



SPEC® CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Dell Inc.

PowerEdge R940
(Intel Xeon Platinum 8176, 2.10 GHz)

SPECrate2017_fp_base = 448

SPECrate2017_fp_peak = 456

CPU2017 License: 55

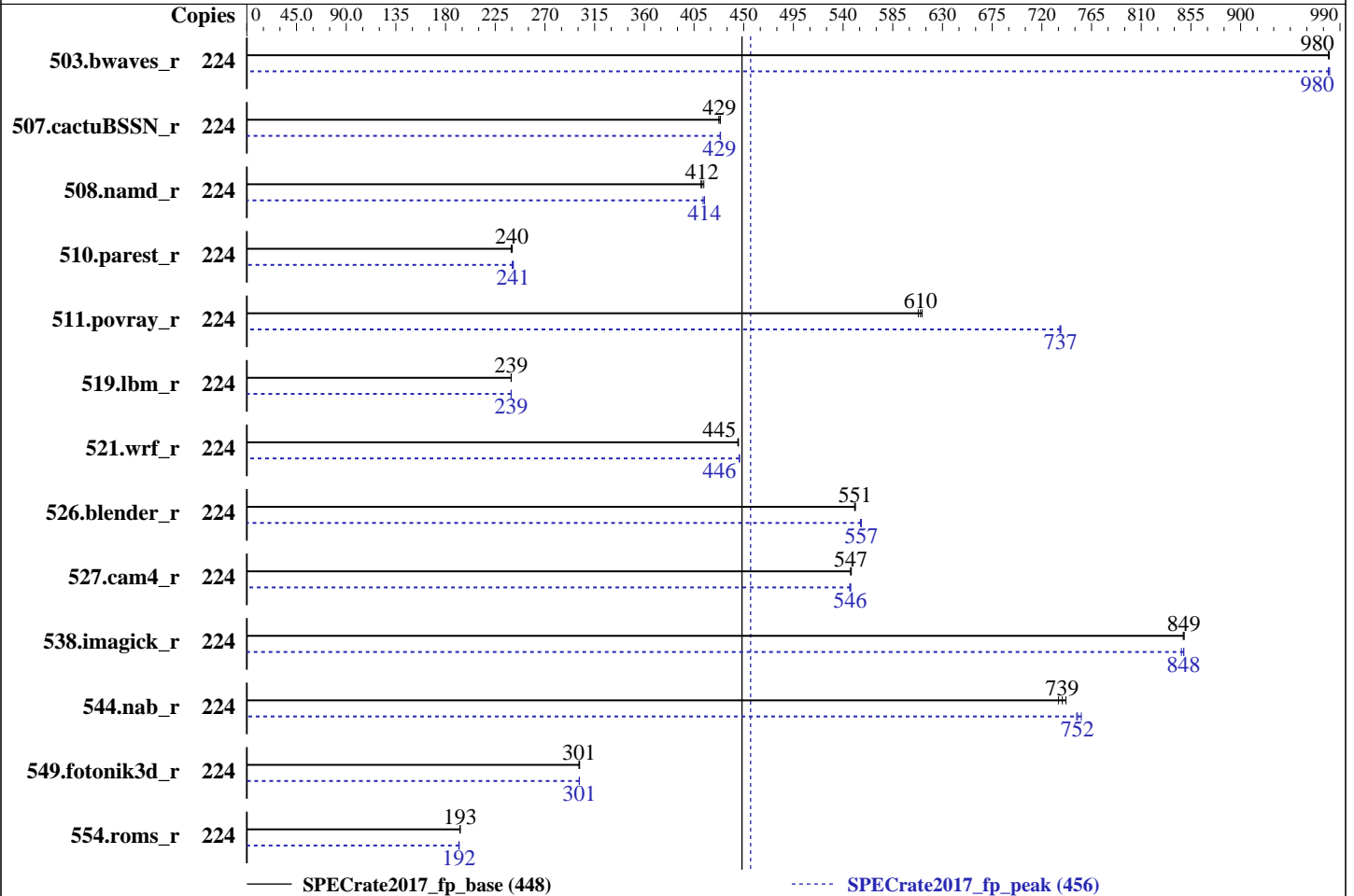
Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Oct-2017

Hardware Availability: Jul-2017

Software Availability: Sep-2017



Hardware

CPU Name: Intel Xeon Platinum 8176
 Max MHz.: 3800
 Nominal: 2100
 Enabled: 112 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: 38.5 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 Aug-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 Platinum 8176, 2.10 GHz)

SPECrate2017_fp_base = 448

SPECrate2017_fp_peak = 456

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

Test Date: Oct-2017
Hardware Availability: Jul-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	224	<u>2292</u>	<u>980</u>	2293	979	2291	980	224	2291	981	2294	979	<u>2292</u>	<u>980</u>
507.cactuBSSN_r	224	661	429	<u>662</u>	<u>429</u>	663	427	224	662	429	<u>661</u>	<u>429</u>	661	429
508.namd_r	224	514	414	<u>516</u>	<u>412</u>	517	411	224	<u>513</u>	<u>414</u>	513	415	515	413
510.parest_r	224	2437	240	<u>2442</u>	<u>240</u>	2447	239	224	2428	241	<u>2429</u>	<u>241</u>	2437	240
511.povray_r	224	860	608	855	612	<u>857</u>	<u>610</u>	224	710	736	<u>710</u>	<u>737</u>	710	737
519.lbm_r	224	<u>986</u>	<u>239</u>	986	239	986	239	224	<u>986</u>	<u>239</u>	986	239	986	239
521.wrf_r	224	<u>1128</u>	<u>445</u>	1127	445	1128	445	224	<u>1125</u>	<u>446</u>	1125	446	1124	446
526.blender_r	224	619	551	620	550	<u>619</u>	<u>551</u>	224	614	556	<u>613</u>	<u>557</u>	613	557
527.cam4_r	224	<u>716</u>	<u>547</u>	716	547	716	547	224	716	547	718	546	<u>717</u>	<u>546</u>
538.imagick_r	224	657	848	<u>656</u>	<u>849</u>	656	849	224	658	846	<u>657</u>	<u>848</u>	657	849
544.nab_r	224	<u>510</u>	<u>739</u>	508	742	513	735	224	<u>501</u>	<u>752</u>	502	751	499	756
549.fotonik3d_r	224	2896	301	2901	301	<u>2900</u>	<u>301</u>	224	2898	301	2899	301	<u>2899</u>	<u>301</u>
554.roms_r	224	1842	193	1844	193	<u>1843</u>	<u>193</u>	224	1854	192	1850	192	<u>1853</u>	<u>192</u>

SPECrate2017_fp_base = 448

SPECrate2017_fp_peak = 456

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 Platinum 8176, 2.10 GHz)

SPECrate2017_fp_base = 448

SPECrate2017_fp_peak = 456

CPU2017 License: 55

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Oct-2017

Hardware Availability: Jul-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 Sun Oct 8 22:20:49 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) Platinum 8176 CPU @ 2.10GHz
 4 "physical id"s (chips)
 224 "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
physical 2: 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 3: 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): 224
On-line CPU(s) list: 0-223
Thread(s) per core: 2
Core(s) per socket: 28
Socket(s): 4

```

(Continued on next page)



SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Dell Inc.

PowerEdge R940
(Intel Xeon Platinum 8176, 2.10 GHz)

SPECrate2017_fp_base = 448

SPECrate2017_fp_peak = 456

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

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

Platform Notes (Continued)

```

NUMA node(s):      8
Vendor ID:         GenuineIntel
CPU family:        6
Model:             85
Model name:        Intel(R) Xeon(R) Platinum 8176 CPU @ 2.10GHz
Stepping:          4
CPU MHz:           2095.079
BogoMIPS:          4190.15
Virtualization:    VT-x
L1d cache:         32K
L1i cache:         32K
L2 cache:          1024K
L3 cache:          39424K
NUMA node0 CPU(s):
0,8,16,24,32,40,48,56,64,72,80,88,96,104,112,120,128,136,144,152,160,168,176,184,192,200,208,216
NUMA node1 CPU(s):
1,9,17,25,33,41,49,57,65,73,81,89,97,105,113,121,129,137,145,153,161,169,177,185,193,201,209,217
NUMA node2 CPU(s):
2,10,18,26,34,42,50,58,66,74,82,90,98,106,114,122,130,138,146,154,162,170,178,186,194,202,210,218
NUMA node3 CPU(s):
3,11,19,27,35,43,51,59,67,75,83,91,99,107,115,123,131,139,147,155,163,171,179,187,195,203,211,219
NUMA node4 CPU(s):
4,12,20,28,36,44,52,60,68,76,84,92,100,108,116,124,132,140,148,156,164,172,180,188,196,204,212,220
NUMA node5 CPU(s):
5,13,21,29,37,45,53,61,69,77,85,93,101,109,117,125,133,141,149,157,165,173,181,189,197,205,213,221
NUMA node6 CPU(s):
6,14,22,30,38,46,54,62,70,78,86,94,102,110,118,126,134,142,150,158,166,174,182,190,198,206,214,222
NUMA node7 CPU(s):
7,15,23,31,39,47,55,63,71,79,87,95,103,111,119,127,135,143,151,159,167,175,183,191,199,207,215,223
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 bmi1 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

```

(Continued on next page)



SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Dell Inc.

PowerEdge R940
(Intel Xeon Platinum 8176, 2.10 GHz)

SPECrate2017_fp_base = 448

SPECrate2017_fp_peak = 456

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

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

Platform Notes (Continued)

```
/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: 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
176 184 192 200 208 216
node 0 size: 95359 MB
node 0 free: 94858 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
177 185 193 201 209 217
node 1 size: 96760 MB
node 1 free: 96360 MB
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
178 186 194 202 210 218
node 2 size: 96760 MB
node 2 free: 96366 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
179 187 195 203 211 219
node 3 size: 96760 MB
node 3 free: 96351 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
180 188 196 204 212 220
node 4 size: 96760 MB
node 4 free: 96356 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
181 189 197 205 213 221
node 5 size: 96760 MB
node 5 free: 96359 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
182 190 198 206 214 222
node 6 size: 96760 MB
node 6 free: 96347 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
183 191 199 207 215 223
node 7 size: 96757 MB
node 7 free: 96329 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
```

(Continued on next page)



SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Dell Inc.

PowerEdge R940
(Intel Xeon Platinum 8176, 2.10 GHz)

SPECrate2017_fp_base = 448

SPECrate2017_fp_peak = 456

CPU2017 License: 55

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Oct-2017

Hardware Availability: Jul-2017

Software Availability: Sep-2017

Platform Notes (Continued)

7: 21 21 21 11 21 21 21 10

From /proc/meminfo

MemTotal: 791224272 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"

VERSION_ID="12.2"

PRETTY_NAME="SUSE Linux Enterprise Server 12 SP2"

ID="sles"

ANSI_COLOR="0;32"

CPE_NAME="cpe:/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 8 11:11

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:

17x 002C00B3002C 18ASF2G72PDZ-2G6D1 16 GB 2 rank 2666

7x 00AD00B300AD HMA82GR7AFR8N-VK 16 GB 2 rank 2666

24x 00CE063200CE M393A2K43BB1-CTD 16 GB 2 rank 2666

(End of data from sysinfo program)



SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Dell Inc.

PowerEdge R940
(Intel Xeon Platinum 8176, 2.10 GHz)

SPECrate2017_fp_base = 448

SPECrate2017_fp_peak = 456

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

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

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)

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.

(Continued on next page)



SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Dell Inc.

PowerEdge R940
(Intel Xeon Platinum 8176, 2.10 GHz)

SPECrate2017_fp_base = 448

SPECrate2017_fp_peak = 456

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

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

Compiler Version Notes (Continued)

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
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)

(Continued on next page)



SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Dell Inc.

PowerEdge R940
(Intel Xeon Platinum 8176, 2.10 GHz)

SPECrate2017_fp_base = 448

SPECrate2017_fp_peak = 456

CPU2017 License: 55

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Oct-2017

Hardware Availability: Jul-2017

Software Availability: Sep-2017

Compiler Version Notes (Continued)

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

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



SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Dell Inc.

PowerEdge R940
(Intel Xeon Platinum 8176, 2.10 GHz)

SPECrate2017_fp_base = 448

SPECrate2017_fp_peak = 456

CPU2017 License: 55

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Oct-2017

Hardware Availability: Jul-2017

Software Availability: Sep-2017

Base Optimization Flags

C benchmarks:

```
-xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch  
-ffinite-math-only -qopt-mem-layout-trans=3
```

C++ benchmarks:

```
-xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch  
-ffinite-math-only -qopt-mem-layout-trans=3
```

Fortran benchmarks:

```
-xCORE-AVX512 -ipo -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:

```
-xCORE-AVX512 -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-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch  
-ffinite-math-only -qopt-mem-layout-trans=3
```

Benchmarks using Fortran, C, and C++:

```
-xCORE-AVX512 -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
```

(Continued on next page)



SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Dell Inc.

PowerEdge R940
(Intel Xeon Platinum 8176, 2.10 GHz)

SPECrate2017_fp_base = 448

SPECrate2017_fp_peak = 456

CPU2017 License: 55

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Oct-2017

Hardware Availability: Jul-2017

Software Availability: Sep-2017

Base Other Flags (Continued)

Benchmarks using Fortran, C, and C++:

-m64 -std=c11

Peak Compiler Invocation

C benchmarks:

icc

C++ benchmarks:

icpc

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

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=3

538.imagick_r: -xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch
-ffinite-math-only -qopt-mem-layout-trans=3

544.nab_r: Same as 519.lbm_r

(Continued on next page)



SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Dell Inc.

PowerEdge R940
(Intel Xeon Platinum 8176, 2.10 GHz)

SPECrate2017_fp_base = 448

SPECrate2017_fp_peak = 456

CPU2017 License: 55

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Oct-2017

Hardware Availability: Jul-2017

Software Availability: Sep-2017

Peak Optimization Flags (Continued)

C++ benchmarks:

```
-prof-gen(pass 1) -prof-use(pass 2) -ipo -xCORE-AVX512 -O3
-no-prec-div -qopt-prefetch -ffinite-math-only
-qopt-mem-layout-trans=3
```

Fortran benchmarks:

```
503.bwaves_r: -xCORE-AVX512 -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

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

Benchmarks using both C 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=3
```

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

Peak Other Flags

C benchmarks:

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

C++ benchmarks:

```
-m64
```

Fortran benchmarks:

```
-m64
```

(Continued on next page)



SPEC CPU2017 Floating Point Rate Result

Copyright 2017-2018 Standard Performance Evaluation Corporation

Dell Inc.

PowerEdge R940
(Intel Xeon Platinum 8176, 2.10 GHz)

SPECrate2017_fp_base = 448

SPECrate2017_fp_peak = 456

CPU2017 License: 55

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Oct-2017

Hardware Availability: Jul-2017

Software Availability: Sep-2017

Peak Other Flags (Continued)

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>

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.

Tested with SPEC CPU2017 v1.0.2 on 2017-10-09 01:20:48-0400.

Report generated on 2018-10-31 13:04:47 by CPU2017 PDF formatter v6067.

Originally published on 2017-11-14.