## SPEC CPU®2017 Floating Point Speed Result

**ASUSTeK Computer Inc.**

ASUS RS700-E10(Z12PP-D32) Server System
(2.20 GHz, Intel Xeon Gold 5320)

<table>
<thead>
<tr>
<th>CPU2017 License:</th>
<th>9016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Sponsor:</td>
<td>ASUSTeK Computer Inc.</td>
</tr>
<tr>
<td>Tested by:</td>
<td>ASUSTeK Computer Inc.</td>
</tr>
</tbody>
</table>

**SPECspeed®2017_fp_base = 189**

**SPECspeed®2017_fp_peak = 190**

### Threads

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Threads</th>
</tr>
</thead>
<tbody>
<tr>
<td>603.bwaves_s</td>
<td>52</td>
</tr>
<tr>
<td>607.cactuBSSN_s</td>
<td>52</td>
</tr>
<tr>
<td>619.lbm_s</td>
<td>52</td>
</tr>
<tr>
<td>621.wrf_s</td>
<td>52</td>
</tr>
<tr>
<td>627.cam4_s</td>
<td>52</td>
</tr>
<tr>
<td>628.pop2_s</td>
<td>52</td>
</tr>
<tr>
<td>638.imagick_s</td>
<td>52</td>
</tr>
<tr>
<td>644.nab_s</td>
<td>52</td>
</tr>
<tr>
<td>649.fotonik3d_s</td>
<td>52</td>
</tr>
<tr>
<td>654.roms_s</td>
<td>52</td>
</tr>
</tbody>
</table>

### Hardware

- **CPU Name:** Intel Xeon Gold 5320
- **Max MHz:** 3400
- **Nominal:** 2200
- **Enabled:** 52 cores, 2 chips
- **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:** 39 MB I+D on chip per chip
- **Other:** None
- **Memory:** 1 TB (16 x 64 GB 2Rx4 PC4-3200AA-R, running at 2933)
- **Storage:** 1 x 4 TB PCIE NVME SSD
- **Other:** None

### Software

- **OS:** Red Hat Enterprise Linux release 8.3 (Ootpa)
  4.18.0-240.22.1.el8_3.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:** Yes
- **Firmware:** Version 0504 released May-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 and OS set to prefer performance at the cost of additional power usage.
SPEC CPU®2017 Floating Point Speed Result

ASUSTeK Computer Inc.
ASUS RS700-E10(Z12PP-D32) Server System
(2.20 GHz, Intel Xeon Gold 5320)

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

Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Threads</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Base</td>
<td></td>
<td>Peak</td>
<td></td>
<td>Base</td>
<td></td>
<td>Peak</td>
<td></td>
</tr>
<tr>
<td>603.bwaves_s</td>
<td>52</td>
<td>85.2</td>
<td>85.7</td>
<td>85.4</td>
<td>85.4</td>
<td>52</td>
<td>85.0</td>
<td>694</td>
<td>65.5</td>
</tr>
<tr>
<td>607.cactuBSSN_s</td>
<td>52</td>
<td>67.3</td>
<td>66.8</td>
<td>249</td>
<td>66.6</td>
<td>52</td>
<td>67.3</td>
<td>248</td>
<td>66.6</td>
</tr>
<tr>
<td>619.lbm_s</td>
<td>52</td>
<td>37.2</td>
<td>39.4</td>
<td>133</td>
<td>37.2</td>
<td>52</td>
<td>37.2</td>
<td>141</td>
<td>39.4</td>
</tr>
<tr>
<td>621.wrf_s</td>
<td>52</td>
<td>91.1</td>
<td>90.9</td>
<td>145</td>
<td>91.1</td>
<td>52</td>
<td>86.8</td>
<td>152</td>
<td>86.9</td>
</tr>
<tr>
<td>627.cam4_s</td>
<td>52</td>
<td>66.4</td>
<td>65.9</td>
<td>133</td>
<td>65.9</td>
<td>52</td>
<td>66.4</td>
<td>133</td>
<td>65.9</td>
</tr>
<tr>
<td>628.pop2_s</td>
<td>52</td>
<td>151</td>
<td>150</td>
<td>78.6</td>
<td>150</td>
<td>52</td>
<td>151</td>
<td>78.6</td>
<td>150</td>
</tr>
<tr>
<td>638.imagick_s</td>
<td>52</td>
<td>69.7</td>
<td>69.3</td>
<td>208</td>
<td>69.3</td>
<td>52</td>
<td>69.7</td>
<td>207</td>
<td>69.3</td>
</tr>
<tr>
<td>644.nab_s</td>
<td>52</td>
<td>53.3</td>
<td>53.2</td>
<td>328</td>
<td>53.3</td>
<td>52</td>
<td>53.3</td>
<td>328</td>
<td>53.3</td>
</tr>
<tr>
<td>649.fotonik3d_s</td>
<td>52</td>
<td>80.5</td>
<td>80.2</td>
<td>113</td>
<td>80.6</td>
<td>52</td>
<td>80.8</td>
<td>112</td>
<td>80.2</td>
</tr>
<tr>
<td>654.roms_s</td>
<td>52</td>
<td>76.4</td>
<td>77.9</td>
<td>206</td>
<td>76.4</td>
<td>52</td>
<td>76.4</td>
<td>206</td>
<td>76.4</td>
</tr>
</tbody>
</table>

SPECspeed®2017_fp_base = 189
SPECspeed®2017_fp_peak = 190

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

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:
KMP_AFFINITY = "granularity=fine,compact"
LD_LIBRARY_PATH = "/home/cpu118/lib/intel64:/home/cpu118/je5.0.1-64"
MALLOCONF = "retain:true"
OMP_STACKSIZE = "192M"

General Notes

Binaries compiled on a system with 1x Intel Core i9-7980XE CPU + 64GB RAM memory using Redhat Enterprise Linux 8.0
Transparent Huge Pages enabled by default
Prior to runcpu invocation
Filesistem page cache synced and cleared with:
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-2017-5751 (Spectre variant 2) is mitigated in the system as tested and documented.
jemalloc, a general purpose malloc implementation
(Continued on next page)
ASUSTeK Computer Inc.

ASUS RS700-E10(Z12PP-D32) Server System
(2.20 GHz, Intel Xeon Gold 5320)

SPECspeed®2017_fp_base = 189
SPECspeed®2017_fp_peak = 190

General Notes (Continued)

built with the RedHat Enterprise 7.5, and the system compiler gcc 4.8.5

Platform Notes

BIOS Configuration:
VT-d = Disabled
Patrol Scrub = Disabled
Hyper-Threading = Disable
Engine Boost = Aggressive
SR-IOV Support = Disabled
BMC Configuration:
Fan mode = Full speed mode

Sysinfo program /home/cpu118/bin/sysinfo
Rev: r6622 of 2021-04-07 982a61ec0915b55891ef0e16acac64d
running on localhost.localdomain Sat Dec 18 02:59:43 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 5320 CPU @ 2.20GHz
  2 "physical id"s (chips)
  52 "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 : 26
siblings : 26
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 24 25
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 24 25

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): 52
On-line CPU(s) list: 0-51
Thread(s) per core: 1
Core(s) per socket: 26
Socket(s): 2
NUMA node(s): 2
Vendor ID: GenuineIntel

(Continued on next page)
SPEC CPU®2017 Floating Point Speed Result

ASUSTeK Computer Inc.

ASUS RS700-E10(Z12PP-D32) Server System
(2.20 GHz, Intel Xeon Gold 5320)

SPECspeed®2017_fp_base = 189
SPECspeed®2017_fp_peak = 190

CPU2017 License: 9016
Test Sponsor: ASUSTeK Computer Inc.
Test Date: Dec-2021
Tested by: ASUSTeK Computer Inc.
Software Availability: Mar-2021

Platform Notes (Continued)

CPU family: 6
Model: 106
Model name: Intel(R) Xeon(R) Gold 5320 CPU @ 2.20GHz
Stepping: 6
CPU MHZ: 2691.259
CPU max MHZ: 3400.0000
CPU min MHZ: 800.0000
BogoMIPS: 4400.00
Virtualization: VT-x
L1d cache: 48K
L1i cache: 32K
L2 cache: 1280K
L3 cache: 39936K
NUMA node0 CPU(s): 0-25
NUMA node1 CPU(s): 26-51
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 tm pbe syscall nx pdpe1gb rdtsscp
lm constant_tsc arch_perfmon pebs bts rep_good nopl xtopology nonstop_tsc cpuid
aperfmpref perf pni pclmulqdq dtles64 monitor ds_cpl vmx smx est tm2 ssse3 sdbg fma cx16
xtric pdcm pcid dca sse4_1 sse4_2 x2apic movbe popcnt tsc_deadline_timer aes xsave
avx f16c rdrand lahf_lm abml hle avx2 smep bmi2 ernes invpcid cqm rdt_a
avx512f avx512dq rdsed adx smap avx512ifma clflushopt clwb intel_pt avx512cd sha ni
avx512bw avx512vl xsaveopt xsaves xsaveopt xsaveopt xsaves xsaveopt xsaveopt xsaveopt xsaveopt

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 24 25
node 0 size: 494026 MB
node 0 free: 514252 MB
node 1 cpus: 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51
node 1 size: 494432 MB
node 1 free: 513711 MB
node distances:
node 0 1
 0: 10  20
 1: 20  10

(Continued on next page)
ASUSTeK Computer Inc.  
ASUS RS700-E10(Z12PP-D32) Server System  
(2.20 GHz, Intel Xeon Gold 5320)

SPECspeed®2017_fp_base = 189  
SPECspeed®2017_fp_peak = 190

Platform Notes (Continued)

From /proc/meminfo
  MemTotal:  1056479216 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="8.3 (Ootpa)"
  ID="rhe1"
  ID_LIKE="fedora"
  VERSION_ID="8.3"
  PLATFORM_ID="platform:el8"
  PRETTY_NAME="Red Hat Enterprise Linux 8.3 (Ootpa)"
  ANSI_COLOR="0;31"

redhat-release: Red Hat Enterprise Linux release 8.3 (Ootpa)
system-release: Red Hat Enterprise Linux release 8.3 (Ootpa)
system-release-cpe: cpe:/o:redhat:enterprise_linux:8.3:ga

uname -a:
  Linux localhost.localdomain 4.18.0-240.22.1.el8_3.x86_64 #1 SMP Thu Mar 25 14:36:04 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): Mitigation: Speculative Store Bypass disabled via prct1 and seccomp
CVE-2018-3639 (Speculative Store Bypass): Mitigation: usercopy/swapsgs barriers and __user pointer sanitization
CVE-2017-5753 (Spectre variant 1): Mitigation: Enhanced IBRS, IBPB: conditional, RSB filling
CVE-2017-5715 (Spectre variant 2): Not affected
CVE-2020-0543 (Special Register Buffer Data Sampling): Not affected
CVE-2019-11135 (TSX Asynchronous Abort): Not affected

(Continued on next page)
ASUSTeK Computer Inc.
ASUS RS700-E10(Z12PP-D32) Server System
(2.20 GHz, Intel Xeon Gold 5320)

SPECspeed®2017_fp_base = 189
SPECspeed®2017_fp_peak = 190

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

Test Date: Dec-2021
Hardware Availability: May-2021
Software Availability: Mar-2021

Platform Notes (Continued)

run-level 3 Dec 17 04:42

SPEC is set to: /home/cpu118
Filesystem   Type  Size  Used  Avail  Use%  Mounted on
/dev/mapper/rhel-home xfs   3.6T   31G  3.6T   1% /home

From /sys/devices/virtual/dmi/id
Vendor: ASUSTeK COMPUTER INC.
Product: RS700-E10-RS12U
Product Family: Server

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 NO DIMM NO DIMM
  16x Samsung M393A8G40AB2-CWE 64 GB 2 rank 3200, configured at 2933

  BIOS:
  BIOS Vendor: American Megatrends Inc.
  BIOS Version: 0504
  BIOS Date: 05/26/2021
  BIOS Revision: 5.4

(End of data from sysinfo program)

Compiler Version Notes

==============================================================================
C               | 619.lbm_s(base, peak) 638.imagick_s(base, peak)
                   | 644.nab_s(base)
==============================================================================
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
| 644.nab_s(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)
ASUSTeK Computer Inc.  
ASUS RS700-E10(Z12PP-D32) Server System  
(2.20 GHz, Intel Xeon Gold 5320)

SPECspeed\textsuperscript{\textregistered}2017\textsubscript{fp} peak = 190
SPECspeed\textsuperscript{\textregistered}2017\textsubscript{fp} base = 189

---

Compiler Version Notes (Continued)

C
| 619.lbm_s(base, peak)
| 638.imagick_s(base, peak)
| 644.nab_s(base)

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
| 644.nab_s(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, Fortran
| 607.cactuBSSN_s(base, 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.

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
| 603.bwaves_s(base, peak)
| 649.fotonik3d_s(base, peak)
| 654.roms_s(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
| 621.wrf_s(base, peak)
| 627.cam4_s(base, peak)
| 628.pop2_s(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.

(Continued on next page)
ASUSTeK Computer Inc.
ASUS RS700-E10(Z12PP-D32) Server System
(2.20 GHz, Intel Xeon Gold 5320)

SPECspeed®2017_fp_base = 189
SPECspeed®2017_fp_peak = 190

CPU2017 License: 9016
Test Date: Dec-2021
Test Sponsor: ASUSTeK Computer Inc.
Hardware Availability: May-2021
Tested by: ASUSTeK Computer Inc.
Software Availability: Mar-2021

Compiler Version Notes (Continued)

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.

Base Compiler Invocation

C benchmarks:
icc

Fortran benchmarks:
ifort

Benchmarks using both Fortran and C:
ifort icc

Benchmarks using Fortran, C, and C++:
icpc icc ifort

Base Portability Flags

603.bwaves_s: -DSPEC_LP64
607.cactuBSSN_s: -DSPEC_LP64
619.lbm_s: -DSPEC_LP64
621.wrf_s: -DSPEC_LP64 -DSPEC_CASE_FLAG -convert big_endian
627.cam4_s: -DSPEC_LP64 -DSPEC_CASE_FLAG
628.pop2_s: -DSPEC_LP64 -DSPEC_CASE_FLAG -convert big_endian
-assume byterecl
638.imagick_s: -DSPEC_LP64
644.nab_s: -DSPEC_LP64
649.fotonik3d_s: -DSPEC_LP64
654.roms_s: -DSPEC_LP64

Base Optimization Flags

C benchmarks:
-m64 -std=c11 -xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch
-ffinite-math-only -qopt-mem-layout-trans=4 -qopenmp -DSPEC_OPENMP
-mbranches-within-32B-boundaries

(Continued on next page)
SPEC CPU®2017 Floating Point Speed Result

ASUSTeK Computer Inc.
ASUS RS700-E10(Z12PP-D32) Server System
(2.20 GHz, Intel Xeon Gold 5320)

SPECspeed®2017_fp_base = 189
SPECspeed®2017_fp_peak = 190

CPU2017 License: 9016
Test Sponsor: ASUSTeK Computer Inc.
Test Date: Dec-2021
Tested by: ASUSTeK Computer Inc.
Hardware Availability: May-2021
Software Availability: Mar-2021

Base Optimization Flags (Continued)

Fortran benchmarks:
-m64 -Wl,-z,muldefs -DSPEC_OPENMP -xCORE-AVX2 -ipo -O3 -no-prec-div
-qopt-prefetch -ffinite-math-only -qopt-mem-layout-trans=4 -qopenmp
-nostandard-realloc-lhs -mbranches-within-32B-boundaries
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc

Benchmarks using both Fortran and C:
-m64 -std=c11 -Wl,-z,muldefs -xCORE-AVX2 -ipo -O3 -no-prec-div
-qopt-prefetch -ffinite-math-only -qopt-mem-layout-trans=4 -qopenmp
-DSPEC_OPENMP -mbranches-within-32B-boundaries -nostandard-realloc-lhs
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc

Benchmarks using Fortran, C, and C++:
-m64 -std=c11 -Wl,-z,muldefs -xCORE-AVX2 -ipo -O3 -no-prec-div
-qopt-prefetch -ffinite-math-only -qopt-mem-layout-trans=4 -qopenmp
-DSPEC_OPENMP -mbranches-within-32B-boundaries -nostandard-realloc-lhs
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc

Peak Compiler Invocation

C benchmarks (except as noted below):
icc
644.nab_s: icx

Fortran benchmarks:
ifort

Benchmarks using both Fortran and C:
ifort icc

Benchmarks using Fortran, C, and C++:
icpc icc ifort

Peak Portability Flags

Same as Base Portability Flags
ASUSTeK Computer Inc.
ASUS RS700-E10(Z12PP-D32) Server System
(2.20 GHz, Intel Xeon Gold 5320)

SPECspeed®2017_fp_base = 189
SPECspeed®2017_fp_peak = 190

CPU2017 License: 9016
Test Sponsor: ASUSTeK Computer Inc.
Test Date: Dec-2021
Tested by: ASUSTeK Computer Inc.
Hardware Availability: May-2021
Software Availability: Mar-2021

Peak Optimization Flags

C benchmarks:

619.lbm_s: basepeak = yes
638.imagick_s: basepeak = yes
644.nab_s: -m64 -Wl,-z,muldefs -xcORE-AVX2 -Ofast -ffast-math
-flto -mfpmath=sse -funroll-loops -fiopenmp
-DSPEC_OPENMP -qopt-mem-layout-trans=4
-fimf-accuracy-bits=14:sqrt
-mbranches-within-32B-boundaries
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc

Fortran benchmarks:

603.bwaves_s: -m64 -Wl,-z,muldefs -prof-gen(pass 1) -prof-use(pass 2)
-DSPEC_SUPPRESS_OPENMP -DSPEC_OPENMP -ipo -xcORE-AVX2
-03 -no-prec-div -qopt-prefetch -ffinite-math-only
-qopt-mem-layout-trans=4 -qopenmp -nostandard-realloc-lhs
-mbranches-within-32B-boundaries
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc

649.fotonik3d_s: Same as 603.bwaves_s
654.roms_s: basepeak = yes

Benchmarks using both Fortran and C:

621.wrf_s: -m64 -std=c11 -Wl,-z,muldefs -prof-gen(pass 1)
-prof-use(pass 2) -ipo -xcORE-AVX2 -03 -no-prec-div
-qopt-prefetch -ffinite-math-only -qopt-mem-layout-trans=4
-DSPEC_SUPPRESS_OPENMP -qopenmp -DSPEC_OPENMP
-mbranches-within-32B-boundaries -nostandard-realloc-lhs
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc

627.cam4_s: basepeak = yes
628.pop2_s: basepeak = yes

Benchmarks using Fortran, C, and C++:

607.cactuBSSN_s: basepeak = yes
## SPEC CPU®2017 Floating Point Speed Result

### ASUSTeK Computer Inc.
ASUS RS700-E10(Z12PP-D32) Server System  
(2.20 GHz, Intel Xeon Gold 5320)

<table>
<thead>
<tr>
<th>SPECspeed®2017_fp_base</th>
<th>189</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECspeed®2017_fp_peak</td>
<td>190</td>
</tr>
</tbody>
</table>

**CPU2017 License:** 9016  
**Test Sponsor:** ASUSTeK Computer Inc.  
**Tested by:** ASUSTeK Computer Inc.  
**Test Date:** Dec-2021  
**Hardware Availability:** May-2021  
**Software Availability:** Mar-2021

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

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/ASUSTekPlatform-Settings-z12-V1.2.xml  
http://www.spec.org/cpu2017/flags/Intel-ic2021-official-linux64_revA.xml

---

SPEC CPU and SPECspeed 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.

Tested with SPEC CPU®2017 v1.1.8 on 2021-12-18 02:59:42-0500.  
Report generated on 2022-01-18 18:57:02 by CPU2017 PDF formatter v6442.  
Originally published on 2022-01-18.