SPEC CPU®2017 Floating Point Speed Result

Dell Inc.

PowerEdge R650 (Intel Xeon Platinum 8380, 2.30 GHz)

$SPECspeed®2017\_fp\_base = 228$

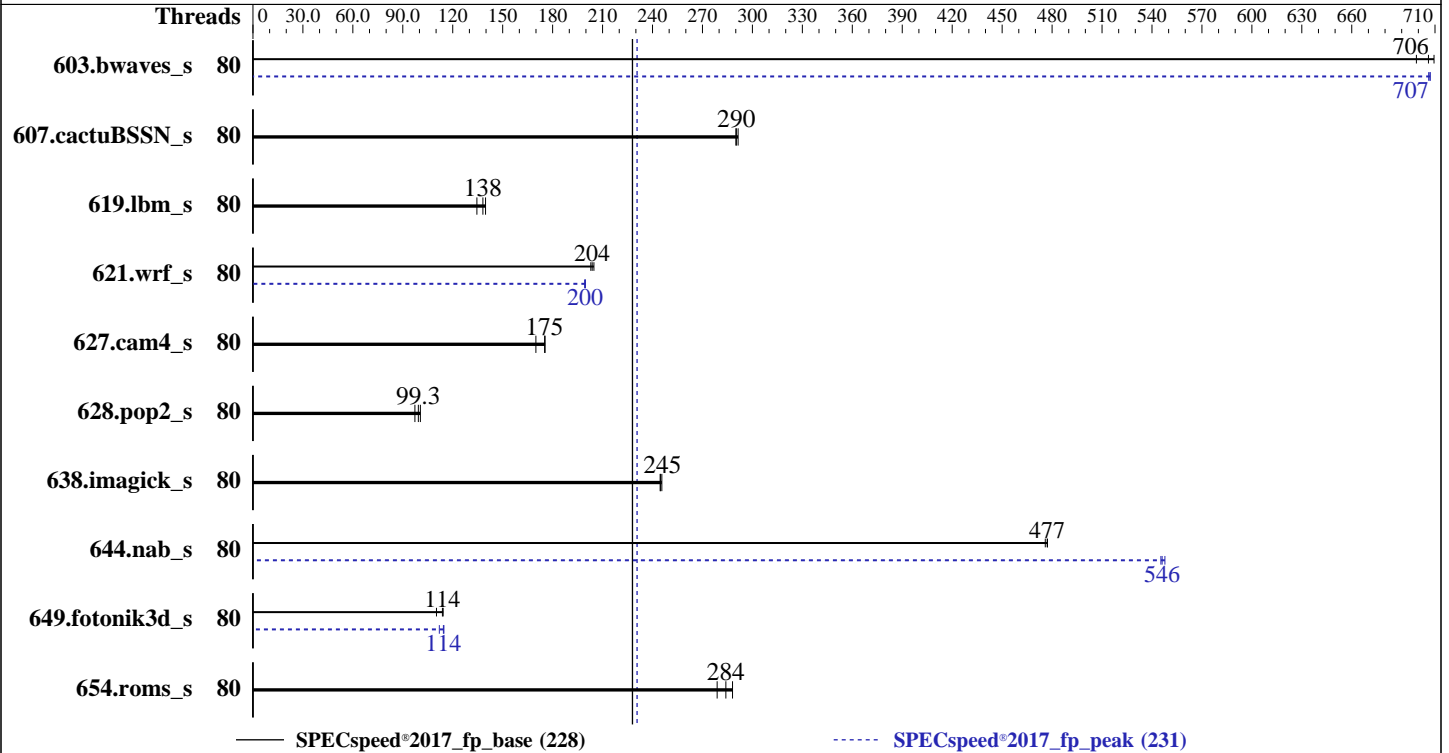$SPECspeed®2017\_fp\_peak = 231$

CPU2017 License: 55

Test Sponsor: Dell Inc.

Tested by: Dell Inc.

Test Date: Apr-2021

Hardware Availability: May-2021

Software Availability: Feb-2021

Threads chart (all benchmarks run with 80 threads):

- 603.bwaves_s: base 706, peak 707
- 607.cactuBSSN_s: 290
- 619.lbm_s: 138
- 621.wrf_s: base 204, peak 200
- 627.cam4_s: 175
- 628.pop2_s: 99.3
- 638.imagick_s: 245
- 644.nab_s: base 477, peak 546
- 649.fotonik3d_s: base 114, peak 114
- 654.roms_s: 284

SPECspeed®2017_fp_base (228)   SPECspeed®2017_fp_peak (231)

Hardware

CPU Name: Intel Xeon Platinum 8380
 Max MHz: 3400
 Nominal: 2300
Enabled: 80 cores, 2 chips
Orderable: 1,2 chips
Cache L1: 32 KB I + 48 KB D on chip per core
 L2: 1.25 MB I+D on chip per core
 L3: 60 MB I+D on chip per chip
 Other: None
Memory: 512 GB (16 x 32 GB 2Rx8 PC4-3200AA-R)
Storage: 225 GB on tmpfs
Other: None

Software

OS: Red Hat Enterprise Linux 8.3 (Ootpa)
4.18.0-240.15.1.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 1.1.2 released Apr-2021
File System: tmpfs
System State: Run level 5 (graphical multi-user)
Base Pointers: 64-bit
Peak Pointers: 64-bit
Other: None
jemalloc memory allocator V5.0.1
Power Management: BIOS and OS set to prefer performance at the cost of additional power usage.

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SPECspeed®2017_fp_base = 228

SPECspeed®2017_fp_peak = 231

CPU2017 License: 55	**Test Date:** Apr-2021
Test Sponsor: Dell Inc.	**Hardware Availability:** May-2021
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Results Table

Benchmark	Base						Peak					
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
603.bwaves_s	80	**83.6**	**706**	83.2	709	84.4	699	80	83.5	706	**83.4**	**707**	83.4	707
607.cactuBSSN_s	80	57.5	290	**57.4**	**290**	57.2	291	80	57.5	290	**57.4**	**290**	57.2	291
619.lbm_s	80	38.9	135	**37.9**	**138**	37.5	140	80	38.9	135	**37.9**	**138**	37.5	140
621.wrf_s	80	65.2	203	64.6	205	**64.9**	**204**	80	**66.3**	**200**	66.2	200	66.4	199
627.cam4_s	80	52.2	170	50.5	175	**50.6**	**175**	80	52.2	170	50.5	175	**50.6**	**175**
628.pop2_s	80	122	97.3	118	101	**120**	**99.3**	80	122	97.3	118	101	**120**	**99.3**
638.imagick_s	80	58.7	246	**59.0**	**245**	59.0	245	80	58.7	246	**59.0**	**245**	59.0	245
644.nab_s	80	36.6	477	36.7	476	**36.6**	**477**	80	32.0	545	31.9	548	**32.0**	**546**
649.fotonik3d_s	80	79.8	114	**80.1**	**114**	82.7	110	80	81.4	112	79.5	115	**79.7**	**114**
654.roms_s	80	56.5	279	**55.4**	**284**	54.7	288	80	56.5	279	**55.4**	**284**	54.7	288
SPECspeed®2017_fp_base =	**228**											
SPECspeed®2017_fp_peak =	**231**											

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"
```

Environment Variables Notes

```
Environment variables set by runcpu before the start of the run:
KMP_AFFINITY = "granularity=fine,compact"
LD_LIBRARY_PATH =
     "/mnt/ramdisk/cpu2017-1.1.5-ic2021.1/lib/intel64:/mnt/ramdisk/cpu2017-1.
     1.5-ic2021.1/je5.0.1-64"
MALLOC_CONF = "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
 Filesystem page cache synced and cleared with:
 sync; echo 3>       /proc/sys/vm/drop_caches
 jemalloc, a general purpose malloc implementation
 built with the RedHat Enterprise 7.5, and the system compiler gcc 4.8.5
 sources available from jemalloc.net or https://github.com/jemalloc/jemalloc/releases

 NA: The test sponsor attests, as of date of publication, that CVE-2017-5754 (Meltdown)
 is mitigated in the system as tested and documented.
```

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Dell Inc.

PowerEdge R650 (Intel Xeon Platinum 8380, 2.30 GHz)

$SPECspeed^{®}2017\_fp\_base = 228$

$SPECspeed^{®}2017\_fp\_peak = 231$

CPU2017 License: 55		**Test Date:**	Apr-2021
Test Sponsor:	Dell Inc.	**Hardware Availability:**	May-2021
Tested by:	Dell Inc.	**Software Availability:**	Feb-2021

General Notes (Continued)

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.

Benchmark run from a 225 GB ramdisk created with the cmd: "mount -t tmpfs -o size=225G tmpfs /mnt/ramdisk"

Platform Notes

```
 BIOS Settings:
           Logical Processor : Disabled
   Virtualization Technology : Disabled

              System Profile : Custom
       CPU Power Management : Maximum Performance
                         C1E : Disabled
                    C States : Autonomous
        Memory Patrol Scrub : Disabled
    Energy Efficiency Policy : Performance
 CPU Interconnect Bus Link
            Power Management : Disabled


 Sysinfo program /mnt/ramdisk/cpu2017-1.1.5-ic2021.1/bin/sysinfo
 Rev: r6538 of 2020-09-24 e8664e66d2d7080afeaa89d4b38e2f1c
 running on localhost.localdomain Wed Apr 14 14:47:49 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) Platinum 8380 CPU @ 2.30GHz
       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 : 40
       siblings  : 40
       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 26 27 28 29 30 31 32 33 34 35 36 37 38 39
       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 26 27 28 29 30 31 32 33 34 35 36 37 38 39
```

(Continued on next page)

Dell Inc.

PowerEdge R650 (Intel Xeon Platinum 8380, 2.30 GHz)

SPECspeed®2017_fp_base = 228

SPECspeed®2017_fp_peak = 231

CPU2017 License: 55		**Test Date:**	Apr-2021
Test Sponsor:	Dell Inc.	**Hardware Availability:**	May-2021
Tested by:	Dell Inc.	**Software Availability:**	Feb-2021

Platform Notes (Continued)

```
From lscpu:
     Architecture:          x86_64
     CPU op-mode(s):        32-bit, 64-bit
     Byte Order:            Little Endian
     CPU(s):                80
     On-line CPU(s) list:   0-79
     Thread(s) per core:    1
     Core(s) per socket:    40
     Socket(s):             2
     NUMA node(s):          2
     Vendor ID:             GenuineIntel
     CPU family:            6
     Model:                 106
     Model name:            Intel(R) Xeon(R) Platinum 8380 CPU @ 2.30GHz
     Stepping:              6
     CPU MHz:               1856.902
     BogoMIPS:              4600.00
     Virtualization:        VT-x
     L1d cache:             48K
     L1i cache:             32K
     L2 cache:              1280K
     L3 cache:              61440K
     NUMA node0 CPU(s):
     0,2,4,6,8,10,12,14,16,18,20,22,24,26,28,30,32,34,36,38,40,42,44,46,48,50,52,54,56,58
     ,60,62,64,66,68,70,72,74,76,78
     NUMA node1 CPU(s):
     1,3,5,7,9,11,13,15,17,19,21,23,25,27,29,31,33,35,37,39,41,43,45,47,49,51,53,55,57,59
     ,61,63,65,67,69,71,73,75,77,79
     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 pdpe1gb rdtscp
     lm constant_tsc art arch_perfmon pebs bts rep_good nopl xtopology nonstop_tsc cpuid
     aperfmperf 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 invpcid_single
     intel_ppin ssbd mba ibrs ibpb stibp ibrs_enhanced fsgsbase tsc_adjust bmi1 hle avx2
     smep bmi2 erms invpcid cqm rdt_a avx512f avx512dq rdseed adx smap avx512ifma
     clflushopt clwb intel_pt avx512cd sha_ni avx512bw avx512vl xsaveopt xsavec xgetbv1
     xsaves cqm_llc cqm_occup_llc cqm_mbm_total cqm_mbm_local split_lock_detect wbnoinvd
     dtherm ida arat pln pts avx512vbmi umip pku ospke avx512_vbmi2 gfni vaes vpclmulqdq
     avx512_vnni avx512_bitalg tme avx512_vpopcntdq la57 rdpid md_clear pconfig flush_l1d
     arch_capabilities

/proc/cpuinfo cache data
   cache size : 61440 KB

From numactl --hardware  WARNING: a numactl 'node' might or might not correspond to a
physical chip.
```

(Continued on next page)

Dell Inc.

PowerEdge R650 (Intel Xeon Platinum 8380, 2.30 GHz)

SPECspeed®2017_fp_base = 228

SPECspeed®2017_fp_peak = 231

Platform Notes (Continued)

```
   available: 2 nodes (0-1)
   node 0 cpus: 0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50
   52 54 56 58 60 62 64 66 68 70 72 74 76 78
   node 0 size: 243629 MB
   node 0 free: 237917 MB
   node 1 cpus: 1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35 37 39 41 43 45 47 49 51
   53 55 57 59 61 63 65 67 69 71 73 75 77 79
   node 1 size: 243562 MB
   node 1 free: 253815 MB
   node distances:
   node   0   1
     0:  10  20
     1:  20  10

 From /proc/meminfo
    MemTotal:       527805188 kB
    HugePages_Total:        0
    Hugepagesize:        2048 kB

 /sbin/tuned-adm active
     Current active profile: throughput-performance

 From /etc/*release* /etc/*version*
    os-release:
       NAME="Red Hat Enterprise Linux"
       VERSION="8.3 (Ootpa)"
       ID="rhel"
       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 4.18.0-240.15.1.el8_3.x86_64 #1 SMP Wed Feb 3 03:12:15 EST
    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):                         Not affected
 CVE-2018-3639 (Speculative Store Bypass):         Mitigation: Speculative Store
```

(Continued on next page)

Dell Inc.

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$SPECspeed^{®}2017\_fp\_base = 228$

$SPECspeed^{®}2017\_fp\_peak = 231$

Platform Notes (Continued)

```
                                              Bypass disabled via prctl and
                                              seccomp
  CVE-2017-5753 (Spectre variant 1):          Mitigation: usercopy/swapgs
                                              barriers and __user pointer
                                              sanitization
  CVE-2017-5715 (Spectre variant 2):          Mitigation: Enhanced IBRS, IBPB:
                                              conditional, RSB filling
  CVE-2020-0543 (Special Register Buffer Data Sampling): Not affected
  CVE-2019-11135 (TSX Asynchronous Abort):            Not affected

  run-level 5 Apr 14 10:49

  SPEC is set to: /mnt/ramdisk/cpu2017-1.1.5-ic2021.1
     Filesystem      Type   Size  Used Avail Use% Mounted on
     tmpfs           tmpfs  225G   13G  213G   6% /mnt/ramdisk

  From /sys/devices/virtual/dmi/id
      Vendor:          Dell Inc.
      Product:         PowerEdge R650
      Product Family:  PowerEdge
      Serial:          1234567

  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:
      7x 00AD00B300AD HMAA4GR7AJR8N-XN 32 GB 2 rank 3200
      9x 00AD063200AD HMAA4GR7AJR8N-XN 32 GB 2 rank 3200
      16x Not Specified Not Specified

  BIOS:
     BIOS Vendor:     Dell Inc.
     BIOS Version:    1.1.2
     BIOS Date:       04/09/2021
     BIOS Revision:   1.1

  (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)
```

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

Test Date: Apr-2021
Hardware Availability: May-2021
Software Availability: Feb-2021

Compiler Version Notes (Continued)

```
   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                | 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)
------------------------------------------------------------------------------
```

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Compiler Version Notes (Continued)

```
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.
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`

(Continued on next page)

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Base Portability Flags (Continued)

654.roms_s: -DSPEC_LP64

Base Optimization Flags

C benchmarks:
```
-m64 -std=c11 -xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch
-ffinite-math-only -qopt-mem-layout-trans=4 -qopenmp -DSPEC_OPENMP
-mbranches-within-32B-boundaries
```

Fortran benchmarks:
```
-m64 -Wl,-z,muldefs -DSPEC_OPENMP -xCORE-AVX512 -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-AVX512 -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-AVX512 -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
```

(Continued on next page)

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Test Date: Apr-2021
Hardware Availability: May-2021
Software Availability: Feb-2021

Peak Compiler Invocation (Continued)

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

Peak Portability Flags

```
Same as Base Portability Flags
```

Peak Optimization Flags

C benchmarks:

619.lbm_s: basepeak = yes

638.imagick_s: basepeak = yes

644.nab_s: `-m64 -Wl,-z,muldefs -xCORE-AVX512 -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-AVX512 -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`

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-AVX512 -O3 -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`

(Continued on next page)

Dell Inc.

PowerEdge R650 (Intel Xeon Platinum 8380, 2.30 GHz)

$SPECspeed®2017\_fp\_base = 228$

$SPECspeed®2017\_fp\_peak = 231$

CPU2017 License: 55		**Test Date:**	Apr-2021
Test Sponsor:	Dell Inc.	**Hardware Availability:**	May-2021
Tested by:	Dell Inc.	**Software Availability:**	Feb-2021

Peak Optimization Flags (Continued)

621.wrf_s (continued):
-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

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2017/flags/Intel-ic2021-official-linux64_revA.html
http://www.spec.org/cpu2017/flags/Dell-Platform-Flags-PowerEdge-Intel-ICX-rev1.0.2021-05-18.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2017/flags/Intel-ic2021-official-linux64_revA.xml
http://www.spec.org/cpu2017/flags/Dell-Platform-Flags-PowerEdge-Intel-ICX-rev1.0.2021-05-18.xml

For questions about this result, please contact the tester. For other inquiries, please contact info@spec.org.

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