Dell Inc.

PowerEdge R740xd (Intel Xeon Gold 6134, 3.20GHz)

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

Test Date: Apr-2018
Hardware Availability: Sep-2017
Software Availability: Feb-2018

Dell Inc.

PowerEdge R740xd (Intel Xeon Gold 6134, 3.20GHz)

SPECspeed2017_fp_base = 83.9
SPECspeed2017_fp_peak = 85.5

Threads

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Threads</th>
<th>SPECspeed2017_fp_base</th>
<th>SPECspeed2017_fp_peak</th>
</tr>
</thead>
<tbody>
<tr>
<td>603.bwaves_s</td>
<td>16</td>
<td>92.7</td>
<td>419*</td>
</tr>
<tr>
<td>607.cactuBSSN_s</td>
<td>16</td>
<td>41.3</td>
<td>419</td>
</tr>
<tr>
<td>619.lbm_s</td>
<td>16</td>
<td>65.0</td>
<td>71.0</td>
</tr>
<tr>
<td>621.wrf_s</td>
<td>16</td>
<td>47.8</td>
<td>47.7</td>
</tr>
<tr>
<td>627.cam4_s</td>
<td>16</td>
<td>62.1</td>
<td>62.9</td>
</tr>
<tr>
<td>628.pop2_s</td>
<td>16</td>
<td>62.9</td>
<td>113</td>
</tr>
<tr>
<td>638.imagick_s</td>
<td>16</td>
<td>113</td>
<td>113</td>
</tr>
<tr>
<td>644.nab_s</td>
<td>16</td>
<td>75.7</td>
<td>76.0</td>
</tr>
<tr>
<td>649.fotonik3d_s</td>
<td>16</td>
<td>104</td>
<td>111</td>
</tr>
<tr>
<td>654.roms_s</td>
<td>16</td>
<td>SPECspeed2017_fp_base (83.9)</td>
<td>SPECspeed2017_fp_peak (85.5)</td>
</tr>
</tbody>
</table>

Hardware

CPU Name: Intel Xeon Gold 6134
Max MHz.: 3700
Nominal: 3200
Enabled: 16 cores, 2 chips
Orderable: 1,2 chips
Cache L1: 32 KB I + 32 KB D on chip per core
L2: 1 MB I+D on chip per core
L3: 24.75 MB I+D on chip per core
Other: None
Memory: 384 GB (24 x 16 GB 2Rx8 PC4-2666V-R)
Storage: 1 TB SATA SSD
Other: None

Software

OS: SUSE Linux Enterprise Server 12 SP2
4.4.114-94.11-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: Yes
Firmware: Version 1.3.7 released Feb-2018
File System: xfs
System State: Run level 3 (multi-user)
Base Pointers: 64-bit
Peak Pointers: 64-bit
Other: None
Dell Inc.

PowerEdge R740xd (Intel Xeon Gold 6134, 3.20GHz)

SPECspeed2017_fp_base = 83.9
SPECspeed2017_fp_peak = 85.5

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>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>603.bwaves_s</td>
<td>16</td>
<td>141</td>
<td>419</td>
<td>141</td>
<td>418</td>
<td>141</td>
<td>419</td>
<td>16</td>
<td>141</td>
<td>420</td>
<td>141</td>
<td>419</td>
<td>141</td>
<td>419</td>
<td></td>
<td></td>
</tr>
<tr>
<td>607.cactuBSSN_s</td>
<td>16</td>
<td>179</td>
<td>93.0</td>
<td>180</td>
<td>92.6</td>
<td>180</td>
<td>92.7</td>
<td>16</td>
<td>177</td>
<td>94.0</td>
<td>178</td>
<td>93.7</td>
<td>178</td>
<td>93.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>619.lbm_s</td>
<td>16</td>
<td>127</td>
<td>41.2</td>
<td>127</td>
<td>41.3</td>
<td>126</td>
<td>41.4</td>
<td>16</td>
<td>125</td>
<td>41.8</td>
<td>125</td>
<td>41.7</td>
<td>125</td>
<td>41.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>621.wrf_s</td>
<td>16</td>
<td>204</td>
<td>65.0</td>
<td>202</td>
<td>65.4</td>
<td>213</td>
<td>62.2</td>
<td>16</td>
<td>186</td>
<td>71.0</td>
<td>184</td>
<td>71.8</td>
<td>187</td>
<td>70.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>627.cam4_s</td>
<td>16</td>
<td>185</td>
<td>47.9</td>
<td>186</td>
<td>47.8</td>
<td>186</td>
<td>47.7</td>
<td>16</td>
<td>186</td>
<td>47.7</td>
<td>186</td>
<td>47.7</td>
<td>185</td>
<td>47.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>628.pop2_s</td>
<td>16</td>
<td>191</td>
<td>62.1</td>
<td>191</td>
<td>62.1</td>
<td>193</td>
<td>61.5</td>
<td>16</td>
<td>188</td>
<td>63.2</td>
<td>189</td>
<td>62.7</td>
<td>189</td>
<td>62.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>638.imagick_s</td>
<td>16</td>
<td>230</td>
<td>62.8</td>
<td>229</td>
<td>63.0</td>
<td>229</td>
<td>62.9</td>
<td>16</td>
<td>229</td>
<td>62.9</td>
<td>230</td>
<td>62.7</td>
<td>229</td>
<td>62.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>644.nab_s</td>
<td>16</td>
<td>155</td>
<td>113</td>
<td>154</td>
<td>113</td>
<td>155</td>
<td>113</td>
<td>16</td>
<td>155</td>
<td>113</td>
<td>155</td>
<td>113</td>
<td>155</td>
<td>113</td>
<td></td>
<td></td>
</tr>
<tr>
<td>649.fotonik3d_s</td>
<td>16</td>
<td>121</td>
<td>75.4</td>
<td>120</td>
<td>75.7</td>
<td>120</td>
<td>76.1</td>
<td>16</td>
<td>120</td>
<td>75.8</td>
<td>119</td>
<td>76.6</td>
<td>120</td>
<td>76.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>654.roms_s</td>
<td>16</td>
<td>150</td>
<td>105</td>
<td>151</td>
<td>104</td>
<td>152</td>
<td>103</td>
<td>16</td>
<td>142</td>
<td>111</td>
<td>143</td>
<td>110</td>
<td>142</td>
<td>111</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SPECspeed2017_fp_base = 83.9
SPECspeed2017_fp_peak = 85.5

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"

General Notes

Environment variables set by runcpu before the start of the run:
KMP_AFFINITY = "granularity=fine,compact"
OMP_STACKSIZE = "192M"
Binaries compiled on a system with 1x Intel Core i7-4790 CPU + 32GB RAM
memory using Redhat Enterprise Linux 7.4
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
Prior to runcpu invocation
Filesystem page cache synced and cleared with:
sync; echo 3 > /proc/sys/vm/drop_caches

Platform Notes

BIOS settings:
Sub NUMA Cluster disabled
Virtualization Technology disabled

(Continued on next page)
SPEC CPU2017 Floating Point Speed Result

Dell Inc. PowerEdge R740xd (Intel Xeon Gold 6134, 3.20GHz)

<table>
<thead>
<tr>
<th>SPECspeed2017_fp_peak</th>
<th>85.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECspeed2017_fp_base</td>
<td>83.9</td>
</tr>
</tbody>
</table>

| CPU2017 License:      | 55   |
| Test Sponsor:         | Dell Inc. |
| Tested by:            | Dell Inc. |
| Test Date:            | Apr-2018 |
| Hardware Availability:| Sep-2017 |
| Software Availability:| Feb-2018 |

Platform Notes (Continued)

- 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 disabled
- CPU Interconnect Bus Link Power Management disabled
- PCI ASPM L1 Link Power Management disabled
- Sysinfo program /home/cpu2017rev5/cpu2017/bin/sysinfo
- Rev: r5797 of 2017-06-14 96c45e4568ad54c135fd618bcc091c0f
- running on linux-bgfp Thu Apr  5 19:49:46 2018

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 6134 CPU @ 3.20GHz
  - 2 "physical id"s (chips)
  - 16 "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 : 8
  - siblings : 8
  - physical 0: cores 0 2 3 9 16 19 26 27
  - physical 1: cores 1 3 4 6 7 18 20 22

From lscpu:
- Architecture: x86_64
- CPU op-mode(s): 32-bit, 64-bit
- Byte Order: Little Endian
- CPU(s): 16
- On-line CPU(s) list: 0-15
- Thread(s) per core: 1
- Core(s) per socket: 8
- Socket(s): 2
- NUMA node(s): 2
- Vendor ID: GenuineIntel
- CPU family: 6
- Model: 85
- Model name: Intel(R) Xeon(R) Gold 6134 CPU @ 3.20GHz
- Stepping: 4
- CPU MHz: 3192.499
- BogoMIPS: 6384.99
- Virtualization: VT-x

(Continued on next page)
Dell Inc. PowerEdge R740xd (Intel Xeon Gold 6134, 3.20GHz)

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

SPECspeed2017_fp_base = 83.9
SPECspeed2017_fp_peak = 85.5

Test Date: Apr-2018
Hardware Availability: Sep-2017
Software Availability: Feb-2018

Platform Notes (Continued)

| L1d cache: | 32K |
| L1i cache: | 32K |
| L2 cache: | 1024K |
| L3 cache: | 25344K |
| NUMA node0 CPU(s): | 0,2,4,6,8,10,12,14 |
| NUMA node1 CPU(s): | 1,3,5,7,9,11,13,15 |
| Flags: | fpu vme de pse tsc msr pae cx8 apic sep mtrr pge mca cmov pat pse36 clflush dts acpi mmx fxsr sse sse2 ss ht tm pbe syscall nx pdpe1gb rdtsdp lms spec_ctrl retpoline kaiser tpr_shadow vmpuser priorityLayers |}

From /proc/cpuinfo cache data
   cache size : 25344 KB

From numactl --hardware  WARNING: a numactl 'node' might or might not correspond to a physical chip.
   available: 2 nodes (0-1)
   node 0 cpus: 0 2 4 6 8 10 12 14
   node 0 size: 191990 MB
   node 0 free: 189738 MB
   node 1 cpus: 1 3 5 7 9 11 13 15
   node 1 size: 193517 MB
   node 1 free: 187605 MB
   node distances:
     node 0 1
     0: 10 21
     1: 21 10

From /proc/meminfo
   MemTotal: 394760028 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

(Continued on next page)
Platform Notes (Continued)

# 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-bgfp 4.4.114-94.11-default #1 SMP Thu Feb 1 19:28:26 UTC 2018 (4309ff9)
x86_64 x86_64 x86_64 GNU/Linux
```

```
run-level 3 Apr 5 14:42
```

```
SPEC is set to: /home/cpu2017rev5/cpu2017
```

```
Filesystem | Type  | Size | Used | Avail | Use%  | Mounted on
/dev/sda4  | xfs   | 405G | 59G  | 347G  | 15%   | /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. 1.3.7 02/08/2018
Memory:
  22x 00AD00B300AD HMA82GR7AFR8N-VK 16 GB 2 rank 2666
  2x 00CE063200CE M393A2K43BB1-CTD 16 GB 2 rank 2666
```

(End of data from sysinfo program)

Compiler Version Notes

```
==============================================================================
CC  619.lbm_s(base) 638.imagick_s(base, peak) 644.nab_s(base, peak)
==============================================================================
```

```
icc (ICC) 18.0.0 20170811
Copyright (C) 1985-2017 Intel Corporation.  All rights reserved.
```

```
==============================================================================
CC  619.lbm_s(peak)
==============================================================================
```

```
icc (ICC) 18.0.0 20170811
Copyright (C) 1985-2017 Intel Corporation.  All rights reserved.
```

(Continued on next page)
### Dell Inc.

**PowerEdge R740xd (Intel Xeon Gold 6134, 3.20GHz)**

<table>
<thead>
<tr>
<th>CPU2017 License: 55</th>
<th>Test Date: Apr-2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Sponsor: Dell Inc.</td>
<td>Hardware Availability: Sep-2017</td>
</tr>
<tr>
<td>Tested by: Dell Inc.</td>
<td>Software Availability: Feb-2018</td>
</tr>
</tbody>
</table>

**SPEC CPU2017 Floating Point Speed Result**

| SPECspeed2017_fp_base = 83.9 | SPECspeed2017_fp_peak = 85.5 |

**Compiler Version Notes (Continued)**

```
FC  607.cactuBSSN_s(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  607.cactuBSSN_s(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  603.bwaves_s(base) 649.fotonik3d_s(base) 654.roms_s(base)

ifort (IFORT) 18.0.0 20170811
Copyright (C) 1985-2017 Intel Corporation.  All rights reserved.

CC  621.wrf_s(base) 627.cam4_s(base, peak) 628.pop2_s(base)

ifort (IFORT) 18.0.0 20170811
Copyright (C) 1985-2017 Intel Corporation.  All rights reserved.
```
Dell Inc. PowerEdge R740xd (Intel Xeon Gold 6134, 3.20GHz) SPEC CPU2017 Floating Point Speed Result

<table>
<thead>
<tr>
<th>SPECspeed2017_fp_base</th>
<th>SPECspeed2017_fp_peak</th>
</tr>
</thead>
<tbody>
<tr>
<td>83.9</td>
<td>85.5</td>
</tr>
</tbody>
</table>

**CPU2017 License:** 55  
**Test Sponsor:** Dell Inc.  
**Tested by:** Dell Inc.  
**Test Date:** Apr-2018  
**Hardware Availability:** Sep-2017  
**Software Availability:** Feb-2018

---

### Compiler Version Notes (Continued)

```  
CC  621.wrf_s (peak) 628.pop2_s (peak)  
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

**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

---

### Base Optimization Flags

**C benchmarks:**  
-xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch

(Continued on next page)
**SPEC CPU2017 Floating Point Speed Result**

**Dell Inc.**

**PowerEdge R740xd (Intel Xeon Gold 6134, 3.20GHz)**

<table>
<thead>
<tr>
<th>SPECspeed2017_fp_base</th>
<th>SPECspeed2017_fp_peak</th>
</tr>
</thead>
<tbody>
<tr>
<td>83.9</td>
<td>85.5</td>
</tr>
</tbody>
</table>

**CPU2017 License:** 55  
**Test Sponsor:** Dell Inc.  
**Tested by:** Dell Inc.  
**Test Date:** Apr-2018  
**Hardware Availability:** Sep-2017  
**Software Availability:** Feb-2018

---

### Base Optimization Flags (Continued)

- **C benchmarks (continued):**
  - `-ffinite-math-only`  
  - `-qopt-mem-layout-trans=3`  
  - `-qopenmp`  
  - `-DSPEC_OPENMP`

- **Fortran benchmarks:**
  - `-DSPEC_OPENMP`  
  - `-xCORE-AVX512`  
  - `-ipo`  
  - `-O3`  
  - `-no-prec-div`  
  - `-qopt-prefetch`
  - `-ffinite-math-only`  
  - `-qopt-mem-layout-trans=3`  
  - `-qopenmp`
  - `-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`  
  - `-qopenmp`  
  - `-nostandard-realloc-lhs`  
  - `-align array32byte`

- **Benchmarks using Fortran, C, and C++:**
  - `-xCORE-AVX512`  
  - `-ipo`  
  - `-O3`  
  - `-no-prec-div`  
  - `-qopt-prefetch`
  - `-ffinite-math-only`  
  - `-qopt-mem-layout-trans=3`  
  - `-qopenmp`  
  - `-nostandard-realloc-lhs`  
  - `-align array32byte`

---

### Base Other Flags

- **C benchmarks:**
  - `-m64`  
  - `-std=c11`

- **Fortran benchmarks:**
  - `-m64`

- **Benchmarks using both Fortran and C:**
  - `-m64`  
  - `-std=c11`

- **Benchmarks using Fortran, C, and C++:**
  - `-m64`  
  - `-std=c11`

---

### Peak Compiler Invocation

- **C benchmarks:**
  - `icc`

- **Fortran benchmarks:**
  - `ifort`

- **Benchmarks using both Fortran and C:**
  - `ifort icc`

(Continued on next page)
## 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: `-prof-gen(pass 1) -prof-use(pass 2) -O2 -xCORE-AVX512 -qopt-prefetch -ipo -O3 -ffinite-math-only -no-prec-div -qopt-mem-layout-trans=3 -DSPEC_SUPPRESS_OPENMP -qopenmp -DSPEC_OPENMP`

638.imagick_s: `-xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch -ffinite-math-only -qopt-mem-layout-trans=3 -qopenmp -DSPEC_OPENMP`

644.nab_s: Same as 638.imagick_s

### Fortran benchmarks:

```
-prof-gen(pass 1) -prof-use(pass 2) -DSPEC_SUPPRESS_OPENMP -DSPEC_OPENMP -O2 -xCORE-AVX512 -qopt-prefetch -ipo -O3 -ffinite-math-only -no-prec-div -qopt-mem-layout-trans=3 -qopenmp -nostandard-realloc-lhs -align array32byte
```

Benchmarks using both Fortran and C:

621.wrf_s: `-prof-gen(pass 1) -prof-use(pass 2) -O2 -xCORE-AVX512 -qopt-prefetch -ipo -O3 -ffinite-math-only -no-prec-div -qopt-mem-layout-trans=3 -DSPEC_SUPPRESS_OPENMP -qopenmp -DSPEC_OPENMP -nostandard-realloc-lhs -align array32byte`

627.cam4_s: `-xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch -ffinite-math-only -qopt-mem-layout-trans=3 -qopenmp -DSPEC_OPENMP -nostandard-realloc-lhs -align array32byte`

(Continued on next page)
### Peak Optimization Flags (Continued)

628.pop2_s: Same as 621.wrf_s

Benchmarks using Fortran, C, and C++:
- `prof-gen` (pass 1)  
- `prof-use` (pass 2)  
- `-O2`  
- `-xCORE-AVX512`  
- `-qopt-prefetch`  
- `-ipo`  
- `-O3`  
- `-ffinite-math-only`  
- `-no-prec-div`  
- `-qopt-mem-layout-trans=3`  
- `-DSPEC_SUPPRESS_OPENMP`  
- `-qopenmp`  
- `-DSPEC_OPENMP`  
- `-nostandard-realloc-lhs`  
- `-align array32byte`

### Peak Other Flags

**C benchmarks:**
- `-m64`  
- `-std=c11`

**Fortran benchmarks:**
- `-m64`

**Benchmarks using both Fortran 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:

You can also download the XML flags sources by saving the following links: