



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate®2017_fp_base = 180

PowerEdge R440 (Intel Xeon Gold 6222V, 1.80 GHz)

SPECrate®2017_fp_peak = 190

CPU2017 License: 55

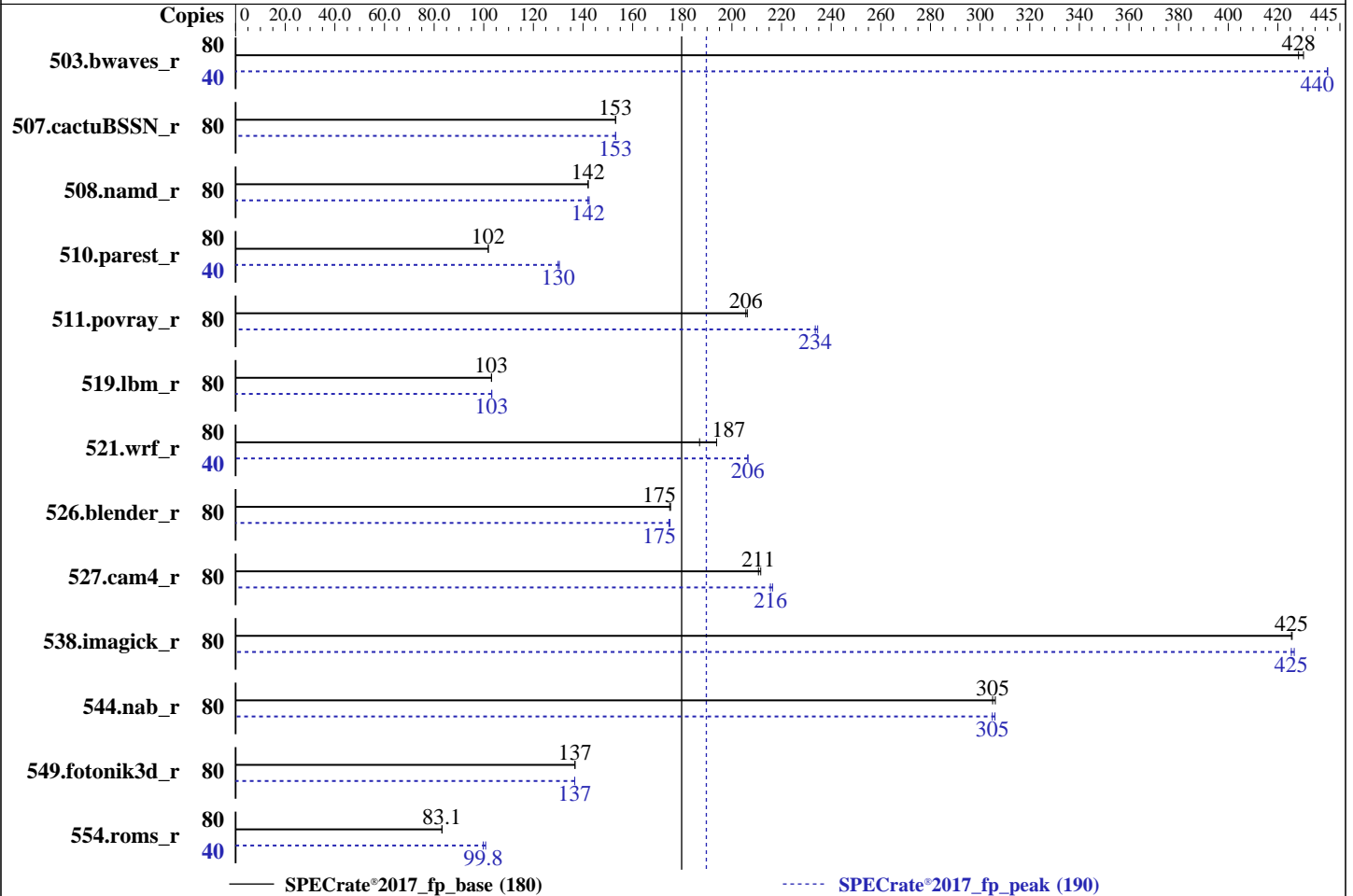
Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Mar-2020

Hardware Availability: Dec-2019

Software Availability: Jun-2019



Hardware

CPU Name: Intel Xeon Gold 6222V
 Max MHz: 3600
 Nominal: 1800
 Enabled: 40 cores, 2 chips, 2 threads/core
 Orderable: 1,2 chips
 Cache L1: 32 KB I + 32 KB D on chip per core
 L2: 1 MB I+D on chip per core
 L3: 27.5 MB I+D on chip per chip
 Other: None
 Memory: 384 GB (12 x 32 GB 2Rx8 PC4-2933V-R)
 Storage: 1 x 960 GB SATA SSD
 Other: None

Software

OS: SUSE Linux Enterprise Server 15 SP1 kernel 4.12.14-195-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 2.4.8 released Nov-2019
 File System: xfs
 System State: Run level 3 (multi-user)
 Base Pointers: 64-bit
 Peak Pointers: 64-bit
 Other: None
 Power Management: BIOS 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

Dell Inc.

SPECrate®2017_fp_base = 180

PowerEdge R440 (Intel Xeon Gold 6222V, 1.80 GHz)

SPECrate®2017_fp_peak = 190

CPU2017 License: 55

Test Date: Mar-2020

Test Sponsor: Dell Inc.

Hardware Availability: Dec-2019

Tested by: Dell Inc.

Software Availability: Jun-2019

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
503.bwaves_r	80	<u>1873</u>	<u>428</u>	1864	430			40	911	440	<u>912</u>	<u>440</u>		
507.cactuBSSN_r	80	661	153	<u>662</u>	<u>153</u>			80	<u>662</u>	<u>153</u>	661	153		
508.namd_r	80	535	142	<u>535</u>	<u>142</u>			80	<u>535</u>	<u>142</u>	533	142		
510.parest_r	80	<u>2056</u>	<u>102</u>	2055	102			40	802	130	<u>805</u>	<u>130</u>		
511.povray_r	80	906	206	<u>909</u>	<u>206</u>			80	<u>800</u>	<u>234</u>	796	235		
519.lbm_r	80	<u>818</u>	<u>103</u>	817	103			80	<u>817</u>	<u>103</u>	817	103		
521.wrf_r	80	<u>959</u>	<u>187</u>	925	194			40	434	206	<u>434</u>	<u>206</u>		
526.blender_r	80	695	175	<u>697</u>	<u>175</u>			80	<u>698</u>	<u>175</u>	696	175		
527.cam4_r	80	661	212	<u>664</u>	<u>211</u>			80	647	216	<u>649</u>	<u>216</u>		
538.imagick_r	80	467	426	<u>468</u>	<u>425</u>			80	466	427	<u>468</u>	<u>425</u>		
544.nab_r	80	<u>441</u>	<u>305</u>	440	306			80	440	306	<u>442</u>	<u>305</u>		
549.fotonik3d_r	80	<u>2280</u>	<u>137</u>	2279	137			80	<u>2281</u>	<u>137</u>	2281	137		
554.roms_r	80	<u>1529</u>	<u>83.1</u>	1528	83.2			40	631	101	<u>637</u>	<u>99.8</u>		

SPECrate®2017_fp_base = 180

SPECrate®2017_fp_peak = 190

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"

General Notes

Binaries compiled on a system with 1x Intel Core i9-7900X CPU + 32GB RAM memory using Redhat Enterprise Linux 7.5
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.

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate®2017_fp_base = 180

PowerEdge R440 (Intel Xeon Gold 6222V, 1.80 GHz)

SPECrate®2017_fp_peak = 190

CPU2017 License: 55

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Mar-2020

Hardware Availability: Dec-2019

Software Availability: Jun-2019

General Notes (Continued)

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.

Transparent Huge Pages enabled by default

Prior to runcpu invocation

Filesystem page cache synced and cleared with:

```
sync; echo 3> /proc/sys/vm/drop_caches
```

runcpu command invoked through numactl i.e.:

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

Platform Notes

BIOS settings:

Sub NUMA Cluster enabled

Virtualization Technology disabled

DCU Streamer Prefetcher disabled

System Profile set to Custom

CPU Performance set to Maximum Performance

C States set to Autonomous

C1E disabled

Uncore Frequency set to Dynamic

Energy Efficiency Policy set to Performance

Memory Patrol Scrub disabled

Logical Processor enabled

CPU Interconnect Bus Link Power Management enabled

PCI ASPM L1 Link Power Management enabled

Sysinfo program /home/cpu2017/bin/sysinfo

Rev: r6365 of 2019-08-21 295195f888a3d7edble6e46a485a0011

running on linux-g3ob Wed Mar 11 12:49:35 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 6222V CPU @ 1.80GHz
```

```
2 "physical id"s (chips)
```

```
80 "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 : 20
```

```
siblings : 40
```

```
physical 0: cores 0 1 2 3 4 8 9 10 11 12 16 17 18 19 20 24 25 26 27 28
```

```
physical 1: cores 0 1 2 3 4 8 9 10 11 12 16 17 18 19 20 24 25 26 27 28
```

From lscpu:

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate®2017_fp_base = 180

PowerEdge R440 (Intel Xeon Gold 6222V, 1.80 GHz)

SPECrate®2017_fp_peak = 190

CPU2017 License: 55

Test Date: Mar-2020

Test Sponsor: Dell Inc.

Hardware Availability: Dec-2019

Tested by: Dell Inc.

Software Availability: Jun-2019

Platform Notes (Continued)

```

Architecture:          x86_64
CPU op-mode(s):        32-bit, 64-bit
Byte Order:            Little Endian
Address sizes:         46 bits physical, 48 bits virtual
CPU(s):                80
On-line CPU(s) list:  0-79
Thread(s) per core:   2
Core(s) per socket:   20
Socket(s):             2
NUMA node(s):         4
Vendor ID:             GenuineIntel
CPU family:            6
Model:                 85
Model name:            Intel(R) Xeon(R) Gold 6222V CPU @ 1.80GHz
Stepping:              7
CPU MHz:               1800.000
CPU max MHz:           3600.0000
CPU min MHz:           800.0000
BogoMIPS:              3600.00
Virtualization:        VT-x
L1d cache:             32K
L1i cache:             32K
L2 cache:              1024K
L3 cache:              28160K
NUMA node0 CPU(s):    0,4,8,12,16,20,24,28,32,36,40,44,48,52,56,60,64,68,72,76
NUMA node1 CPU(s):    1,5,9,13,17,21,25,29,33,37,41,45,49,53,57,61,65,69,73,77
NUMA node2 CPU(s):    2,6,10,14,18,22,26,30,34,38,42,46,50,54,58,62,66,70,74,78
NUMA node3 CPU(s):    3,7,11,15,19,23,27,31,35,39,43,47,51,55,59,63,67,71,75,79
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 pdpelt 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 cdp_l3
invpcid_single intel_ppin ssbd mba ibrs ibpb stibp ibrs_enhanced 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 dtherm ida arat pln pts pku ospke avx512_vnni md_clear flush_lld
arch_capabilities

```

```

/proc/cpuinfo cache data
cache size : 28160 KB

```

```

From numactl --hardware WARNING: a numactl 'node' might or might not correspond to a
physical chip.
available: 4 nodes (0-3)

```

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate®2017_fp_base = 180

PowerEdge R440 (Intel Xeon Gold 6222V, 1.80 GHz)

SPECrate®2017_fp_peak = 190

CPU2017 License: 55

Test Date: Mar-2020

Test Sponsor: Dell Inc.

Hardware Availability: Dec-2019

Tested by: Dell Inc.

Software Availability: Jun-2019

Platform Notes (Continued)

```

node 0 cpus: 0 4 8 12 16 20 24 28 32 36 40 44 48 52 56 60 64 68 72 76
node 0 size: 95146 MB
node 0 free: 94313 MB
node 1 cpus: 1 5 9 13 17 21 25 29 33 37 41 45 49 53 57 61 65 69 73 77
node 1 size: 96734 MB
node 1 free: 96336 MB
node 2 cpus: 2 6 10 14 18 22 26 30 34 38 42 46 50 54 58 62 66 70 74 78
node 2 size: 96764 MB
node 2 free: 96335 MB
node 3 cpus: 3 7 11 15 19 23 27 31 35 39 43 47 51 55 59 63 67 71 75 79
node 3 size: 96762 MB
node 3 free: 96353 MB
node distances:
node  0  1  2  3
  0:  10  21  11  21
  1:  21  10  21  11
  2:  11  21  10  21
  3:  21  11  21  10

```

From /proc/meminfo

```

MemTotal:      394657708 kB
HugePages_Total:      0
Hugepagesize:    2048 kB

```

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

```

os-release:
NAME="SLES"
VERSION="15-SP1"
VERSION_ID="15.1"
PRETTY_NAME="SUSE Linux Enterprise Server 15 SP1"
ID="sles"
ID_LIKE="suse"
ANSI_COLOR="0;32"
CPE_NAME="cpe:/o:suse:sles:15:sp1"

```

uname -a:

```

Linux linux-g3ob 4.12.14-195-default #1 SMP Tue May 7 10:55:11 UTC 2019 (8fba516)
x86_64 x86_64 x86_64 GNU/Linux

```

Kernel self-reported vulnerability status:

```

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: __user pointer sanitization

```

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate®2017_fp_base = 180

PowerEdge R440 (Intel Xeon Gold 6222V, 1.80 GHz)

SPECrate®2017_fp_peak = 190

CPU2017 License: 55

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Mar-2020

Hardware Availability: Dec-2019

Software Availability: Jun-2019

Platform Notes (Continued)

CVE-2017-5715 (Spectre variant 2): Mitigation: Enhanced IBRS, IBPB: conditional, RSB filling

run-level 3 Mar 11 05:31 last=5

SPEC is set to: /home/cpu2017

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
/dev/sda2	xfs	440G	34G	407G	8%	/

From /sys/devices/virtual/dmi/id

BIOS: Dell Inc. 2.4.8 11/27/2019

Vendor: Dell Inc.

Product: PowerEdge R440

Product Family: PowerEdge

Serial: F9TD613

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:

12x 002C069D002C 36ASF4G72PZ-3G2E2 32 GB 2 rank 3200

4x Not Specified Not Specified

(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.
-----

```

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate®2017_fp_base = 180

PowerEdge R440 (Intel Xeon Gold 6222V, 1.80 GHz)

SPECrate®2017_fp_peak = 190

CPU2017 License: 55

Test Date: Mar-2020

Test Sponsor: Dell Inc.

Hardware Availability: Dec-2019

Tested by: Dell Inc.

Software Availability: Jun-2019

Compiler Version Notes (Continued)

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.
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.



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate®2017_fp_base = 180

PowerEdge R440 (Intel Xeon Gold 6222V, 1.80 GHz)

SPECrate®2017_fp_peak = 190

CPU2017 License: 55

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Mar-2020

Hardware Availability: Dec-2019

Software Availability: Jun-2019

Base 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
```

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-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch  
-ffinite-math-only -qopt-mem-layout-trans=4
```

C++ benchmarks:

```
-xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch
```

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate®2017_fp_base = 180

PowerEdge R440 (Intel Xeon Gold 6222V, 1.80 GHz)

SPECrate®2017_fp_peak = 190

CPU2017 License: 55

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Mar-2020

Hardware Availability: Dec-2019

Software Availability: Jun-2019

Base Optimization Flags (Continued)

C++ benchmarks (continued):

-ffinite-math-only -qopt-mem-layout-trans=4

Fortran benchmarks:

-xCORE-AVX512 -ipo -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:

-xCORE-AVX512 -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-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch
-ffinite-math-only -qopt-mem-layout-trans=4

Benchmarks using Fortran, C, and C++:

-xCORE-AVX512 -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



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate®2017_fp_base = 180

PowerEdge R440 (Intel Xeon Gold 6222V, 1.80 GHz)

SPECrate®2017_fp_peak = 190

CPU2017 License: 55

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Mar-2020

Hardware Availability: Dec-2019

Software Availability: Jun-2019

Peak Portability Flags

Same as Base Portability Flags

Peak Optimization Flags

C benchmarks:

519.lbm_r: -prof-gen(pass 1) -prof-use(pass 2) -ipo -xCORE-AVX512
-O3 -no-prec-div -qopt-prefetch -ffinite-math-only
-qopt-mem-layout-trans=4

538.imagick_r: -xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch
-ffinite-math-only -qopt-mem-layout-trans=4

544.nab_r: Same as 538.imagick_r

C++ benchmarks:

508.namd_r: -prof-gen(pass 1) -prof-use(pass 2) -ipo -xCORE-AVX512
-O3 -no-prec-div -qopt-prefetch -ffinite-math-only
-qopt-mem-layout-trans=4

510.parest_r: -xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch
-ffinite-math-only -qopt-mem-layout-trans=4

Fortran benchmarks:

503.bwaves_r: -xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch
-ffinite-math-only -qopt-mem-layout-trans=4 -auto
-nonstandard-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-AVX512
-O3 -no-prec-div -qopt-prefetch -ffinite-math-only
-qopt-mem-layout-trans=4 -auto -nonstandard-realloc-lhs
-align array32byte

Benchmarks using both Fortran and C:

-prof-gen(pass 1) -prof-use(pass 2) -ipo -xCORE-AVX512 -O3
-no-prec-div -qopt-prefetch -ffinite-math-only
-qopt-mem-layout-trans=4 -auto -nonstandard-realloc-lhs
-align array32byte

(Continued on next page)



SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2020 Standard Performance Evaluation Corporation

Dell Inc.

SPECrate®2017_fp_base = 180

PowerEdge R440 (Intel Xeon Gold 6222V, 1.80 GHz)

SPECrate®2017_fp_peak = 190

CPU2017 License: 55

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Mar-2020

Hardware Availability: Dec-2019

Software Availability: Jun-2019

Peak Optimization Flags (Continued)

Benchmarks using both C and C++:

```
511.povray_r: -prof-gen(pass 1) -prof-use(pass 2) -ipo -xCORE-AVX512
-O3 -no-prec-div -qopt-prefetch -ffinite-math-only
-qopt-mem-layout-trans=4
```

```
526.blender_r: -xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch
-ffinite-math-only -qopt-mem-layout-trans=4
```

Benchmarks using Fortran, C, and C++:

```
-xCORE-AVX512 -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/Intel-ic19.0u1-official-linux64.2019-07-09.html>
<http://www.spec.org/cpu2017/flags/Dell-Platform-Flags-PowerEdge-revE9.html>

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

<http://www.spec.org/cpu2017/flags/Intel-ic19.0u1-official-linux64.2019-07-09.xml>
<http://www.spec.org/cpu2017/flags/Dell-Platform-Flags-PowerEdge-revE9.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.

Tested with SPEC CPU®2017 v1.1.0 on 2020-03-11 13:49:35-0400.

Report generated on 2020-03-31 14:56:29 by CPU2017 PDF formatter v6255.

Originally published on 2020-03-31.