SPEC CPU®2017 Floating Point Speed Result

Dell Inc.
PowerEdge R650xs (Intel Xeon Platinum 8352Y, 2.20 GHz)

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

Threads

| 603.bwaves_s | 64 | 607.cactuBSSN_s | 64 | 619.lbm_s | 64 | 621.wrf_s | 64 | 627.cam4_s | 64 | 628.pop2_s | 64 | 638.imagick_s | 64 | 644.nab_s | 64 | 649.fotonik3d_s | 64 | 654.roms_s | 64 |
|--------------|----|----------------|----|----------|----|----------|----|-----------|----|------------|----|-------------|----|---------|----|-----------------|----|-------------|
|              |    |                |    |          |    |          |    |           |    |            |    |             |    |         |    |                 |    |             |
| SPECspeed®2017_fp_base = 208 | | SPECspeed®2017_fp_peak = 210 | | | | | | | | | | | | | | | |

Test Date: Aug-2021
Hardware Availability: Jul-2021
Software Availability: Dec-2020

Dell Inc. (2.20 GHz)

<table>
<thead>
<tr>
<th>SPECspeed®2017_fp_base = 208</th>
<th>SPECspeed®2017_fp_peak = 210</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 30.0 70.0 100 130 160 190 220 250 280 310 340 370 400 430 460 490 520 550 580 610 640 670 700 730 760 790 820 850 880 910 940 970 1000</td>
<td></td>
</tr>
</tbody>
</table>

Hardware

<table>
<thead>
<tr>
<th>CPU Name: Intel Xeon Platinum 8352Y</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max MHz: 3400</td>
</tr>
<tr>
<td>Nominal: 2200</td>
</tr>
<tr>
<td>Enabled: 64 cores, 2 chips</td>
</tr>
<tr>
<td>Orderable: 1.2 chips</td>
</tr>
<tr>
<td>Cache L1: 32 KB I + 48 KB D on chip per core</td>
</tr>
<tr>
<td>L2: 1.25 MB I+D on chip per core</td>
</tr>
<tr>
<td>L3: 48 MB I+D on chip per chip</td>
</tr>
<tr>
<td>Other: None</td>
</tr>
<tr>
<td>Memory: 512 GB (16 x 32 GB 2Rx4 PC4-3200AA-R)</td>
</tr>
<tr>
<td>Storage: 125 GB on tmpfs</td>
</tr>
<tr>
<td>Other: None</td>
</tr>
</tbody>
</table>

Software

<table>
<thead>
<tr>
<th>OS: Red Hat Enterprise Linux 8.3 (Ootpa)</th>
</tr>
</thead>
<tbody>
<tr>
<td>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</td>
</tr>
<tr>
<td>Parallel: Yes</td>
</tr>
<tr>
<td>Firmware: Version 1.1.3 released Apr-2021</td>
</tr>
<tr>
<td>File System: tmpfs</td>
</tr>
<tr>
<td>System State: Run level 3 (multi-user)</td>
</tr>
<tr>
<td>Base Pointers: 64-bit</td>
</tr>
<tr>
<td>Peak Pointers: 64-bit</td>
</tr>
<tr>
<td>Other: jemalloc memory allocator V5.0.1</td>
</tr>
<tr>
<td>Power Management: BIOS and OS set to prefer performance at the cost of additional power usage.</td>
</tr>
</tbody>
</table>
### Dell Inc.

PowerEdge R650xs (Intel Xeon Platinum 8352Y, 2.20 GHz)

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<thead>
<tr>
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<td>Software Availability: Dec-2020</td>
</tr>
</tbody>
</table>

---

**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><code>603.bwaves_s</code></td>
<td>64</td>
<td>80.7</td>
<td>732</td>
<td>80.2</td>
<td>736</td>
<td>80.6</td>
<td>732</td>
<td>80.1</td>
<td>737</td>
</tr>
<tr>
<td><code>607.cactuBSSN_s</code></td>
<td>64</td>
<td>66.5</td>
<td>251</td>
<td>66.2</td>
<td>252</td>
<td>66.5</td>
<td>251</td>
<td>66.2</td>
<td>252</td>
</tr>
<tr>
<td><code>619.lbm_s</code></td>
<td>64</td>
<td>36.0</td>
<td>145</td>
<td>36.5</td>
<td>144</td>
<td>36.0</td>
<td>145</td>
<td>36.5</td>
<td>144</td>
</tr>
<tr>
<td><code>621.wrf_s</code></td>
<td>64</td>
<td>65.8</td>
<td>201</td>
<td>66.0</td>
<td>200</td>
<td>68.6</td>
<td>193</td>
<td>69.3</td>
<td>191</td>
</tr>
<tr>
<td><code>627.cam4_s</code></td>
<td>64</td>
<td>58.4</td>
<td>152</td>
<td>58.4</td>
<td>152</td>
<td>58.4</td>
<td>152</td>
<td>58.4</td>
<td>152</td>
</tr>
<tr>
<td><code>628.pop2_s</code></td>
<td>64</td>
<td>140.0</td>
<td>84.6</td>
<td>140.0</td>
<td>85.0</td>
<td>140.0</td>
<td>84.6</td>
<td>140.0</td>
<td>85.0</td>
</tr>
<tr>
<td><code>638.imagick_s</code></td>
<td>64</td>
<td>75.8</td>
<td>190</td>
<td>76.2</td>
<td>189</td>
<td>75.8</td>
<td>190</td>
<td>76.2</td>
<td>189</td>
</tr>
<tr>
<td><code>644.nab_s</code></td>
<td>64</td>
<td>45.9</td>
<td>381</td>
<td>45.9</td>
<td>381</td>
<td>40.7</td>
<td>429</td>
<td>40.6</td>
<td>430</td>
</tr>
<tr>
<td><code>649.fotonik3d_s</code></td>
<td>64</td>
<td>79.5</td>
<td>115</td>
<td>79.3</td>
<td>115</td>
<td>80.0</td>
<td>114</td>
<td>78.8</td>
<td>116</td>
</tr>
<tr>
<td><code>654.roms_s</code></td>
<td>64</td>
<td>57.7</td>
<td>273</td>
<td>57.3</td>
<td>275</td>
<td>57.7</td>
<td>273</td>
<td>57.3</td>
<td>275</td>
</tr>
</tbody>
</table>

**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/cpu2017-1.1.8-ic2021.1/lib/intel64:/mnt/ramdisk/cpu2017-1.1.8-ic2021.1/jemalloc5.0.1-64"
- 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

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

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

**Dell Inc.**  
PowerEdge R650xs (Intel Xeon Platinum 8352Y, 2.20 GHz)  

<table>
<thead>
<tr>
<th>Spec Speed®2017_fp_base</th>
<th>208</th>
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</thead>
<tbody>
<tr>
<td>Spec Speed®2017_fp_peak</td>
<td>210</td>
</tr>
</tbody>
</table>

**CPU2017 License:** 55  
**Test Sponsor:** Dell Inc.  
**Tested by:** Dell Inc.  
**Test Date:** Aug-2021  
**Hardware Availability:** Jul-2021  
**Software Availability:** Dec-2020

### 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 125 GB ramdisk created with the cmd: "mount -t tmpfs -o size=125G 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  
- PCI ASPM L1 Link Power Management: Disabled

**Sysinfo program**  
```
Sysinfo program /mnt/ramdisk/cpu2017-1.1.8-ic2021.1/bin/sysinfo  
Rev: r6622 of 2021-04-07 982a61ec0915b55891ef0e16acafc64d  
runtime on r650xs.9yn9cd3.inside.dell.com Mon Aug 2 19:19:52 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](https://www.spec.org/cpu2017/Docs/config.html#sysinfo)

From `/proc/cpuinfo`

```
model name : Intel(R) Xeon(R) Platinum 8352Y CPU @ 2.20GHz  
2  "physical id" s (chips)  
64 "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 : 32  
siblings : 32  
physical 0: cores 0 1 2 3 4 5 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31  
physical 1: cores 0 1 2 3 4 5 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31
```

(Continued on next page)
Dell Inc.
PowerEdge R650xs (Intel Xeon Platinum 8352Y, 2.20 GHz)

SPECspeed®2017_fp_base = 208
SPECspeed®2017_fp_peak = 210

CPU2017 License: 55
Test Sponsor: Dell Inc.
Tested by: Dell Inc.
Test Date: Aug-2021
Hardware Availability: Jul-2021
Software Availability: Dec-2020

Platform Notes (Continued)

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): 64
On-line CPU(s) list: 0-63
Thread(s) per core: 1
Core(s) per socket: 32
Socket(s): 2
NUMA node(s): 2
Vendor ID: GenuineIntel
CPU family: 6
Model: 106
Model name: Intel(R) Xeon(R) Platinum 8352Y CPU @ 2.20GHz
Stepping: 6
CPU MHz: 3096.178
BogoMIPS: 4400.00
Virtualization: VT-x
L1d cache: 48K
L1i cache: 32K
L2 cache: 1280K
L3 cache: 49152K
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
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
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 pdelbg rdtsscp
  lm constant_tsc art arch_perfmon pebs bts rep_good nopl xtopology nonstop_tsc cpuid
  aperfmpref pni pclmulqdq dtes64 monitor ds_cpl vmx smx est tm2 ssse3 sdbg fma cx16
  xtrr pdcm pclid 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 fsqsbased 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 xsaves cqm_llc
  cqm_occup_llc cqm_mbb_total cqm_mbb_local splt_lock_detect wbnoinvd
  dtherm ida arat pln pts avx512vlbmi umip pku ospke avx512vlbmi2 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 : 49152 KB

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

(Continued on next page)
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
node 0 size: 243059 MB
node 0 free: 254024 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
node 1 size: 245662 MB
node 1 free: 244536 MB
node distances:
node 0 1
   0: 10 20
   1: 20 10

From /proc/meminfo
    MemTotal:       527544320 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 r650xs.9yn9cd3.inside.dell.com 4.18.0-240.el8.x86_64 #1 SMP Wed Sep 23 05:13:10
            EDT 2020 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.
PowerEdge R650xs (Intel Xeon Platinum 8352Y, 2.20 GHz)

SPEC CPU®2017 Floating Point Speed Result
Copyright 2017-2021 Standard Performance Evaluation Corporation

SPECspeed®2017_fp_base = 208
SPECspeed®2017_fp_peak = 210

CPU2017 License: 55
Test Sponsor: Dell Inc.
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Platform Notes (Continued)

CVE-2017-5753 (Spectre variant 1):
Bypass disabled via prctl and seccomp
Mitigation: usercopy/swapsgs barriers and __user pointer sanitation

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 3 Aug 2 16:35

SPEC is set to: /mnt/ramdisk/cpu2017-1.1.8-ic2021.1

From /sys/devices/virtual/dmi/id
Vendor: Dell Inc.
Product: PowerEdge R650 xs
Product Family: PowerEdge
Serial: 9YN9CD3

Memory:
16x 00AD063200AD HMA84GR7DJR4N-XN 32 GB 2 rank 3200

BIOS:
BIOS Vendor: Dell Inc.
BIOS Version: 1.1.3
BIOS Date: 04/27/2021
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) 64, Version 2021.1 Build 20201112_000000
Copyright (C) 1985-2020 Intel Corporation. All rights reserved.

(Continued on next page)
Compiler Version Notes (Continued)

==============================================================================
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)
==============================================================================
Intel(R) Fortran Intel(R) 64 Compiler Classic for applications running on
Intel(R) 64, Version 2021.1 Build 20201112_000000

(Continued on next page)
Dell Inc.
PowerEdge R650xs (Intel Xeon Platinum 8352Y, 2.20 GHz)

**SPEC**

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**SPECspeed®2017_fp_base = 208**

**SPECspeed®2017_fp_peak = 210**

**Test Date:** Aug-2021
**Hardware Availability:** Jul-2021
**Software Availability:** Dec-2020

---

### Compiler Version Notes (Continued)

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
654.roms_s: -DSPEC_LP64
```
Dell Inc.
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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

Benchmarks using Fortran, C, and C++:
icpc icc ifort
Dell Inc.
PowerEdge R650xs (Intel Xeon Platinum 8352Y, 2.20 GHz)

SPECspeed®2017_fp_base = 208
SPECspeed®2017_fp_peak = 210

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

Test Date: Aug-2021
Hardware Availability: Jul-2021
Software Availability: Dec-2020

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
-fflags -mfpmath=sse -funroll-loops -fiopenmp
-DSPEC_OPENMP -gopt-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 -gopt-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
-L/usr/local/jemalloc64-5.0.1/lib -ljemalloc

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

(Continued on next page)
Dell Inc.  
PowerEdge R650xs (Intel Xeon Platinum 8352Y, 2.20 GHz)  

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CPU2017 License: 55  
Test Sponsor: Dell Inc.  
Tested by: Dell Inc.  
Test Date: Aug-2021  
Hardware Availability: Jul-2021  
Software Availability: Dec-2020

Peak Optimization Flags (Continued)

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


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-rev1.4.xml

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