



# SPEC® CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

## Dell Inc.

PowerEdge R940  
(Intel Xeon Gold 6152, 2.10 GHz)

SPECrate2017\_fp\_base = 394

SPECrate2017\_fp\_peak = 403

CPU2017 License: 55

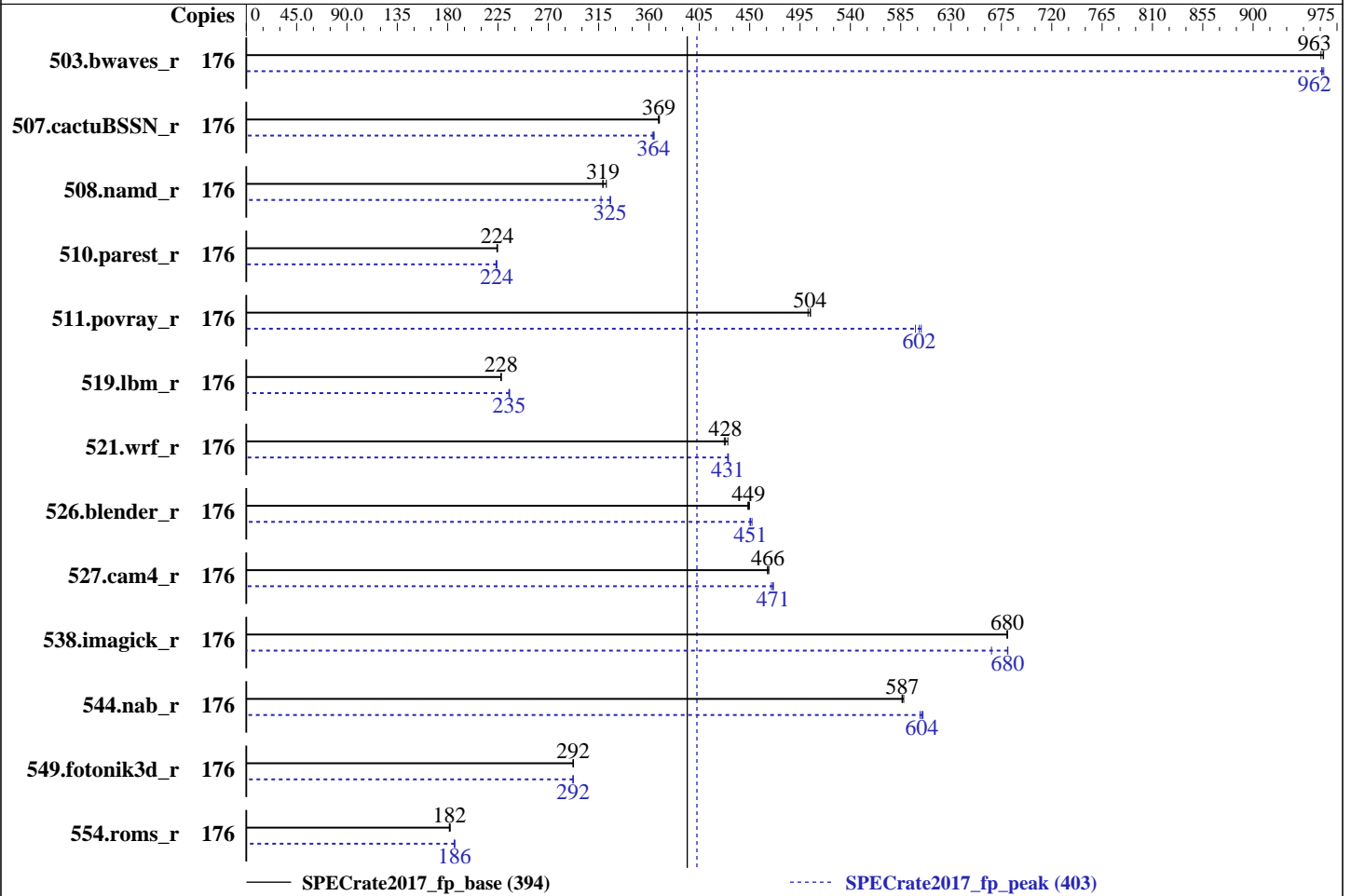
Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Oct-2017

Hardware Availability: Sep-2017

Software Availability: Sep-2017



### Hardware

CPU Name: Intel Xeon Gold 6152  
 Max MHz.: 3700  
 Nominal: 2100  
 Enabled: 88 cores, 4 chips, 2 threads/core  
 Orderable: 2,4 chip  
 Cache L1: 32 KB I + 32 KB D on chip per core  
 L2: 1 MB I+D on chip per core  
 L3: 30.25 MB I+D on chip per chip  
 Other: None  
 Memory: 768 GB (48 x 16 GB 2Rx8 PC4-2666V-R)  
 Storage: 1 x 900 GB 15K RPM SAS12  
 Other: None

### Software

OS: SUSE Linux Enterprise Server 12 SP2  
 4.4.21-69-default  
 Compiler: C/C++: Version 18.0.0.128 of Intel C/C++  
 Compiler for Linux;  
 Fortran: Version 18.0.0.128 of Intel Fortran  
 Compiler for Linux  
 Parallel: No  
 Firmware: Version 1.1.7 released Sep-2017  
 File System: xfs  
 System State: Run level 3 (multi-user)  
 Base Pointers: 64-bit  
 Peak Pointers: 64-bit  
 Other: None



# SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

## Dell Inc.

PowerEdge R940  
(Intel Xeon Gold 6152, 2.10 GHz)

SPECrate2017\_fp\_base = 394

SPECrate2017\_fp\_peak = 403

CPU2017 License: 55  
Test Sponsor: Dell Inc.  
Tested by: Dell Inc.

Test Date: Oct-2017  
Hardware Availability: Sep-2017  
Software Availability: Sep-2017

## Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
503.bwaves_r	176	1833	963	1837	961	<b>1833</b>	<b>963</b>	176	1832	963	<b>1835</b>	<b>962</b>	1836	961
507.cactuBSSN_r	176	<b>604</b>	<b>369</b>	603	369	605	368	176	614	363	<b>612</b>	<b>364</b>	611	365
508.namd_r	176	<b>524</b>	<b>319</b>	519	322	525	319	176	<b>514</b>	<b>325</b>	513	326	527	317
510.parest_r	176	<b>2051</b>	<b>224</b>	2051	225	2055	224	176	<b>2057</b>	<b>224</b>	2056	224	2062	223
511.povray_r	176	818	502	815	504	<b>815</b>	<b>504</b>	176	687	598	<b>683</b>	<b>602</b>	681	603
519.lbm_r	176	<b>814</b>	<b>228</b>	814	228	815	228	176	<b>790</b>	<b>235</b>	788	235	790	235
521.wrf_r	176	<b>920</b>	<b>428</b>	916	430	923	427	176	<b>916</b>	<b>431</b>	915	431	916	430
526.blender_r	176	596	450	598	448	<b>597</b>	<b>449</b>	176	595	450	593	452	<b>595</b>	<b>451</b>
527.cam4_r	176	659	467	661	466	<b>660</b>	<b>466</b>	176	656	469	<b>654</b>	<b>471</b>	653	471
538.imagick_r	176	643	681	<b>643</b>	<b>680</b>	644	680	176	643	681	<b>643</b>	<b>680</b>	657	666
544.nab_r	176	504	588	<b>505</b>	<b>587</b>	505	586	176	<b>491</b>	<b>604</b>	492	602	490	605
549.fotonik3d_r	176	<b>2347</b>	<b>292</b>	2345	292	2348	292	176	2348	292	2347	292	<b>2347</b>	<b>292</b>
554.roms_r	176	1534	182	<b>1539</b>	<b>182</b>	1541	182	176	1505	186	<b>1503</b>	<b>186</b>	1500	186

SPECrate2017\_fp\_base = 394

SPECrate2017\_fp\_peak = 403

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"

## General Notes

Environment variables set by runcpu before the start of the run:

```
LD_LIBRARY_PATH = "/home/cpu2017/lib/ia32:/home/cpu2017/lib/intel64:/home/cpu2017/je5.0.1-32:/home/cpu2017/je5.0.1-64"
```

Binaries compiled on a system with 1x Intel Core i7-4790 CPU + 32GB RAM  
memory using Redhat Enterprise Linux 7.4

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>
```



# SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

**Dell Inc.**

PowerEdge R940  
(Intel Xeon Gold 6152, 2.10 GHz)

SPECrate2017\_fp\_base = 394

SPECrate2017\_fp\_peak = 403

CPU2017 License: 55

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Oct-2017

Hardware Availability: Sep-2017

Software Availability: Sep-2017

## Platform Notes

BIOS settings:

```

Logical Processor Enabled
Virtualization Technology Disabled
Sub NUMA Cluster Enabled
System Profile set to Custom
CPU Performance set to Maximum Performance
C1E Disabled
C States set to Autonomous
Uncore Frequency set to Dynamic
Memory Patrol Scrub Disabled
Energy Efficiency Policy set to Performance
CPU Interconnect Bus Link Power Management Disabled
PCI ASPM L1 Link Power Management Disabled
Sysinfo program /home/cpu2017/bin/sysinfo
Rev: r5797 of 2017-06-14 96c45e4568ad54c135fd618bcc091c0f
running on linux-apb2 Fri Oct 20 09:15:06 2017

```

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 6152 CPU @ 2.10GHz
 4 "physical id"s (chips)
 176 "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 : 22
siblings : 44
physical 0: cores 0 1 2 3 4 5 8 9 10 11 12 16 17 18 19 20 21 24 25 26 27 28
physical 1: cores 0 1 2 3 4 5 8 9 10 11 12 16 17 18 19 20 21 24 25 26 27 28
physical 2: cores 0 1 2 3 4 5 8 9 10 11 12 16 17 18 19 20 21 24 25 26 27 28
physical 3: cores 0 1 2 3 4 5 8 9 10 11 12 16 17 18 19 20 21 24 25 26 27 28

```

From lscpu:

```

Architecture:          x86_64
CPU op-mode(s):        32-bit, 64-bit
Byte Order:             Little Endian
CPU(s):                 176
On-line CPU(s) list:   0-175
Thread(s) per core:    2
Core(s) per socket:    22
Socket(s):              4
NUMA node(s):          8
Vendor ID:              GenuineIntel
CPU family:             6
Model:                  85

```

(Continued on next page)



# SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

**Dell Inc.**

PowerEdge R940  
(Intel Xeon Gold 6152, 2.10 GHz)

SPECrate2017\_fp\_base = 394

SPECrate2017\_fp\_peak = 403

CPU2017 License: 55  
Test Sponsor: Dell Inc.  
Tested by: Dell Inc.

Test Date: Oct-2017  
Hardware Availability: Sep-2017  
Software Availability: Sep-2017

## Platform Notes (Continued)

```

Model name: Intel(R) Xeon(R) Gold 6152 CPU @ 2.10GHz
Stepping: 4
CPU MHz: 2095.081
BogoMIPS: 4190.16
Virtualization: VT-x
L1d cache: 32K
L1i cache: 32K
L2 cache: 1024K
L3 cache: 30976K
NUMA node0 CPU(s):
0,8,16,24,32,40,48,56,64,72,80,88,96,104,112,120,128,136,144,152,160,168
NUMA node1 CPU(s):
1,9,17,25,33,41,49,57,65,73,81,89,97,105,113,121,129,137,145,153,161,169
NUMA node2 CPU(s):
2,10,18,26,34,42,50,58,66,74,82,90,98,106,114,122,130,138,146,154,162,170
NUMA node3 CPU(s):
3,11,19,27,35,43,51,59,67,75,83,91,99,107,115,123,131,139,147,155,163,171
NUMA node4 CPU(s):
4,12,20,28,36,44,52,60,68,76,84,92,100,108,116,124,132,140,148,156,164,172
NUMA node5 CPU(s):
5,13,21,29,37,45,53,61,69,77,85,93,101,109,117,125,133,141,149,157,165,173
NUMA node6 CPU(s):
6,14,22,30,38,46,54,62,70,78,86,94,102,110,118,126,134,142,150,158,166,174
NUMA node7 CPU(s):
7,15,23,31,39,47,55,63,71,79,87,95,103,111,119,127,135,143,151,159,167,175
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
aperfmpperf eagerfpu 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 ida arat epb pln pts dtherm intel_pt
tpr_shadow vnmi flexpriority ept vpid fsgsbase tsc_adjust bmil hle avx2 smep bmi2
erms invpcid rtm cqm mpx avx512f avx512dq rdseed adx smap clflushopt clwb avx512cd
avx512bw avx512vl xsaveopt xsavec xgetbv1 cqm_llc cqm_occup_llc

```

```
/proc/cpuinfo cache data
cache size : 30976 KB
```

```

From numactl --hardware WARNING: a numactl 'node' might or might not correspond to a
physical chip.
available: 8 nodes (0-7)
node 0 cpus: 0 8 16 24 32 40 48 56 64 72 80 88 96 104 112 120 128 136 144 152 160 168
node 0 size: 95359 MB
node 0 free: 94931 MB
node 1 cpus: 1 9 17 25 33 41 49 57 65 73 81 89 97 105 113 121 129 137 145 153 161 169
node 1 size: 96760 MB
node 1 free: 96390 MB

```

(Continued on next page)



# SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

**Dell Inc.**

PowerEdge R940  
(Intel Xeon Gold 6152, 2.10 GHz)

SPECrate2017\_fp\_base = 394

SPECrate2017\_fp\_peak = 403

CPU2017 License: 55

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Oct-2017

Hardware Availability: Sep-2017

Software Availability: Sep-2017

## Platform Notes (Continued)

```

node 2 cpus: 2 10 18 26 34 42 50 58 66 74 82 90 98 106 114 122 130 138 146 154 162 170
node 2 size: 96760 MB
node 2 free: 96403 MB
node 3 cpus: 3 11 19 27 35 43 51 59 67 75 83 91 99 107 115 123 131 139 147 155 163 171
node 3 size: 96760 MB
node 3 free: 96400 MB
node 4 cpus: 4 12 20 28 36 44 52 60 68 76 84 92 100 108 116 124 132 140 148 156 164 172
node 4 size: 96760 MB
node 4 free: 96390 MB
node 5 cpus: 5 13 21 29 37 45 53 61 69 77 85 93 101 109 117 125 133 141 149 157 165 173
node 5 size: 96760 MB
node 5 free: 96395 MB
node 6 cpus: 6 14 22 30 38 46 54 62 70 78 86 94 102 110 118 126 134 142 150 158 166 174
node 6 size: 96760 MB
node 6 free: 96391 MB
node 7 cpus: 7 15 23 31 39 47 55 63 71 79 87 95 103 111 119 127 135 143 151 159 167 175
node 7 size: 96757 MB
node 7 free: 96393 MB
node distances:
node  0  1  2  3  4  5  6  7
0:  10  21  21  21  11  21  21  21
1:  21  10  21  21  21  11  21  21
2:  21  21  10  21  21  21  11  21
3:  21  21  21  10  21  21  21  11
4:  11  21  21  21  10  21  21  21
5:  21  11  21  21  21  10  21  21
6:  21  21  11  21  21  21  10  21
7:  21  21  21  11  21  21  21  10

```

```

From /proc/meminfo
MemTotal:      791224268 kB
HugePages_Total:      0
Hugepagesize:    2048 kB

```

```

/usr/bin/lsb_release -d
SUSE Linux Enterprise Server 12 SP2

```

```

From /etc/*release* /etc/*version*
SuSE-release:
SUSE Linux Enterprise Server 12 (x86_64)
VERSION = 12
PATCHLEVEL = 2
# This file is deprecated and will be removed in a future service pack or release.
# Please check /etc/os-release for details about this release.
os-release:
NAME="SLES"
VERSION="12-SP2"

```

(Continued on next page)



# SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

**Dell Inc.**

PowerEdge R940  
(Intel Xeon Gold 6152, 2.10 GHz)

SPECrate2017\_fp\_base = 394

SPECrate2017\_fp\_peak = 403

**CPU2017 License:** 55  
**Test Sponsor:** Dell Inc.  
**Tested by:** Dell Inc.

**Test Date:** Oct-2017  
**Hardware Availability:** Sep-2017  
**Software Availability:** Sep-2017

## Platform Notes (Continued)

```
VERSION_ID="12.2"
PRETTY_NAME="SUSE Linux Enterprise Server 12 SP2"
ID="sles"
ANSI_COLOR="0;32"
CPE_NAME="/o:suse:sles:12:sp2"
```

```
uname -a:
Linux linux-apb2 4.4.21-69-default #1 SMP Tue Oct 25 10:58:20 UTC 2016 (9464f67)
x86_64 x86_64 x86_64 GNU/Linux
```

```
run-level 3 Oct 19 22:33
```

```
SPEC is set to: /home/cpu2017
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sda4       xfs   796G  17G  779G   3% /home
```

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.

```
BIOS Dell Inc. 1.1.7 08/10/2017
Memory:
12x 002C00B3002C 18ASF2G72PDZ-2G6D1 16 GB 2 rank 2666
12x 00AD00B300AD HMA82GR7AFR8N-VK 16 GB 2 rank 2666
24x 00CE063200CE M393A2K43BB1-CTD 16 GB 2 rank 2666
```

(End of data from sysinfo program)

## Compiler Version Notes

```
=====
CC 519.lbm_r(base) 538.imagick_r(base, peak) 544.nab_r(base)
-----

icc (ICC) 18.0.0 20170811
Copyright (C) 1985-2017 Intel Corporation. All rights reserved.
-----

=====
CC 519.lbm_r(peak) 544.nab_r(peak)
-----

icc (ICC) 18.0.0 20170811
Copyright (C) 1985-2017 Intel Corporation. All rights reserved.
-----

=====
CXXC 508.namd_r(base) 510.parest_r(base)
=====
```

(Continued on next page)



# SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

**Dell Inc.**

PowerEdge R940  
(Intel Xeon Gold 6152, 2.10 GHz)

SPECrate2017\_fp\_base = 394

SPECrate2017\_fp\_peak = 403

CPU2017 License: 55

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Oct-2017

Hardware Availability: Sep-2017

Software Availability: Sep-2017

## Compiler Version Notes (Continued)

-----  
icpc (ICC) 18.0.0 20170811  
Copyright (C) 1985-2017 Intel Corporation. All rights reserved.  
-----

=====  
CXXC 508.namd\_r(peak) 510.parest\_r(peak)  
-----

icpc (ICC) 18.0.0 20170811  
Copyright (C) 1985-2017 Intel Corporation. All rights reserved.  
-----

=====  
CC 511.povray\_r(base) 526.blender\_r(base)  
-----

icpc (ICC) 18.0.0 20170811  
Copyright (C) 1985-2017 Intel Corporation. All rights reserved.  
icc (ICC) 18.0.0 20170811  
Copyright (C) 1985-2017 Intel Corporation. All rights reserved.  
-----

=====  
CC 511.povray\_r(peak) 526.blender\_r(peak)  
-----

icpc (ICC) 18.0.0 20170811  
Copyright (C) 1985-2017 Intel Corporation. All rights reserved.  
icc (ICC) 18.0.0 20170811  
Copyright (C) 1985-2017 Intel Corporation. All rights reserved.  
-----

=====  
FC 507.cactuBSSN\_r(base)  
-----

icpc (ICC) 18.0.0 20170811  
Copyright (C) 1985-2017 Intel Corporation. All rights reserved.  
icc (ICC) 18.0.0 20170811  
Copyright (C) 1985-2017 Intel Corporation. All rights reserved.  
ifort (IFORT) 18.0.0 20170811  
Copyright (C) 1985-2017 Intel Corporation. All rights reserved.  
-----

=====  
FC 507.cactuBSSN\_r(peak)  
-----

icpc (ICC) 18.0.0 20170811  
Copyright (C) 1985-2017 Intel Corporation. All rights reserved.  
icc (ICC) 18.0.0 20170811  
-----

(Continued on next page)



# SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

**Dell Inc.**

PowerEdge R940  
(Intel Xeon Gold 6152, 2.10 GHz)

SPECrate2017\_fp\_base = 394

SPECrate2017\_fp\_peak = 403

CPU2017 License: 55

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Oct-2017

Hardware Availability: Sep-2017

Software Availability: Sep-2017

## Compiler Version Notes (Continued)

Copyright (C) 1985-2017 Intel Corporation. All rights reserved.

ifort (IFORT) 18.0.0 20170811

Copyright (C) 1985-2017 Intel Corporation. All rights reserved.

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

ifort (IFORT) 18.0.0 20170811

Copyright (C) 1985-2017 Intel Corporation. All rights reserved.

=====  
FC 554.roms\_r(peak)

ifort (IFORT) 18.0.0 20170811

Copyright (C) 1985-2017 Intel Corporation. All rights reserved.

=====  
CC 521.wrf\_r(base) 527.cam4\_r(base)

ifort (IFORT) 18.0.0 20170811

Copyright (C) 1985-2017 Intel Corporation. All rights reserved.

icc (ICC) 18.0.0 20170811

Copyright (C) 1985-2017 Intel Corporation. All rights reserved.

=====  
CC 521.wrf\_r(peak) 527.cam4\_r(peak)

ifort (IFORT) 18.0.0 20170811

Copyright (C) 1985-2017 Intel Corporation. All rights reserved.

icc (ICC) 18.0.0 20170811

Copyright (C) 1985-2017 Intel Corporation. All rights reserved.

## Base Compiler Invocation

C benchmarks:

icc

C++ benchmarks:

icpc

(Continued on next page)





# SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

**Dell Inc.**

PowerEdge R940  
(Intel Xeon Gold 6152, 2.10 GHz)

SPECrate2017\_fp\_base = 394

SPECrate2017\_fp\_peak = 403

CPU2017 License: 55

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Oct-2017

Hardware Availability: Sep-2017

Software Availability: Sep-2017

## Base Compiler Invocation (Continued)

Fortran benchmarks:

ifort

Benchmarks using both Fortran and C:

ifort icc

Benchmarks using both C and C++:

icpc icc

Benchmarks using Fortran, C, and C++:

icpc icc ifort

## 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=3

C++ benchmarks:

-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch -ffinite-math-only  
-qopt-mem-layout-trans=3

Fortran benchmarks:

-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch -ffinite-math-only  
-qopt-mem-layout-trans=3 -nostandard-realloc-lhs -align array32byte

(Continued on next page)



# SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

**Dell Inc.**

PowerEdge R940  
(Intel Xeon Gold 6152, 2.10 GHz)

SPECrate2017\_fp\_base = 394

SPECrate2017\_fp\_peak = 403

CPU2017 License: 55

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Oct-2017

Hardware Availability: Sep-2017

Software Availability: Sep-2017

## Base Optimization Flags (Continued)

Benchmarks using both Fortran and C:

```
-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch -ffinite-math-only  
-qopt-mem-layout-trans=3 -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=3
```

Benchmarks using Fortran, C, and C++:

```
-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch -ffinite-math-only  
-qopt-mem-layout-trans=3 -nostandard-realloc-lhs -align array32byte
```

## Base Other Flags

C benchmarks:

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

C++ benchmarks:

```
-m64
```

Fortran benchmarks:

```
-m64
```

Benchmarks using both Fortran and C:

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

Benchmarks using both C and C++:

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

Benchmarks using Fortran, C, and C++:

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

## Peak Compiler Invocation

C benchmarks:

```
icc
```

C++ benchmarks:

```
icpc
```

Fortran benchmarks:

```
ifort
```

(Continued on next page)



# SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

**Dell Inc.**

PowerEdge R940  
(Intel Xeon Gold 6152, 2.10 GHz)

SPECrate2017\_fp\_base = 394

SPECrate2017\_fp\_peak = 403

CPU2017 License: 55

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Oct-2017

Hardware Availability: Sep-2017

Software Availability: Sep-2017

## Peak Compiler Invocation (Continued)

Benchmarks using both Fortran and C:

```
ifort icc
```

Benchmarks using both C and C++:

```
icpc icc
```

Benchmarks using Fortran, C, and C++:

```
icpc icc ifort
```

## 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-AVX2 -O3  
-no-prec-div -qopt-prefetch -ffinite-math-only  
-qopt-mem-layout-trans=3
```

```
538.imagick_r: -xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch  
-ffinite-math-only -qopt-mem-layout-trans=3
```

544.nab\_r: Same as 519.lbm\_r

C++ benchmarks:

```
-prof-gen(pass 1) -prof-use(pass 2) -ipo -xCORE-AVX2 -O3  
-no-prec-div -qopt-prefetch -ffinite-math-only  
-qopt-mem-layout-trans=3
```

Fortran benchmarks:

```
503.bwaves_r: -xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch  
-ffinite-math-only -qopt-mem-layout-trans=3  
-nostandard-realloc-lhs -align array32byte
```

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

(Continued on next page)



# SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

**Dell Inc.**

PowerEdge R940  
(Intel Xeon Gold 6152, 2.10 GHz)

SPECrate2017\_fp\_base = 394

SPECrate2017\_fp\_peak = 403

CPU2017 License: 55

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Oct-2017

Hardware Availability: Sep-2017

Software Availability: Sep-2017

## Peak Optimization Flags (Continued)

```
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=3 -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=3 -nostandard-realloc-lhs -align array32byte
```

Benchmarks using both C 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=3
```

Benchmarks using Fortran, C, 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=3 -nostandard-realloc-lhs -align array32byte
```

## Peak Other Flags

C benchmarks:

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

C++ benchmarks:

```
-m64
```

Fortran benchmarks:

```
-m64
```

Benchmarks using both Fortran and C:

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

Benchmarks using both C and C++:

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

Benchmarks using Fortran, C, and C++:

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

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

<http://www.spec.org/cpu2017/flags/Intel-ic18.0-official-linux64.html>

<http://www.spec.org/cpu2017/flags/Dell-Platform-Flags-PowerEdge14G-revC.html>



# SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

**Dell Inc.**

PowerEdge R940  
(Intel Xeon Gold 6152, 2.10 GHz)

SPECrate2017\_fp\_base = 394

SPECrate2017\_fp\_peak = 403

**CPU2017 License:** 55

**Test Sponsor:** Dell Inc.

**Tested by:** Dell Inc.

**Test Date:** Oct-2017

**Hardware Availability:** Sep-2017

**Software Availability:** Sep-2017

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

<http://www.spec.org/cpu2017/flags/Intel-ic18.0-official-linux64.xml>

<http://www.spec.org/cpu2017/flags/Dell-Platform-Flags-PowerEdge14G-revC.xml>

SPEC is a registered trademark 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 CPU2017 v1.0.2 on 2017-10-20 12:15:05-0400.

Report generated on 2018-10-31 15:38:51 by CPU2017 PDF formatter v6067.

Originally published on 2017-12-21.