-layout-trans=4 -auto -nostandard-realloc-lhs  
-align array32byte
```

Benchmarks using both Fortran and C:

```
-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch -ffinite-math-only  
-qopt-mem-layout-trans=4 -auto -nostandard-realloc-lhs  
-align array32byte
```

Benchmarks using both C and C++:

```
-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch -ffinite-math-only  
-qopt-mem-layout-trans=4
```

Benchmarks using Fortran, C, and C++:

```
-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch -ffinite-math-only  
-qopt-mem-layout-trans=4 -auto -nostandard-realloc-lhs  
-align array32byte
```

## Peak Compiler Invocation

C benchmarks:

```
icc -m64 -std=c11
```

C++ benchmarks:

```
icpc -m64
```

Fortran benchmarks:

```
ifort -m64
```

Benchmarks using both Fortran and C:

```
ifort -m64 icc -m64 -std=c11
```

Benchmarks using both C and C++:

```
icpc -m64 icc -m64 -std=c11
```

Benchmarks using Fortran, C, and C++:

```
icpc -m64 icc -m64 -std=c11 ifort -m64
```

## Peak Portability Flags

Same as Base Portability Flags



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

## ASUSTeK Computer Inc.

ASUS ESC8000 G4(Z11PG-D24) Server System  
(2.70 GHz, Intel Xeon Gold 6258R)

SPECrate®2017\_fp\_base = 299

SPECrate®2017\_fp\_peak = 321

**CPU2017 License:** 9016

**Test Sponsor:** ASUSTeK Computer Inc.

**Tested by:** ASUSTeK Computer Inc.

**Test Date:** Feb-2020

**Hardware Availability:** Feb-2020

**Software Availability:** May-2019

## Peak Optimization Flags

C benchmarks:

519.lbm\_r: -prof-gen(pass 1) -prof-use(pass 2) -ipo -xCORE-AVX2 -O3  
-no-prec-div -qopt-prefetch -ffinite-math-only  
-qopt-mem-layout-trans=4

538.imagick\_r: -xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch  
-ffinite-math-only -qopt-mem-layout-trans=4

544.nab\_r: basepeak = yes

C++ benchmarks:

508.namd\_r: -prof-gen(pass 1) -prof-use(pass 2) -ipo -xCORE-AVX2 -O3  
-no-prec-div -qopt-prefetch -ffinite-math-only  
-qopt-mem-layout-trans=4

510.parest\_r: -xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch  
-ffinite-math-only -qopt-mem-layout-trans=4

Fortran benchmarks:

503.bwaves\_r: -xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch  
-ffinite-math-only -qopt-mem-layout-trans=4 -auto  
-nostandard-realloc-lhs -align array32byte

549.fotonik3d\_r: Same as 503.bwaves\_r

554.roms\_r: -prof-gen(pass 1) -prof-use(pass 2) -ipo -xCORE-AVX2 -O3  
-no-prec-div -qopt-prefetch -ffinite-math-only  
-qopt-mem-layout-trans=4 -auto -nostandard-realloc-lhs  
-align array32byte

Benchmarks using both Fortran and C:

-prof-gen(pass 1) -prof-use(pass 2) -ipo -xCORE-AVX2 -O3  
-no-prec-div -qopt-prefetch -ffinite-math-only  
-qopt-mem-layout-trans=4 -auto -nostandard-realloc-lhs  
-align array32byte

Benchmarks using both C and C++:

511.povray\_r: -prof-gen(pass 1) -prof-use(pass 2) -ipo -xCORE-AVX2 -O3  
-no-prec-div -qopt-prefetch -ffinite-math-only  
-qopt-mem-layout-trans=4

(Continued on next page)



# SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

## ASUSTeK Computer Inc.

ASUS ESC8000 G4(Z11PG-D24) Server System  
(2.70 GHz, Intel Xeon Gold 6258R)

SPECrate®2017\_fp\_base = 299

SPECrate®2017\_fp\_peak = 321

**CPU2017 License:** 9016

**Test Sponsor:** ASUSTeK Computer Inc.

**Tested by:** ASUSTeK Computer Inc.

**Test Date:** Feb-2020

**Hardware Availability:** Feb-2020

**Software Availability:** May-2019

## Peak Optimization Flags (Continued)

526.blender\_r: basepeak = yes

Benchmarks using Fortran, C, and C++:

```
-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch -ffinite-math-only
-qopt-mem-layout-trans=4 -auto -nostandard-realloc-lhs
-align array32byte
```

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

<http://www.spec.org/cpu2017/flags/ASUSTekPlatform-Settings-z11-V2.0-revF.html>

<http://www.spec.org/cpu2017/flags/Intel-ic19.0ul-official-linux64.2019-07-09.html>

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

<http://www.spec.org/cpu2017/flags/ASUSTekPlatform-Settings-z11-V2.0-revF.xml>

<http://www.spec.org/cpu2017/flags/Intel-ic19.0ul-official-linux64.2019-07-09.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 v1.1.0 on 2020-02-13 20:28:27-0500.

Report generated on 2020-03-16 11:47:33 by CPU2017 PDF formatter v6255.

Originally published on 2020-03-16.