# SPEC® OMPG2012 Result



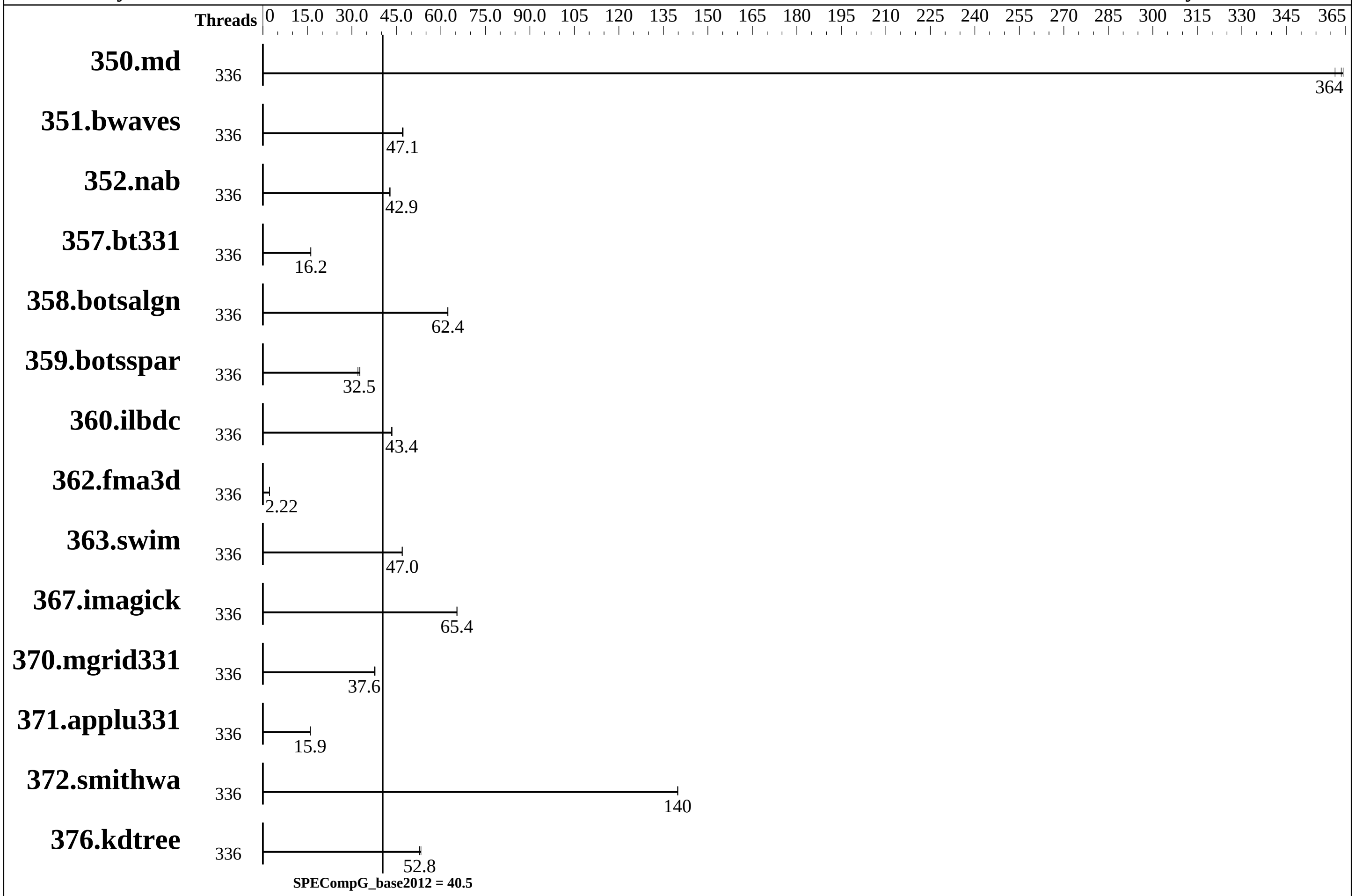
# Huawei

Huawei Kunlun 9008 V5 (Intel Xeon Platinum 8280, 2.7 GHz)

SPECompG_peak2012 = Not Run

SPECompG_base2012 = 40.5

| | | | |
|---|---|---|---|
| **OMP2012 license:** | 27 | **Test date:** | Mar-2019 |
| **Test sponsor:** | Huawei | **Hardware Availability:** | Jun-2019 |
| **Tested by:** | Huawei | **Software Availability:** | Feb-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: | 168 cores, 6 chips, 28 cores/chip, 2 threads/core |
| CPU(s) orderable: | 2,4,6,8 Chips |
| 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: | 1152 GB (36 x 32 GB 2Rx4 PC4-2933Y-R) |
| Disk Subsystem: | 2x900 GB 10 K RPM SAS HDD,RAID 0 |
| Other Hardware: | None |
| Base Threads Run: | 336 |
| Minimum Peak Threads: | -- |

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## Software

| | |
|---|---|
| Operating System: | SUSE Linux Enterprise Server 12 SP4 4.12.14-94.41-default |
| Compiler: | C/C++: Version 19.0.1.144 of Intel C++ Studio XE for Linux; Fortran: Version 19.0.1.144 of Intel Fortran |
| Auto Parallel: | No |
| File System: | btrfs |
| System State: | Default |
| Base Pointers: | 64-bit |
| Peak Pointers: | Not Applicable |
| Other Software: | None |

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**Test date:** Mar-2019
**Hardware Availability:** Jun-2019
**Software Availability:** Feb-2019

Maximum Peak Threads: --

## Results Table

| | Base | | | | | | | Peak | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Benchmark** | **Threads** | **Seconds** | **Ratio** | **Seconds** | **Ratio** | **Seconds** | **Ratio** | **Threads** | **Seconds** | **Ratio** | **Seconds** | **Ratio** | **Seconds** | **Ratio** |
| 350.md | 336 | **12.7** | **364** | 12.8 | 361 | 12.7 | 364 | | | | | | | |
| 351.bwaves | 336 | **96.2** | **47.1** | 96.4 | 47.0 | 95.8 | 47.3 | | | | | | | |
| 352.nab | 336 | 91.2 | 42.6 | **90.8** | **42.9** | 90.7 | 42.9 | | | | | | | |
| 357.bt331 | 336 | 294 | 16.1 | 293 | 16.2 | **293** | **16.2** | | | | | | | |
| 358.botsalgn | 336 | **69.8** | **62.4** | 69.8 | 62.3 | 69.7 | 62.4 | | | | | | | |
| 359.botsspar | 336 | 164 | 32.0 | 160 | 32.7 | **162** | **32.5** | | | | | | | |
| 360.ilbdc | 336 | 81.7 | 43.6 | 82.1 | 43.4 | **82.1** | **43.4** | | | | | | | |
| 362.fma3d | 336 | 1724 | 2.20 | **1715** | **2.22** | 1714 | 2.22 | | | | | | | |
| 363.swim | 336 | 96.6 | 46.9 | **96.4** | **47.0** | 96.4 | 47.0 | | | | | | | |
| 367.imagick | 336 | 108 | 65.4 | **108** | **65.4** | 107 | 65.5 | | | | | | | |
| 370.mgrid331 | 336 | 118 | 37.6 | **117** | **37.6** | 117 | 37.8 | | | | | | | |
| 371.applu331 | 336 | 381 | 15.9 | **380** | **15.9** | 378 | 16.0 | | | | | | | |
| 372.smithwa | 336 | **38.3** | **140** | 38.3 | 140 | 38.3 | 140 | | | | | | | |
| 376.kdtree | 336 | **85.2** | **52.8** | 84.5 | 53.3 | 85.2 | 52.8 | | | | | | | |

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

## Platform Notes

```
Sysinfo program /home/omp/Docs/sysinfo
$Rev: 395 $ $Date:: 2012-07-25 #$ 8f8c0fe9e19c658963a1e67685e50647
running on linux-2yo1 Tue Mar 12 09:01:40 2019

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 Xeon Platinum 8280 CPU @ 2.70GHz
      6 "physical id"s (chips)
      336 "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
      physical 1: 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
      physical 2: 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
```

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## Platform Notes (Continued)

```
        physical 3: 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
        physical 4: 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
        physical 5: 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:       1186999604 kB
     HugePages_Total:   24576
     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-2yo1 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 5 Mar 12 08:56

  SPEC is set to: /home/omp
     Filesystem     Type  Size  Used Avail Use% Mounted on
     /dev/sda4      xfs   1.6T   53G  1.5T   4% /home

  Additional information from dmidecode:
    BIOS INSYDE Corp. 9.25 02/15/2019
    Memory:
     60x NO DIMM NO DIMM
     36x Samsung M393A4K40CB2-CVF 32 GB 2933 MHz 2 rank

  (End of data from sysinfo program)
```

## General Notes

```
==========================================================================
Power profile set with:
cpupower -c all frequency-set -g performance

System settings notes:
Intel Turbo Boost Technology (Turbo)  : Enabled
Memory RAS Configuration set to Maximum Performance

==========================================================================
General Notes and Enviroment variables
  ENV_KMP_BLOCKTIME=infinite
  ENV_KMP_DETERMINISTIC_REDUCTION=1
  ENV_OMP_DYNAMIC=FALSE
  ENV_KMP_LIBRARY=turnaround
  ENV_KMP_SCHEDULE=static,balanced
  ENV_KMP_STACKSIZE=256M
  ENV_OMP_NESTED=FALSE
  ENV_OMP_NUM_THREADS=336

==========================================================================
General base OMP Library Settings
 ENV_KMP_AFFINITY=granularity=fine,proclist=[0-27,168-195,28-55,196-223,56-83,224-251,84-111,252-279,112-139,280-307,140-167,308-335],explicit

BIOS settings:
 XPT Prefetch Set to Enabled
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

Continued on next page

## Base Portability Flags (Continued)

363.swim: `-mcmodel=medium`
367.imagick: `-std=c99`

## Base Optimization Flags

C benchmarks:
`-O3 -qopenmp -ipo -xCORE-AVX512 -fp-model fast=2 -no-prec-div -no-prec-sqrt -ansi-alias`

C++ benchmarks:
`-O3 -qopenmp -ipo -xCORE-AVX512 -fp-model fast=2 -no-prec-div -no-prec-sqrt -ansi-alias`

Fortran benchmarks:
`-O3 -qopenmp -ipo -xCORE-AVX512 -fp-model fast=2 -no-prec-div -no-prec-sqrt -align all`

The flags files that were used to format this result can be browsed at
http://www.spec.org/omp2012/flags/Huawei_Intel-ic17.0-linux64.html
http://www.spec.org/omp2012/flags/Huawei-Platform-Settings-SKL-V1.7.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/omp2012/flags/Huawei_Intel-ic17.0-linux64.xml
http://www.spec.org/omp2012/flags/Huawei-Platform-Settings-SKL-V1.7.xml



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


Tested with SPEC OMP2012 v1.0.
Report generated on Tue Apr 2 13:36:29 2019 by SPEC OMP2012 PS/PDF formatter v541.
Originally published on 2 April 2019.