# SPEC® OMPG2012 Result



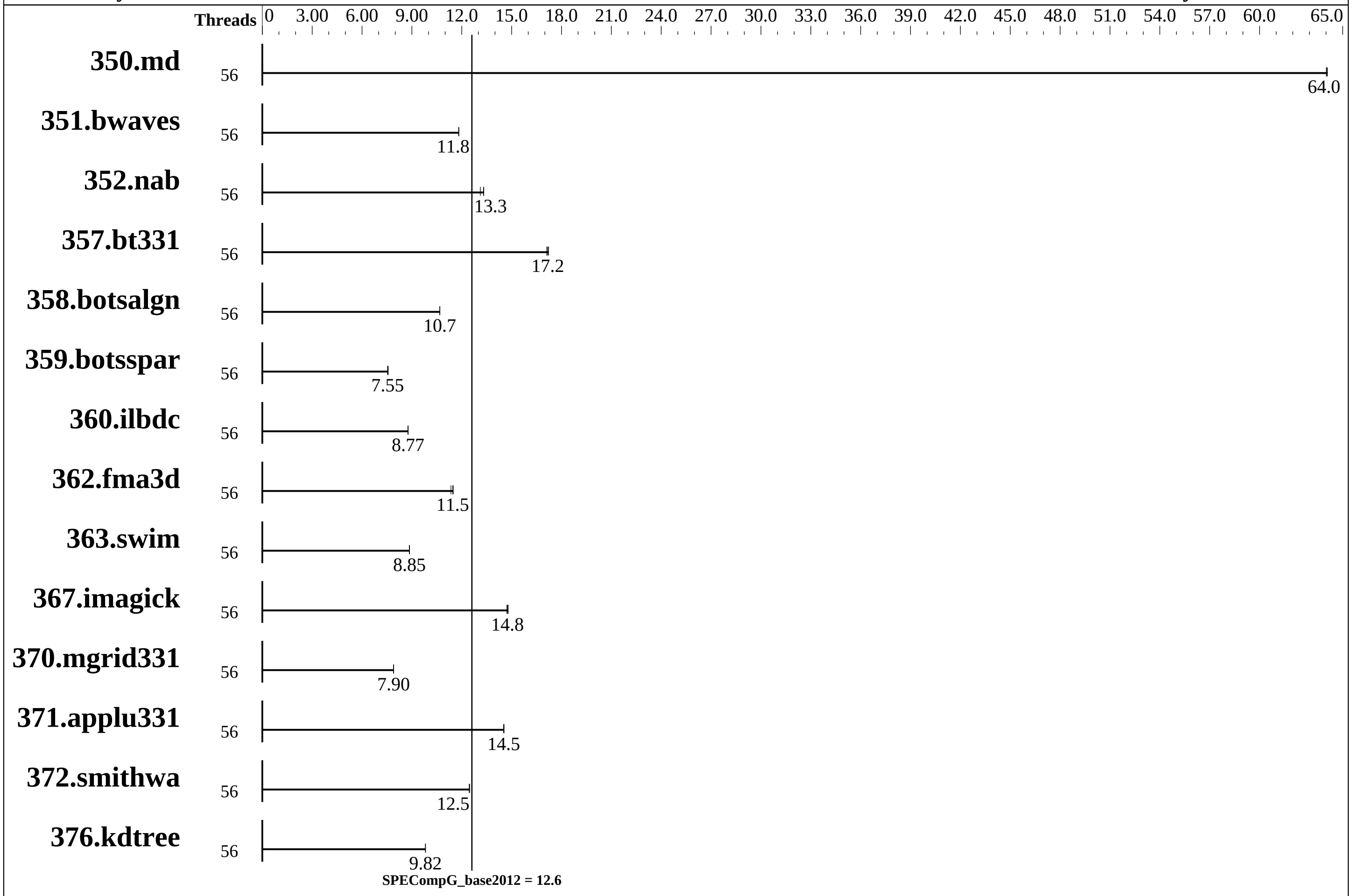
## Huawei

Huawei 2288H V5 (Intel Xeon Platinum 8280, 2.7 GHz)

SPECompG_peak2012 = Not Run

SPECompG_base2012 = 12.6

| | | | |
|---|---|---|---|
| **OMP2012 license:** | 27 | **Test date:** | Mar-2019 |
| **Test sponsor:** | Huawei | **Hardware Availability:** | Jul-2017 |
| **Tested by:** | Huawei | **Software Availability:** | Mar-2019 |




### Hardware

| | |
|---|---|
| CPU Name: | Intel Xeon Platinum 8280 |
| CPU Characteristics: | Intel Turbo Boost Technology up to 4.00 GHz |
| CPU MHz: | 2700 |
| CPU MHz Maximum: | 4000 |
| FPU: | Integrated |
| CPU(s) enabled: | 28 cores, 1 chip, 28 cores/chip, 2 threads/core |
| CPU(s) orderable: | 1 Chip |
| Primary Cache: | 32 KB I + 32 KB D on chip per core |
| Secondary Cache: | 1 MB I+D on chip per core |
| L3 Cache: | 38.5 MB I+D on chip per chip |
| Other Cache: | None |
| Memory: | 192 GB (12 x 16 GB 2Rx8 PC4-2933Y-R) |
| Disk Subsystem: | 1 X 480 GB SSD SAS |
| Other Hardware: | None |
| Base Threads Run: | 56 |
| Minimum Peak Threads: | -- |

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### Software

| | |
|---|---|
| Operating System: | SUSE Linux Enterprise Server 12 SP4 (x86_64) 4.12.14-94.41-default |
| Compiler: | C/C++/Fortran: Version 19.0.3.199 of Intel Composer for Linux Build 20190206 |
| Auto Parallel: | No |
| File System: | xfs |
| System State: | run level 3 |
| Base Pointers: | 64-bit |
| Peak Pointers: | Not Applicable |
| Other Software: | None |

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**Hardware Availability:** Jul-2017
**Software Availability:** Mar-2019

Maximum Peak Threads: --

## Results Table

| Benchmark | Base | | | | | | | Peak | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Threads | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Threads | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio |
| 350.md | 56 | 72.3 | 64.0 | **72.3** | **64.0** | 72.3 | 64.1 | | | | | | | |
| 351.bwaves | 56 | 383 | 11.8 | **383** | **11.8** | 383 | 11.8 | | | | | | | |
| 352.nab | 56 | **292** | **13.3** | 297 | 13.1 | 292 | 13.3 | | | | | | | |
| 357.bt331 | 56 | 277 | 17.1 | 275 | 17.2 | **276** | **17.2** | | | | | | | |
| 358.botsalgn | 56 | **407** | **10.7** | 407 | 10.7 | 407 | 10.7 | | | | | | | |
| 359.botsspar | 56 | **696** | **7.55** | 693 | 7.57 | 696 | 7.54 | | | | | | | |
| 360.ilbdc | 56 | 406 | 8.77 | 406 | 8.77 | **406** | **8.77** | | | | | | | |
| 362.fma3d | 56 | 335 | 11.3 | **332** | **11.5** | 331 | 11.5 | | | | | | | |
| 363.swim | 56 | **512** | **8.85** | 512 | 8.85 | 511 | 8.86 | | | | | | | |
| 367.imagick | 56 | 475 | 14.8 | 478 | 14.7 | **477** | **14.8** | | | | | | | |
| 370.mgrid331 | 56 | **559** | **7.90** | 559 | 7.90 | 559 | 7.90 | | | | | | | |
| 371.applu331 | 56 | **417** | **14.5** | 417 | 14.5 | 417 | 14.5 | | | | | | | |
| 372.smithwa | 56 | 430 | 12.5 | 430 | 12.5 | **430** | **12.5** | | | | | | | |
| 376.kdtree | 56 | **458** | **9.82** | 458 | 9.82 | 458 | 9.81 | | | | | | | |

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

## Platform Notes

```
Sysinfo program /omp2012/Docs/sysinfo
$Rev: 395 $ $Date:: 2012-07-25 #$ 8f8c0fe9e19c658963a1e67685e50647
running on linux-fxye Tue Nov 20 20:06:28 2018

This section contains SUT (System Under Test) info as seen by
some common utilities.  To remove or add to this section, see:
  http://www.spec.org/omp2012/Docs/config.html#sysinfo

From /proc/cpuinfo
   model name : Intel(R) Xeon(R) Platinum 8280 CPU @ 2.70GHz
      1 "physical id"s (chips)
      56 "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 : 28
      siblings  : 56
      physical 0: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14 16 17 18 19 20 21 22 24
      25 26 27 28 29 30
   cache size : 39424 KB

From /proc/meminfo
   MemTotal:       196260704 kB
```

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## Platform Notes (Continued)

```
       HugePages_Total:       0
       Hugepagesize:       2048 kB

    /usr/bin/lsb_release -d
       SUSE Linux Enterprise Server 12 SP4

    From /etc/*release* /etc/*version*
       SuSE-release:
          SUSE Linux Enterprise Server 12 (x86_64)
          VERSION = 12
          PATCHLEVEL = 4
          # 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-SP4"
          VERSION_ID="12.4"
          PRETTY_NAME="SUSE Linux Enterprise Server 12 SP4"
          ID="sles"
          ANSI_COLOR="0;32"
          CPE_NAME="cpe:/o:suse:sles:12:sp4"

    uname -a:
       Linux linux-fxye 4.12.14-94.41-default #1 SMP Wed Oct 31 12:25:04 UTC 2018
       (3090901) x86_64 x86_64 x86_64 GNU/Linux

    run-level 3 Nov 20 19:48

    SPEC is set to: /omp2012
       Filesystem     Type  Size  Used Avail Use% Mounted on
       /dev/sda3      xfs   425G   81G  345G  19% /

    Additional information from dmidecode:
      BIOS INSYDE Corp. 6.36 02/15/2019
      Memory:
       12x NO DIMM NO DIMM
       12x Samsung M393A2K43CB2-CVF 16 GB 2933 MHz 2 rank

    (End of data from sysinfo program)
```

## General Notes

```
    ========================================================================
    BIOS settings notes:
      Transparent Huge Pages enabled with:
      echo always > /sys/kernel/mm/transparent_hugepage/enabled
    BIOS settings notes:
      Intel HyperThreading Technology set to Enabled
      CPU performance set to Enterprise
      Power Performance Tuning set to OS
```

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## General Notes (Continued)

```
    Sub Numa Clustering (SNC) set to Disabled
    IMC Interleaving set to Auto
  General OMP Library Settings
    ENV_KMP_LIBRARY=turnaround
    ENV_OMP_SCHEDULE=static
    ENV_KMP_BLOCKTIME=200
    ENV_KMP_STACKSIZE=512M
    ENV_OMP_DYNAMIC=FALSE
    ENV_OMP_NESTED=FALSE

  ========================================================================
  General base OMP Library Settings
    ENV_KMP_AFFINITY=compact,1
 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.
```

## Base Compiler Invocation

C benchmarks:
`icc`

C++ benchmarks:
`icpc`

Fortran benchmarks:
`ifort`

## Base Portability Flags

350.md: `-FR`
357.bt331: `-mcmodel=medium`
363.swim: `-mcmodel=medium`
367.imagick: `-std=c99`

## Base Optimization Flags

C benchmarks:
`-O3 -qopenmp -ipo -xCORE-AVX512 -ansi-alias`

C++ benchmarks:
`-O3 -qopenmp -ipo -xCORE-AVX512 -ansi-alias`

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## Base Optimization Flags (Continued)

Fortran benchmarks:

```
-O3 -qopenmp -ipo  -xCORE-AVX512 -align array64byte
```

The flags files that were used to format this result can be browsed at
http://www.spec.org/omp2012/flags/Intel-ic18.0-linux64.20190329.html
http://www.spec.org/omp2012/flags/Huawei-Platform-Settings-Omp2012-Cascade-V1.0.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/omp2012/flags/Intel-ic18.0-linux64.20190329.xml
http://www.spec.org/omp2012/flags/Huawei-Platform-Settings-Omp2012-Cascade-V1.0.xml



For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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