### Dell Inc.

**PowerEdge T40 (Intel Xeon E-2224G, 3.50GHz)**

- **SPECrate**
  - SPECrate\textsuperscript{2017\_fp\_base} = 30.8
  - SPECrate\textsuperscript{2017\_fp\_peak} = 31.6

<table>
<thead>
<tr>
<th>Program</th>
<th>Copies</th>
<th>SPECrate\textsuperscript{2017_fp_base}</th>
<th>SPECrate\textsuperscript{2017_fp_peak}</th>
</tr>
</thead>
<tbody>
<tr>
<td>503.bwaves_r</td>
<td>4</td>
<td>26.7</td>
<td>73.6</td>
</tr>
<tr>
<td>507.caactuBSSN_r</td>
<td>4</td>
<td>22.0</td>
<td>73.6</td>
</tr>
<tr>
<td>508.namd_r</td>
<td>4</td>
<td>19.5</td>
<td>24.3</td>
</tr>
<tr>
<td>510.parest_r</td>
<td>4</td>
<td>34.5</td>
<td>40.9</td>
</tr>
<tr>
<td>511.povray_r</td>
<td>4</td>
<td>17.7</td>
<td>40.9</td>
</tr>
<tr>
<td>519.lbm_r</td>
<td>4</td>
<td>35.6</td>
<td>40.9</td>
</tr>
<tr>
<td>521.wrf_r</td>
<td>4</td>
<td>30.4</td>
<td>35.8</td>
</tr>
<tr>
<td>526.blender_r</td>
<td>4</td>
<td>30.5</td>
<td>35.8</td>
</tr>
<tr>
<td>527.cam4_r</td>
<td>4</td>
<td>34.5</td>
<td>35.9</td>
</tr>
<tr>
<td>538.imagick_r</td>
<td>4</td>
<td>78.5</td>
<td></td>
</tr>
<tr>
<td>544.nab_r</td>
<td>4</td>
<td>45.3</td>
<td>45.4</td>
</tr>
<tr>
<td>549.fotonik3d_r</td>
<td>4</td>
<td>22.3</td>
<td>22.3</td>
</tr>
<tr>
<td>554.roms_r</td>
<td>4</td>
<td>14.9</td>
<td>15.3</td>
</tr>
</tbody>
</table>

**Hardware**

- **CPU Name:** Intel Xeon E-2224G
- **Max MHz:** 4700
- **Nominal:** 3500
- **Enabled:** 4 cores, 1 chip
- **Orderable:** 1 chips
- **Cache L1:** 32 KB I + 32 KB D on chip per core
- **L2:** 256 KB I+D on chip per core
- **L3:** 8 MB I+D on chip per chip
- **Memory:** 64 GB (4 x 16 GB 2Rx8 PC4-2666V-R)
- **Storage:** 1 x 960 GB SATA SSD
- **Other:** None

**Software**

- **OS:** Ubuntu 18.04.2 LTS
- **Compiler:** C/C++: Version 19.0.1.144 of Intel C/C++ Compiler Build 20181018 for Linux;
- **Firmware:** Version 0.1.2 released Mar-2019
- **File System:** ext4
- **System State:** Run level 5 (multi-user)
- **Base Pointers:** 64-bit
- **Peak Pointers:** 64-bit
- **Other:** None
- **Power Management:** --
**Dell Inc.**

PowerEdge T40 (Intel Xeon E-2224G, 3.50GHz)

**SPEC CPU®2017 Floating Point Rate Result**

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Base Copies</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Base Seconds</th>
<th>Ratio</th>
<th>Peak Copies</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Peak Seconds</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>503.bwaves_r</td>
<td>4</td>
<td>545</td>
<td>73.6</td>
<td>545</td>
<td>73.6</td>
<td>4</td>
<td>545</td>
<td>73.6</td>
<td>545</td>
<td>73.6</td>
</tr>
<tr>
<td>507.cactuBSSN_r</td>
<td>4</td>
<td>190</td>
<td>26.7</td>
<td>190</td>
<td>26.7</td>
<td>4</td>
<td>190</td>
<td>26.7</td>
<td>190</td>
<td>26.7</td>
</tr>
<tr>
<td>508.namd_r</td>
<td>4</td>
<td>172</td>
<td>22.0</td>
<td>166</td>
<td>23.0</td>
<td>4</td>
<td>163</td>
<td>23.3</td>
<td>163</td>
<td>23.3</td>
</tr>
<tr>
<td>510.parest_r</td>
<td>4</td>
<td>537</td>
<td>19.5</td>
<td>538</td>
<td>19.5</td>
<td>4</td>
<td>537</td>
<td>19.5</td>
<td>538</td>
<td>19.5</td>
</tr>
<tr>
<td>511.povray_r</td>
<td>4</td>
<td>268</td>
<td>34.9</td>
<td>271</td>
<td>34.5</td>
<td>4</td>
<td>228</td>
<td>40.9</td>
<td>228</td>
<td>41.0</td>
</tr>
<tr>
<td>519.lbm_r</td>
<td>4</td>
<td>238</td>
<td>17.7</td>
<td>238</td>
<td>17.7</td>
<td>4</td>
<td>237</td>
<td>17.8</td>
<td>237</td>
<td>17.8</td>
</tr>
<tr>
<td>521.wrf_r</td>
<td>4</td>
<td>251</td>
<td>35.7</td>
<td>252</td>
<td>35.6</td>
<td>4</td>
<td>249</td>
<td>35.9</td>
<td>250</td>
<td>35.8</td>
</tr>
<tr>
<td>526.blender_r</td>
<td>4</td>
<td>200</td>
<td>30.4</td>
<td>200</td>
<td>30.4</td>
<td>4</td>
<td>200</td>
<td>30.5</td>
<td>200</td>
<td>30.5</td>
</tr>
<tr>
<td>527.cam4_r</td>
<td>4</td>
<td>202</td>
<td>34.6</td>
<td>203</td>
<td>34.5</td>
<td>4</td>
<td>194</td>
<td>36.0</td>
<td>195</td>
<td>35.9</td>
</tr>
<tr>
<td>538.imagick_r</td>
<td>4</td>
<td>127</td>
<td>78.5</td>
<td>126</td>
<td>78.8</td>
<td>4</td>
<td>127</td>
<td>78.5</td>
<td>126</td>
<td>78.8</td>
</tr>
<tr>
<td>544.nab_r</td>
<td>4</td>
<td>148</td>
<td>45.4</td>
<td>149</td>
<td>45.3</td>
<td>4</td>
<td>148</td>
<td>45.5</td>
<td>148</td>
<td>45.4</td>
</tr>
<tr>
<td>549.fotonik3d_r</td>
<td>4</td>
<td>700</td>
<td>22.3</td>
<td>699</td>
<td>22.3</td>
<td>4</td>
<td>699</td>
<td>22.3</td>
<td>699</td>
<td>22.3</td>
</tr>
<tr>
<td>554.roms_r</td>
<td>4</td>
<td>425</td>
<td>14.9</td>
<td>422</td>
<td>15.1</td>
<td>4</td>
<td>410</td>
<td>15.5</td>
<td>414</td>
<td>15.3</td>
</tr>
</tbody>
</table>

**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"

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

(Continued on next page)
Dell Inc.

PowerEdge T40 (Intel Xeon E-2224G, 3.50GHz)  

**SPEC CPU®2017 Floating Point Rate Result**

**CPU2017 License:** 55  
**Test Sponsor:** Dell Inc.  
**Tested by:** Dell Inc.  
**Test Date:** Apr-2019  
**Hardware Availability:** Apr-2019  
**Software Availability:** Feb-2019

---

**Spec CPU®2017_fp_base = 30.8**  
**Spec CPU®2017_fp_peak = 31.6**

---

**General Notes (Continued)**

- 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:**
- **CPU Performance set to Maximum Performance**
- **C States set to Autonomous**
- **C1E disabled**
- **Sysinfo program /home/cpu2017/bin/sysinfo**
- Rev: r5974 of 2018-05-19 9bcd8f2999c33d61f64985e45859ea9  
- running on intel-sut Mon Apr 22 17:12:17 2019

- **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) E-2224G CPU @ 3.50GHz
  - 1 "physical id"s (chips)
  - 4 "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 : 4
  - siblings : 4
  - physical 0: cores 0 1 2 3

  From lscpu:
  - Architecture: x86_64
  - CPU op-mode(s): 32-bit, 64-bit
  - Byte Order: Little Endian
  - CPU(s): 4
  - On-line CPU(s) list: 0-3
  - Thread(s) per core: 1
  - Core(s) per socket: 4
  - Socket(s): 1
  - NUMA node(s): 1
  - Vendor ID: GenuineIntel
  - CPU family: 6
  - Model: 158
  - Model name: Intel(R) Xeon(R) E-2224G CPU @ 3.50GHz
  - Stepping: 10
  - CPU MHz: 4550.125

(Continued on next page)
Platform Notes (Continued)

CPU max MHz: 4700.0000
CPU min MHz: 800.0000
BogoMIPS: 7008.00
Virtualization: VT-x
L1d cache: 32K
L1i cache: 32K
L2 cache: 256K
L3 cache: 8192K
NUMA node0 CPU(s): 0-3
Flags: fpu vme de pse tsc msr pae mce cmov pat pse36 clflush dts acpi mmx fxsr sse sse2 ss ht tm pbe syscall nx pdpe1gb rdtscp lm constant_tsc arch_perfmon pebs bts rep_good nopl xtopology nonstop_tsc cpuid aperfmperf tsc_known_freq pni pclmulqdq dtes64 monitor ds_cpl vmx smx est tm2 ssse3 sdbg fma cx16 xtpr pdcm pcid sse4_1 sse4_2 x2apic movbe popcnt tsc_deadline_timer aes xsave avx f16c rdrand lahf_lm abm 3dnowprefetch cpuid_fault ebpxcr_ped xsaveopt xsave xgetbv1 xsavec xstore xreadc xcomparator xtolerant

From /proc/cpuinfo
    cache data
    cache size : 8192 KB

From numactl --hardware
    WARNING: a numactl 'node' might or might not correspond to a physical chip.
    available: 1 nodes (0)
    node 0 cpus: 0 1 2 3
    node 0 size: 64256 MB
    node 0 free: 62988 MB
    node distances:
    node 0
    0: 10

From /proc/meminfo
    MemTotal:       65798712 kB
    HugePages_Total:       0
    Hugepagesize:       2048 kB

From /usr/bin/lsb_release -d
    Ubuntu 18.04.2 LTS

From /etc/*release* /etc/*version*
    debian_version: buster/sid
    os-release:
        NAME="Ubuntu"
        VERSION="18.04.2 LTS (Bionic Beaver)"
        ID=ubuntu

(Continued on next page)
Dell Inc.

PowerEdge T40 (Intel Xeon E-2224G, 3.50GHz)

**SPEC CPU®2017 Floating Point Rate Result**

**SPECrate®2017_fp_base = 30.8**

**SPECrate®2017_fp_peak = 31.6**

<table>
<thead>
<tr>
<th>TEST NAME</th>
<th>RESULT</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECrate 2017_fp_base</td>
<td>30.8</td>
</tr>
<tr>
<td>SPECrate 2017_fp_peak</td>
<td>31.6</td>
</tr>
</tbody>
</table>

**CPU2017 License:** 55  
**Test Sponsor:** Dell Inc.  
**Test Date:** Apr-2019  
**Tested by:** Dell Inc.  
**Hardware Availability:** Apr-2019  
**Software Availability:** Feb-2019

---

**Platform Notes (Continued)**

```plaintext
ID_LIKE=debian  
PRETTY_NAME="Ubuntu 18.04.2 LTS"  
VERSION_ID="18.04"  
HOME_URL="https://www.ubuntu.com/"  
SUPPORT_URL="https://help.ubuntu.com/"
```

```plaintext
uname -a:  
Linux intel-sut 4.15.0-45-generic #48-Ubuntu SMP Tue Jan 29 16:28:13 UTC 2019 x86_64  
x86_64 x86_64 GNU/Linux
```

**Kernel self-reported vulnerability status:**

- **CVE-2017-5754 (Meltdown):** Mitigation: PTI
- **CVE-2017-5753 (Spectre variant 1):** Mitigation: __user pointer sanitization
- **CVE-2017-5715 (Spectre variant 2):** Mitigation: Full generic retpoline, IBPB, IBRS_FW

**run-level 5 Apr 22 14:19**

**SPEC is set to:** /home/cpu2017  
**Filesystem** | **Type** | **Size** | **Used** | **Avail** | **Use%** | **Mounted on**
---|---|---|---|---|---|---
/dev/sda2 | ext4 | 439G | 19G | 398G | 5% | /

**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. 0.1.2 03/27/2019
- Memory:
  - 4x 80CE000080CE M391A2K43BB1-CTD 16 GB 2 rank 2666

(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 19.0.1.144 Build 20181018  
Copyright (C) 1985-2018 Intel Corporation. All rights reserved.
```

```
C++             | 508.namd_r(base, peak) 510.parest_r(base, peak)
```

(Continued on next page)
Dell Inc.

PowerEdge T40 (Intel Xeon E-2224G, 3.50GHz)

SPEC CPU®2017 Floating Point Rate Result

Copyright 2017-2019 Standard Performance Evaluation Corporation

Dell Inc.

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

Test Date: Apr-2019
Hardware Availability: Apr-2019
Software Availability: Feb-2019

SPECrates

SPECrates®2017_fp_base = 30.8
SPECrates®2017_fp_peak = 31.6

Compiler Version Notes (Continued)

Intel(R) C++ Intel(R) 64 Compiler for applications running on Intel(R) 64,
Version 19.0.1.144 Build 20181018
Copyright (C) 1985-2018 Intel Corporation. All rights reserved.

==============================================================================
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 19.0.1.144 Build 20181018
Copyright (C) 1985-2018 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 19.0.1.144 Build 20181018
Copyright (C) 1985-2018 Intel Corporation. All rights reserved.
Intel(R) C Intel(R) 64 Compiler for applications running on Intel(R) 64,
Version 19.0.1.144 Build 20181018
Copyright (C) 1985-2018 Intel Corporation. All rights reserved.
Intel(R) Fortran Intel(R) 64 Compiler for applications running on Intel(R) 64,
Version 19.0.1.144 Build 20181018
Copyright (C) 1985-2018 Intel Corporation. All rights reserved.

==============================================================================
Fortran | 503.bwaves_r(base, peak) 549.fotonik3d_r(base, peak)
Intel(R) Fortran Intel(R) 64 Compiler for applications running on Intel(R) 64,
Version 19.0.1.144 Build 20181018
Copyright (C) 1985-2018 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 19.0.1.144 Build 20181018
Copyright (C) 1985-2018 Intel Corporation. All rights reserved.

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

## Dell Inc.

**PowerEdge T40 (Intel Xeon E-2224G, 3.50GHz)**

<table>
<thead>
<tr>
<th>SPECrate®2017_fp_base = 30.8</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECrate®2017_fp_peak = 31.6</td>
</tr>
</tbody>
</table>

**CPU2017 License:** 55  
**Test Sponsor:** Dell Inc.  
**Tested by:** Dell Inc.  
**Test Date:** Apr-2019  
**Hardware Availability:** Apr-2019  
**Software Availability:** Feb-2019

## Compiler Version Notes (Continued)

Copyright (C) 1985-2018 Intel Corporation. All rights reserved.

---

### 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`
Dell Inc.
PowerEdge T40 (Intel Xeon E-2224G, 3.50GHz)

SPECrate®2017_fp_base = 30.8
SPECrate®2017_fp_peak = 31.6

CPU2017 License: 55
Test Sponsor: Dell Inc.
Test Date: Apr-2019
CPU2017 License: 55
Tested by: Dell Inc.
Hardware Availability: Apr-2019

Base Optimization Flags

C benchmarks:
-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch -ffinite-math-only
-qopt-mem-layout-trans=4

C++ benchmarks:
-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch -ffinite-math-only
-qopt-mem-layout-trans=4

Fortran benchmarks:
-xCORE-AVX2 -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-AVX2 -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-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch -ffinite-math-only
-qopt-mem-layout-trans=4

Benchmarks using Fortran, C, and C++:
-xCORE-AVX2 -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

(Continued on next page)
Dell Inc.  
PowerEdge T40 (Intel Xeon E-2224G, 3.50GHz)  

| SPECrate®2017_fp_base = 30.8 |
| SPECrate®2017_fp_peak = 31.6 |

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

Test Date: Apr-2019  
Hardware Availability: Apr-2019  
Software Availability: Feb-2019

**Peak Compiler Invocation (Continued)**

Benchmarks using Fortran, C, and C++:

```
icpc -m64 icc -m64 -std=c11 ifort -m64
```

**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=4
```

```
538.imagick_r: basepeak = yes
```

```
544.nab_r: -xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch
-ffinite-math-only -qopt-mem-layout-trans=4
```

C++ benchmarks:

```
508.namd_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=4
```

```
510.parest_r: basepeak = yes
```

Fortran benchmarks:

```
503.bwaves_r: -xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch
-ffinite-math-only -qopt-mem-layout-trans=4 -auto
-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-AVX2 -O3
-no-prec-div -qopt-prefetch -ffinite-math-only
-qopt-mem-layout-trans=4 -auto -nostandard-realloc-lhs
-align array32byte
```

(Continued on next page)
Dell Inc.

PowerEdge T40 (Intel Xeon E-2224G, 3.50GHz)

SPECrate®2017_fp_base = 30.8
SPECrate®2017_fp_peak = 31.6

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

Test Date: Apr-2019
Hardware Availability: Apr-2019
Software Availability: Feb-2019

Peak Optimization Flags (Continued)

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=4 -auto -nostandard-realloc-lhs
-align array32byte

Benchmarks using both C and C++:

511.povray_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=4

526.blender_r: -xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch
-ffinite-math-only -qopt-mem-layout-trans=4

Benchmarks using Fortran, C, and C++:

507.cactuBSSN_r: 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:

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 v1.0.5 on 2019-04-22 13:12:17-0400.
Report generated on 2019-11-18 17:02:12 by CPU2017 PDF formatter v6255.
Originally published on 2019-09-17.