# SPEC CPU®2017 Floating Point Rate Result

**Dell Inc.**

**PowerEdge M640 (Intel Xeon Gold 6222V, 1.80GHz)**

<table>
<thead>
<tr>
<th>SPECrate®2017_fp_base</th>
<th>SPECrate®2017_fp_peak</th>
</tr>
</thead>
<tbody>
<tr>
<td>183</td>
<td>187</td>
</tr>
</tbody>
</table>

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

### Hardware

- **CPU Name**: Intel Xeon Gold 6222V
- **Max MHz**: 3600
- **Nominal**: 1800
- **Enabled**: 40 cores, 2 chips, 2 threads/core
- **Orderable**: 2 chips
- **Cache L1**: 32 KB I + 32 KB D on chip per core
- **Cache L2**: 1 MB I+D on chip per core
- **Cache L3**: 27.5 MB I+D on chip per chip
- **Other**: None
- **Memory**: 384 GB (12 x 32 GB 2Rx4 PC4-2933Y-R, running at 2400)
- **Storage**: 1 x 480 GB SATA SSD
- **Other**: None

### Software

- **OS**: Ubuntu 18.04.2 LTS
- **Compiler**: C/C++: Version 19.0.4.227 of Intel C/C++ Compiler Build 20190416 for Linux; Fortran: Version 19.0.4.227 of Intel Fortran Compiler Build 20190416 for Linux
- **Parallel**: No
- **Firmware**: Version 2.2.11 released Jun-2019
- **File System**: ext4
- **System State**: Run level 3 (multi-user)
- **Base Pointers**: 64-bit
- **Peak Pointers**: 64-bit
- **Other**: None
- **Power Management**: --
Dell Inc.

PowerEdge M640 (Intel Xeon Gold 6222V, 1.80GHz)

SPECrater®2017 fp_base = 183
SPECrater®2017 fp_peak = 187

Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Copies</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Copies</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>503.bwaves_r</td>
<td>80</td>
<td>1864</td>
<td>430</td>
<td>1871</td>
<td>429</td>
<td>1876</td>
<td>428</td>
<td>80</td>
<td>1871</td>
<td>429</td>
<td>1877</td>
<td>427</td>
<td>1874</td>
<td>428</td>
<td></td>
<td></td>
</tr>
<tr>
<td>507.cactuBSSN_r</td>
<td>80</td>
<td>648</td>
<td>156</td>
<td>645</td>
<td>157</td>
<td>650</td>
<td>156</td>
<td>80</td>
<td>648</td>
<td>156</td>
<td>649</td>
<td>156</td>
<td>648</td>
<td>156</td>
<td></td>
<td></td>
</tr>
<tr>
<td>508.namd_r</td>
<td>80</td>
<td>549</td>
<td>139</td>
<td>546</td>
<td>139</td>
<td>551</td>
<td>138</td>
<td>80</td>
<td>545</td>
<td>139</td>
<td>547</td>
<td>139</td>
<td>548</td>
<td>139</td>
<td></td>
<td></td>
</tr>
<tr>
<td>510.paret_r</td>
<td>80</td>
<td>2054</td>
<td>102</td>
<td>2055</td>
<td>102</td>
<td>2063</td>
<td>101</td>
<td>80</td>
<td>2059</td>
<td>102</td>
<td>2058</td>
<td>102</td>
<td>2056</td>
<td>102</td>
<td></td>
<td></td>
</tr>
<tr>
<td>511.povray_r</td>
<td>80</td>
<td>874</td>
<td>214</td>
<td>875</td>
<td>214</td>
<td>873</td>
<td>214</td>
<td>80</td>
<td>725</td>
<td>258</td>
<td>725</td>
<td>257</td>
<td>726</td>
<td>257</td>
<td></td>
<td></td>
</tr>
<tr>
<td>519.lbm_r</td>
<td>80</td>
<td>835</td>
<td>101</td>
<td>835</td>
<td>101</td>
<td>836</td>
<td>101</td>
<td>80</td>
<td>813</td>
<td>104</td>
<td>811</td>
<td>104</td>
<td>813</td>
<td>104</td>
<td></td>
<td></td>
</tr>
<tr>
<td>521.wrf_r</td>
<td>80</td>
<td>969</td>
<td>185</td>
<td>964</td>
<td>186</td>
<td>972</td>
<td>184</td>
<td>80</td>
<td>927</td>
<td>193</td>
<td>930</td>
<td>193</td>
<td>931</td>
<td>193</td>
<td></td>
<td></td>
</tr>
<tr>
<td>526.blender_r</td>
<td>80</td>
<td>612</td>
<td>199</td>
<td>611</td>
<td>200</td>
<td>612</td>
<td>199</td>
<td>80</td>
<td>611</td>
<td>199</td>
<td>612</td>
<td>199</td>
<td>610</td>
<td>200</td>
<td></td>
<td></td>
</tr>
<tr>
<td>527.cam4_r</td>
<td>80</td>
<td>648</td>
<td>216</td>
<td>652</td>
<td>215</td>
<td>650</td>
<td>215</td>
<td>80</td>
<td>635</td>
<td>220</td>
<td>643</td>
<td>218</td>
<td>636</td>
<td>220</td>
<td></td>
<td></td>
</tr>
<tr>
<td>538.imagick_r</td>
<td>80</td>
<td>445</td>
<td>447</td>
<td>446</td>
<td>446</td>
<td>446</td>
<td>446</td>
<td>80</td>
<td>447</td>
<td>445</td>
<td>446</td>
<td>446</td>
<td>445</td>
<td>447</td>
<td></td>
<td></td>
</tr>
<tr>
<td>544.nab_r</td>
<td>80</td>
<td>429</td>
<td>314</td>
<td>428</td>
<td>314</td>
<td>429</td>
<td>314</td>
<td>80</td>
<td>433</td>
<td>311</td>
<td>430</td>
<td>313</td>
<td>428</td>
<td>315</td>
<td></td>
<td></td>
</tr>
<tr>
<td>549.fotonik3d_r</td>
<td>80</td>
<td>2243</td>
<td>139</td>
<td>2234</td>
<td>140</td>
<td>2235</td>
<td>140</td>
<td>80</td>
<td>2230</td>
<td>140</td>
<td>2230</td>
<td>140</td>
<td>2236</td>
<td>139</td>
<td></td>
<td></td>
</tr>
<tr>
<td>554.roms_r</td>
<td>80</td>
<td>1575</td>
<td>80.7</td>
<td>1579</td>
<td>80.5</td>
<td>1564</td>
<td>81.3</td>
<td>80</td>
<td>1521</td>
<td>83.6</td>
<td>1540</td>
<td>82.5</td>
<td>1525</td>
<td>83.4</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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 i9-7900X CPU + 32GB RAM
memory using Redhat Enterprise Linux 7.5

NA: 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
Prior to runcpu invocation

(Continued on next page)
Dell Inc.

PowerEdge M640 (Intel Xeon Gold 6222V, 1.80GHz)

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.

SPECrate®2017_fp_base = 183
SPECrate®2017_fp_peak = 187
Test Date: Jun-2019
Hardware Availability: Apr-2019
Software Availability: Aug-2019

General Notes (Continued)

Filesystem page cache synced and cleared with:
  sync; echo 3>/proc/sys/vm/drop_caches
runcpu command invoked through numaclt i.e.:
    numaclt --interleave=all runcpu <etc>

Platform Notes

BIOS settings:
ADDDC setting disabled
Sub NUMA Cluster enabled
Virtualization Technology disabled
DCU Streamer Prefetcher enabled
System Profile set to Custom
CPU Performance set to Maximum Performance
C States set to Autonomous
C1E disabled
Uncore Frequency set to Dynamic
Energy Efficiency Policy set to Performance
Memory Patrol Scrub disabled
Logical Processor enabled
CPU Interconnect Bus Link Power Management disabled
PCI ASPM L1 Link Power Management disabled
Sysinfo program /home/cpu2017/bin/sysinfo
Rev: r5974 of 2018-05-19 9bcde8f2999c33d61f64985e45859ea9
running on intel-sut Sat Aug 31 02:06:28 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) Gold 6222V CPU @ 1.80GHz
    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 : 20
    siblings : 40
    physical 0: cores 0 1 2 3 4 8 9 10 11 12 16 17 18 19 20 24 25 26 27 28
    physical 1: cores 0 1 2 3 4 8 9 10 11 12 16 17 18 19 20 24 25 26 27 28

From lscpu:
  Architecture: x86_64
  CPU op-mode(s): 32-bit, 64-bit
  Byte Order: Little Endian
  CPU(s): 80

(Continued on next page)
Dell Inc.  
PowerEdge M640 (Intel Xeon Gold 6222V, 1.80GHz)  

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

**SPECRate®2017_fp_base = 183**  
**SPECRate®2017_fp_peak = 187**

---

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

---

**Platform Notes (Continued)**

- **On-line CPU(s) list:** 0–79  
- **Thread(s) per core:** 2  
- **Core(s) per socket:** 20  
- **Socket(s):** 2  
- **NUMA node(s):** 4  
- **Vendor ID:** GenuineIntel  
- **CPU family:** 6  
- **Model:** 85  
- **Model name:** Intel(R) Xeon(R) Gold 6222V CPU @ 1.80GHz  
- **Stepping:** 7  
- **CPU MHz:** 1187.634  
- **BogoMIPS:** 3600.00  
- **Virtualization:** VT-x  
- **L1d cache:** 32K  
- **L1i cache:** 32K  
- **L2 cache:** 1024K  
- **L3 cache:** 28160K  

**NUMA node0 CPU(s):** 0,4,8,12,16,20,24,28,32,36,40,44,48,52,56,60,64,68,72,76  
**NUMA node0 CPU(s):** 1,5,9,13,17,21,25,29,33,37,41,45,49,53,57,61,65,69,73,77  
**NUMA node2 CPU(s):** 2,6,10,14,18,22,26,30,34,38,42,46,50,54,58,62,66,70,74,78  
**NUMA node3 CPU(s):** 3,7,11,15,19,23,27,31,35,39,43,47,51,55,59,63,67,71,75,79  

**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_perfmon pdcm pcid dca sse4_1 sse4_2 x2apic movbe popcnt tsc_deadline_timer aes xsave avx f16c rdrand lahf_lm abm 3dnowprefetch cpuid_fault ebpx cpuid flexpriority ept vs xsave vfp cubing shrinker preemption bit  

(Continued on next page)
Dell Inc.

PowerEdge M640 (Intel Xeon Gold 6222V, 1.80GHz)

SPECrater®2017_fp_base = 183
SPECrater®2017_fp_peak = 187

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

Test Date: Jun-2019
Hardware Availability: Apr-2019
Software Availability: Aug-2019

Platform Notes (Continued)

node 2 size: 96764 MB
node 2 free: 96138 MB
node 3 cpus: 3 7 11 15 19 23 27 31 35 39 43 47 51 55 59 63 67 71 75 79
node 3 size: 96762 MB
node 3 free: 96236 MB
node distances:
node 0 1 2 3
0: 10 21 11 21
1: 21 10 21 11
2: 11 21 10 21
3: 21 11 21 10

From /proc/meminfo
MemTotal: 394664936 kB
HugePages_Total: 0
Hugepagesize: 2048 kB

/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
  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/"

uname -a:
Linux intel-sut 4.15.0-58-generic #64-Ubuntu SMP Tue Aug 6 11:12:41 UTC 2019 x86_64
x86_64 x86_64 GNU/Linux

Kernel self-reported vulnerability status:
CVE-2017-5754 (Meltdown): Not affected
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

run-level 3 Aug 30 15:46

SPEC is set to: /home/cpu2017

(Continued on next page)
Dell Inc. PowerEdge M640 (Intel Xeon Gold 6222V, 1.80GHz) SPECrate®2017_fp_base = 183

SPECrate®2017_fp_peak = 187

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

Platform Notes (Continued)

Filesystem  Type  Size  Used  Avail  Use%  Mounted on
/dev/sda2  ext4  439G  32G  385G  8%  /

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. 2.2.11 06/14/2019
Memory:
6x 00AD00B300AD HMA84GR7CJR4N-WM 32 GB 2 rank 2933, configured at 2400
3x 00AD063200AD HMA84GR7CJR4N-WM 32 GB 2 rank 2933, configured at 2400
3x 00AD069D00AD HMA84GR7CJR4N-WM 32 GB 2 rank 2933, configured at 2400
4x Not Specified Not Specified

(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 19.0.4.227 Build 20190416
Copyright (C) 1985-2019 Intel Corporation. All rights reserved.

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

Intel(R) C++ Intel(R) 64 Compiler for applications running on Intel(R) 64,
Version 19.0.4.227 Build 20190416
Copyright (C) 1985-2019 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 19.0.4.227 Build 20190416
Copyright (C) 1985-2019 Intel Corporation. All rights reserved.

Intel(R) C Intel(R) 64 Compiler for applications running on Intel(R) 64,
Version 19.0.4.227 Build 20190416
Copyright (C) 1985-2019 Intel Corporation. All rights reserved.

(Continued on next page)
Dell Inc.  
PowerEdge M640 (Intel Xeon Gold 6222V, 1.80GHz)

SPECrate®2017_fp_base = 183  
SPECrate®2017_fp_peak = 187

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

Test Date: Jun-2019  
Hardware Availability: Apr-2019  
Software Availability: Aug-2019

Compiler Version Notes (Continued)

==============================================================================
C++, C, Fortran | 507.cactuBSSN_r(base, peak)
---
Intel(R) C++ Intel(R) 64 Compiler for applications running on Intel(R) 64,
Version 19.0.4.227 Build 20190416
Copyright (C) 1985-2019 Intel Corporation. All rights reserved.
Intel(R) C Intel(R) 64 Compiler for applications running on Intel(R) 64,
Version 19.0.4.227 Build 20190416
Copyright (C) 1985-2019 Intel Corporation. All rights reserved.
Intel(R) Fortran Intel(R) 64 Compiler for applications running on Intel(R)
64, Version 19.0.4.227 Build 20190416
Copyright (C) 1985-2019 Intel Corporation. All rights reserved.
==============================================================================

Fortran         | 503.bwaves_r(base, peak) 549.fotonik3d_r(base, peak)
| 554.roms_r(base, peak)
==============================================================================
Fortran Intel(R) 64 Compiler for applications running on Intel(R)
64, Version 19.0.4.227 Build 20190416
Copyright (C) 1985-2019 Intel Corporation. All rights reserved.
==============================================================================
Fortran, C      | 521.wrf_r(base, peak) 527.cam4_r(base, peak)
==============================================================================
Fortran Intel(R) 64 Compiler for applications running on Intel(R)
64, Version 19.0.4.227 Build 20190416
Copyright (C) 1985-2019 Intel Corporation. All rights reserved.
Intel(R) C Intel(R) 64 Compiler for applications running on Intel(R) 64,
Version 19.0.4.227 Build 20190416
Copyright (C) 1985-2019 Intel Corporation. All rights reserved.

Base Compiler Invocation

C benchmarks:  
icc -m64 -std=c11

C++ benchmarks:  
icpc -m64

Fortran benchmarks:  
ifort -m64

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

Dell Inc.  
PowerEdge M640 (Intel Xeon Gold 6222V, 1.80GHz)

<table>
<thead>
<tr>
<th>SPECrate®2017_fp_base</th>
<th>183</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECrate®2017_fp_peak</td>
<td>187</td>
</tr>
</tbody>
</table>

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

**Base Compiler Invocation (Continued)**

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

**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
```

(Continued on next page)
Dell Inc. 
PowerEdge M640 (Intel Xeon Gold 6222V, 1.80GHz) 

SPECrate®2017_fp_peak = 187
SPECrate®2017_fp_base = 183

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

Test Date: Jun-2019
Hardware Availability: Apr-2019
Software Availability: Aug-2019

Base Optimization Flags (Continued)

Benchmarks using both Fortran and C (continued):
-qopt-mem-layout-trans=4 -auto -nstandard-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 -nstandard-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

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

544.nab_r: Same as 538.imagick_r

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

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

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

(Continued on next page)
Dell Inc.

PowerEdge M640 (Intel Xeon Gold 6222V, 1.80GHz)

SPECrate®2017_fp_base = 183
SPECrate®2017_fp_peak = 187

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

Test Date: Jun-2019
Hardware Availability: Apr-2019
Software Availability: Aug-2019

Peak Optimization Flags (Continued)

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

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 2019-08-30 22:06:27-0400.
Originally published on 2019-10-01.