## SPEC® CPU2017 Floating Point Speed Result

### Huawei

**Huawei XH321 V5 (Intel Xeon Gold 6128)**

<table>
<thead>
<tr>
<th>Threads</th>
<th>603.bwaves_s</th>
<th>607.cactuBSSN_s</th>
<th>619.lbm_s</th>
<th>621.wrf_s</th>
<th>627.cam4_s</th>
<th>628.pop2_s</th>
<th>638.imagick_s</th>
<th>644.nab_s</th>
<th>649.fotonik3d_s</th>
<th>654.roms_s</th>
</tr>
</thead>
<tbody>
<tr>
<td>Threads</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>SPECspeed2017_fp_base</td>
<td>335</td>
<td>335</td>
<td>335</td>
<td>335</td>
<td>335</td>
<td>335</td>
<td>335</td>
<td>335</td>
<td>335</td>
<td>335</td>
</tr>
<tr>
<td>SPECspeed2017_fp_peak</td>
<td>69.7</td>
<td>69.7</td>
<td>69.7</td>
<td>69.7</td>
<td>69.7</td>
<td>69.7</td>
<td>69.7</td>
<td>69.7</td>
<td>69.7</td>
<td>69.7</td>
</tr>
</tbody>
</table>

### Hardware

- **CPU Name:** Intel Xeon Gold 6128
- **Max MHz.:** 3700
- **Nominal:** 3400
- **Enabled:** 12 cores, 2 chips
- **Orderable:** 1,2 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:** 19.25 MB I+D on chip per core
- **Other:** None
- **Memory:** 384 GB (12 x 32 GB 2Rx4 PC4-2666V-R)
- **Storage:** 1 x 1200 GB SAS, 10000 RPM
- **Other:** None

### Software

- **OS:** Red Hat Enterprise Linux Server release 7.3 (Maipo) 3.10.0-693.11.6.el7.x86_64
- **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 0.59 Released Feb-2018
- **File System:** xfs
- **System State:** Run level 3 (multi-user)
- **Base Pointers:** 64-bit
- **Peak Pointers:** 64-bit
- **Other:** None
Huawei XH321 V5 (Intel Xeon Gold 6128)

**SPEC CPU2017 Floating Point Speed Result**

Copyright 2017-2018 Standard Performance Evaluation Corporation

Huawei

Huawei XH321 V5 (Intel Xeon Gold 6128)

**SPECspeed2017_fp_base = 68.0**

**SPECspeed2017_fp_peak = 69.7**

**CPU2017 License:** 3175  
**Test Date:** May-2018  
**Test Sponsor:** Huawei  
**Hardware Availability:** Jul-2017  
**Tested by:** Huawei  
**Software Availability:** Jan-2018

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>
</tr>
</thead>
<tbody>
<tr>
<td>603.bwaves_s</td>
<td>12</td>
<td>176</td>
<td>335</td>
<td>176</td>
<td>335</td>
<td>176</td>
<td>335</td>
<td>12</td>
<td>176</td>
<td>335</td>
<td>176</td>
<td>335</td>
<td></td>
<td></td>
</tr>
<tr>
<td>607.cactuBSSN_s</td>
<td>12</td>
<td>230</td>
<td>72.5</td>
<td>231</td>
<td>72.3</td>
<td>230</td>
<td>72.5</td>
<td>12</td>
<td>224</td>
<td>74.6</td>
<td>223</td>
<td>74.8</td>
<td>224</td>
<td>74.5</td>
</tr>
<tr>
<td>619.lbm_s</td>
<td>12</td>
<td>154</td>
<td>34.1</td>
<td>153</td>
<td>34.1</td>
<td>156</td>
<td>33.6</td>
<td>12</td>
<td>148</td>
<td>35.4</td>
<td>148</td>
<td>35.4</td>
<td>147</td>
<td>35.5</td>
</tr>
<tr>
<td>621.wrf_s</td>
<td>12</td>
<td>246</td>
<td>53.8</td>
<td>241</td>
<td>54.8</td>
<td>235</td>
<td>56.3</td>
<td>12</td>
<td>226</td>
<td>58.6</td>
<td>220</td>
<td>56.2</td>
<td>219</td>
<td>60.3</td>
</tr>
<tr>
<td>627.cam4_s</td>
<td>12</td>
<td>215</td>
<td>41.2</td>
<td>214</td>
<td>41.4</td>
<td>215</td>
<td>41.2</td>
<td>12</td>
<td>215</td>
<td>41.2</td>
<td>214</td>
<td>41.4</td>
<td>215</td>
<td>41.2</td>
</tr>
<tr>
<td>628.pop2_s</td>
<td>12</td>
<td>217</td>
<td>54.6</td>
<td>216</td>
<td>55.0</td>
<td>217</td>
<td>54.6</td>
<td>12</td>
<td>207</td>
<td>57.4</td>
<td>207</td>
<td>57.3</td>
<td>120</td>
<td>56.9</td>
</tr>
<tr>
<td>638.imagick_s</td>
<td>12</td>
<td>296</td>
<td>48.8</td>
<td>292</td>
<td>49.3</td>
<td>294</td>
<td>49.1</td>
<td>12</td>
<td>294</td>
<td>49.0</td>
<td>293</td>
<td>49.2</td>
<td>294</td>
<td>49.1</td>
</tr>
<tr>
<td>644.nab_s</td>
<td>12</td>
<td>207</td>
<td>84.5</td>
<td>207</td>
<td>84.5</td>
<td>207</td>
<td>84.5</td>
<td>12</td>
<td>207</td>
<td>84.5</td>
<td>207</td>
<td>84.5</td>
<td>207</td>
<td>84.5</td>
</tr>
<tr>
<td>649.fotonik3d_s</td>
<td>12</td>
<td>138</td>
<td>66.3</td>
<td>139</td>
<td>65.7</td>
<td>136</td>
<td>67.0</td>
<td>12</td>
<td>138</td>
<td>66.1</td>
<td>137</td>
<td>66.6</td>
<td>137</td>
<td>66.3</td>
</tr>
<tr>
<td>654.roms_s</td>
<td>12</td>
<td>208</td>
<td>75.7</td>
<td>209</td>
<td>75.4</td>
<td>209</td>
<td>75.3</td>
<td>12</td>
<td>201</td>
<td>78.2</td>
<td>202</td>
<td>78.0</td>
<td>202</td>
<td>78.0</td>
</tr>
</tbody>
</table>

SPECspeed2017_fp_base = 68.0

SPECspeed2017_fp_peak = 69.7

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"
LD_LIBRARY_PATH = "/spec/lib/ia32:/spec/lib/intel64:/spec/je5.0.1-32:/spec/je5.0.1-64"
OMP_STACKSIZE = "192M"

Binaries compiled on a system with 1x Intel Core i7-4790 CPU + 32GB RAM memory using Redhat Enterprise Linux 7.4
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
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.

Platform Notes

BIOS configuration:
Power Policy Set to Custom
Hyper-Threading Set to Disable

(Continued on next page)
Huawei

Huawei XH321 V5 (Intel Xeon Gold 6128)

SPECspeed2017_fp_base = 68.0
SPECspeed2017_fp_peak = 69.7

CPU2017 License: 3175
Test Sponsor: Huawei
Tested by: Huawei

Test Date: May-2018
Hardware Availability: Jul-2017
Software Availability: Jan-2018

Platform Notes (Continued)

ADDDC Sparing Set to Disabled
Sysinfo program /spec/bin/sysinfo
Rev: r5797 of 2017-06-14 96c45e4568ad54c135fd618bcc091c0f
running on localhost.localdomain Mon May  7 15:24:11 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 6128 CPU @ 3.40GHz
  2 "physical id"s (chips)
  12 "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 : 6
siblings : 6
physical 0: cores 0 6 9 10 11 13
physical 1: cores 0 6 9 10 11 13

From lscpu:
Architecture: x86_64
CPU op-mode(s): 32-bit, 64-bit
Byte Order: Little Endian
CPU(s): 12
On-line CPU(s) list: 0-11
Thread(s) per core: 1
Core(s) per socket: 6
Socket(s): 2
NUMA node(s): 2
Vendor ID: GenuineIntel
CPU family: 6
Model: 85
Model name: Intel(R) Xeon(R) Gold 6128 CPU @ 3.40GHz
Stepping: 4
CPU MHz: 3401.000
BogoMIPS: 6806.47
Virtualization: VT-x
L1d cache: 32K
L1i cache: 32K
L2 cache: 1024K
L3 cache: 19712K
NUMA node0 CPU(s): 0-5
NUMA node1 CPU(s): 6-11

/proc/cpuinfo cache data
cache size : 19712 KB

(Continued on next page)
Huawei
Huawei XH321 V5 (Intel Xeon Gold 6128)

<table>
<thead>
<tr>
<th>CPU2017 License:</th>
<th>3175</th>
<th>Test Date:</th>
<th>May-2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Sponsor:</td>
<td>Huawei</td>
<td>Hardware Availability:</td>
<td>Jul-2017</td>
</tr>
<tr>
<td>Tested by:</td>
<td>Huawei</td>
<td>Software Availability:</td>
<td>Jan-2018</td>
</tr>
</tbody>
</table>

**SPEC CPU2017 Floating Point Speed Result**

```
Huawei XH321 V5 (Intel Xeon Gold 6128)
SPECspeed2017_fp_peak = 69.7
SPECspeed2017_fp_base = 68.0
```

Platform Notes (Continued)

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 1 2 3 4 5
node 0 size: 194741 MB
node 0 free: 186696 MB
node 1 cpus: 6 7 8 9 10 11
node 1 size: 196608 MB
node 1 free: 188528 MB
node distances:
node 0 1
0: 10 21
1: 21 10
```

From /proc/meminfo

```
MemTotal:       394174996 kB
HugePages_Total:       0
Hugepagesize:       2048 kB
```

From /etc/*release* /etc/*version*

```
os-release:
  NAME="Red Hat Enterprise Linux Server"
  VERSION="7.3 (Maipo)"
  ID="rhel"
  ID_LIKE="fedora"
  VERSION_ID="7.3"
  PRETTY_NAME="Red Hat Enterprise Linux Server 7.3 (Maipo)"
  ANSI_COLOR="0;31"
  CPE_NAME="cpe:/o:redhat:enterprise_linux:7.3:GA:server"
redhat-release: Red Hat Enterprise Linux Server release 7.3 (Maipo)
system-release: Red Hat Enterprise Linux Server release 7.3 (Maipo)
```

```
uname -a:
Linux localhost.localdomain 3.10.0-693.11.6.el7.x86_64 #1 SMP Thu Dec 28 14:23:39 EST 2017 x86_64 x86_64 x86_64 GNU/Linux
run-level 3 May 7 09:48
```

```
SPEC is set to: /spec
  Filesystem      Type  Size  Used Avail Use% Mounted on
  /dev/sda8       xfs   325G  83G   243G  26% /
```

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...
# SPEC CPU2017 Floating Point Speed Result

## Huawei

### Huawei XH321 V5 (Intel Xeon Gold 6128)

<table>
<thead>
<tr>
<th>SPECspeed2017_fp_base</th>
<th>SPECspeed2017_fp_peak</th>
</tr>
</thead>
<tbody>
<tr>
<td>68.0</td>
<td>69.7</td>
</tr>
</tbody>
</table>

### CPU2017 License: 3175

<table>
<thead>
<tr>
<th>Test Sponsor:</th>
<th>Huawei</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tested by:</td>
<td>Huawei</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Test Date:</th>
<th>May-2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hardware Availability:</td>
<td>Jul-2017</td>
</tr>
<tr>
<td>Software Availability:</td>
<td>Jan-2018</td>
</tr>
</tbody>
</table>

### Platform Notes (Continued)

- frequent changes to hardware, firmware, and the "DMTF SMBIOS" standard.
- BIOS INSYDE Corp. 0.59 02/24/2018
- Memory:
  - 4x NO DIMM NO DIMM
  - 12x Samsung M393A4K40BB2-CTD 32 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.
```

```
FC  607.cactuBSSN_s(base)
```

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

(Continued on next page)
Huawei

Huawei XH321 V5 (Intel Xeon Gold 6128)

 SPECspeed2017_fp_base = 68.0
 SPECspeed2017_fp_peak = 69.7

CPU2017 License: 3175
Test Sponsor: Huawei
Test Date: May-2018

Tested by: Huawei
Hardware Availability: Jul-2017
Software Availability: Jan-2018

Compiler Version Notes (Continued)

==============================================================================
<table>
<thead>
<tr>
<th>FC  603.bwaves_s(base) 649.fotonik3d_s(base) 654.roms_s(base)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ifort (IFORT) 18.0.0 20170811</td>
</tr>
<tr>
<td>Copyright (C) 1985-2017 Intel Corporation. All rights reserved.</td>
</tr>
<tr>
<td>----------------------------------------------------------------</td>
</tr>
<tr>
<td>FC  603.bwaves_s(peak) 649.fotonik3d_s(peak) 654.roms_s(peak)</td>
</tr>
<tr>
<td>---------------------------------------------------------------</td>
</tr>
<tr>
<td>ifort (IFORT) 18.0.0 20170811</td>
</tr>
<tr>
<td>Copyright (C) 1985-2017 Intel Corporation. All rights reserved.</td>
</tr>
<tr>
<td>----------------------------------------------------------------</td>
</tr>
<tr>
<td>CC  621.wrf_s(base) 627.cam4_s(base, peak) 628.pop2_s(base)</td>
</tr>
<tr>
<td>---------------------------------------------------------------</td>
</tr>
<tr>
<td>ifort (IFORT) 18.0.0 20170811</td>
</tr>
<tr>
<td>Copyright (C) 1985-2017 Intel Corporation. All rights reserved.</td>
</tr>
<tr>
<td>icc (ICC) 18.0.0 20170811</td>
</tr>
<tr>
<td>Copyright (C) 1985-2017 Intel Corporation. All rights reserved.</td>
</tr>
<tr>
<td>----------------------------------------------------------------</td>
</tr>
<tr>
<td>CC  621.wrf_s(peak) 628.pop2_s(peak)</td>
</tr>
<tr>
<td>---------------------------------------------------------------</td>
</tr>
<tr>
<td>ifort (IFORT) 18.0.0 20170811</td>
</tr>
<tr>
<td>Copyright (C) 1985-2017 Intel Corporation. All rights reserved.</td>
</tr>
<tr>
<td>icc (ICC) 18.0.0 20170811</td>
</tr>
<tr>
<td>Copyright (C) 1985-2017 Intel Corporation. All rights reserved.</td>
</tr>
</tbody>
</table>

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
Huawei

Huawei XH321 V5 (Intel Xeon Gold 6128)

<table>
<thead>
<tr>
<th>SPECspeed2017_fp_base</th>
<th>SPECspeed2017_fp_peak</th>
</tr>
</thead>
<tbody>
<tr>
<td>68.0</td>
<td>69.7</td>
</tr>
</tbody>
</table>

**CPU2017 License:** 3175  
**Test Sponsor:** Huawei  
**Tested by:** Huawei  
**Test Date:** May-2018  
**Hardware Availability:** Jul-2017  
**Software Availability:** Jan-2018

### 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-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch -ffinite-math-only  
-qopt-mem-layout-trans=3 -qopenmp -DSPEC_OPENMP

**Fortran benchmarks:**  
-DSPEC_OPENMP -xCORE-AVX2 -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-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch -ffinite-math-only  
-qopt-mem-layout-trans=3 -qopenmp -DSPEC_OPENMP  
-nostandard-realloc-lhs -align array32byte

**Benchmarks using Fortran, C, and C++:**  
-xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch -ffinite-math-only  
-qopt-mem-layout-trans=3 -qopenmp -DSPEC_OPENMP  
-nostandard-realloc-lhs -align array32byte

### Base Other Flags

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

**Fortran benchmarks:**  
-m64

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

Huawei

Huawei XH321 V5 (Intel Xeon Gold 6128)

SPECspeed2017_fp_base = 68.0
SPECspeed2017_fp_peak = 69.7

CPU2017 License: 3175
Test Sponsor: Huawei
Tested by: Huawei

Test Date: May-2018
Hardware Availability: Jul-2017
Software Availability: Jan-2018

Base Other Flags (Continued)

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

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-AVX2
-qopt-prefetch -ipo -O3 -ffinite-math-only -no-prec-div
-qopt-mem-layout-trans=3 -DSPEC.SuppressOPENMP -qopenmp
-DSPEC_OPENMP

638.imagick_s: -xCORE-AVX2 -ipo -O3 -no-prec-div -qopt-prefetch
-ffinite-math-only -qopt-mem-layout-trans=3 -qopenmp
-DSPEC_OPENMP

644.nab_s: basepeak = yes

(Continued on next page)
## Huawei XH321 V5 (Intel Xeon Gold 6128)

**SPECspeed2017_fp_base** = 68.0

**SPECspeed2017_fp_peak** = 69.7

**CPU2017 License**: 3175  
**Test Sponsor**: Huawei  
**Hardware Availability**: Jul-2017  
**Test Date**: May-2018  
**Tested by**: Huawei  
**Software Availability**: Jan-2018

### Peak Optimization Flags (Continued)

For Fortran benchmarks:
- `-prof-gen(pass 1)`  
- `-prof-use(pass 2)`  
- `-DSPEC_SUPPRESS_OPENMP`  
- `-DSPEC_OPENMP`  
- `-O2`  
- `-xCORE-AVX2`  
- `-qopt-prefetch`  
- `-ipo`  
- `-O3`  
- `-ffinite-math-only`  
- `-no-prec-div`  
- `-qopt-mem-layout-trans=3`  
- `-qopenmp`  
- `-nostandard-realloc-lhs`  
- `-align array32byte`

For benchmarks using both Fortran and C:

621.wrf_s:  
- `-prof-gen(pass 1)`  
- `-prof-use(pass 2)`  
- `-O2`  
- `-xCORE-AVX2`  
- `-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: basepeak = yes

628.pop2_s: Same as 621.wrf_s

For benchmarks using Fortran, C, and C++:

- `-prof-gen(pass 1)`  
- `-prof-use(pass 2)`  
- `-O2`  
- `-xCORE-AVX2`  
- `-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:

### Huawei

**Huawei XH321 V5 (Intel Xeon Gold 6128)**

| SPECspeed2017_fp_base = 68.0 | SPECspeed2017_fp_peak = 69.7 |

| CPU2017 License: | 3175 |
| Test Sponsor: | Huawei |
| Tested by: | Huawei |
| Test Date: | May-2018 |
| Hardware Availability: | Jul-2017 |
| Software Availability: | Jan-2018 |

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

- [Intel-ic18.0-official-linux64.xml](http://www.spec.org/cpu2017/flags/Intel-ic18.0-official-linux64.xml)
- [Huawei-Platform-Settings-SKL-V1.9-revC.xml](http://www.spec.org/cpu2017/flags/Huawei-Platform-Settings-SKL-V1.9-revC.xml)

---

SPEC is a registered trademark 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 CPU2017 v1.0.2 on 2018-05-07 15:24:10-0400.