SPEC® OMPG2012 Result

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Huawei

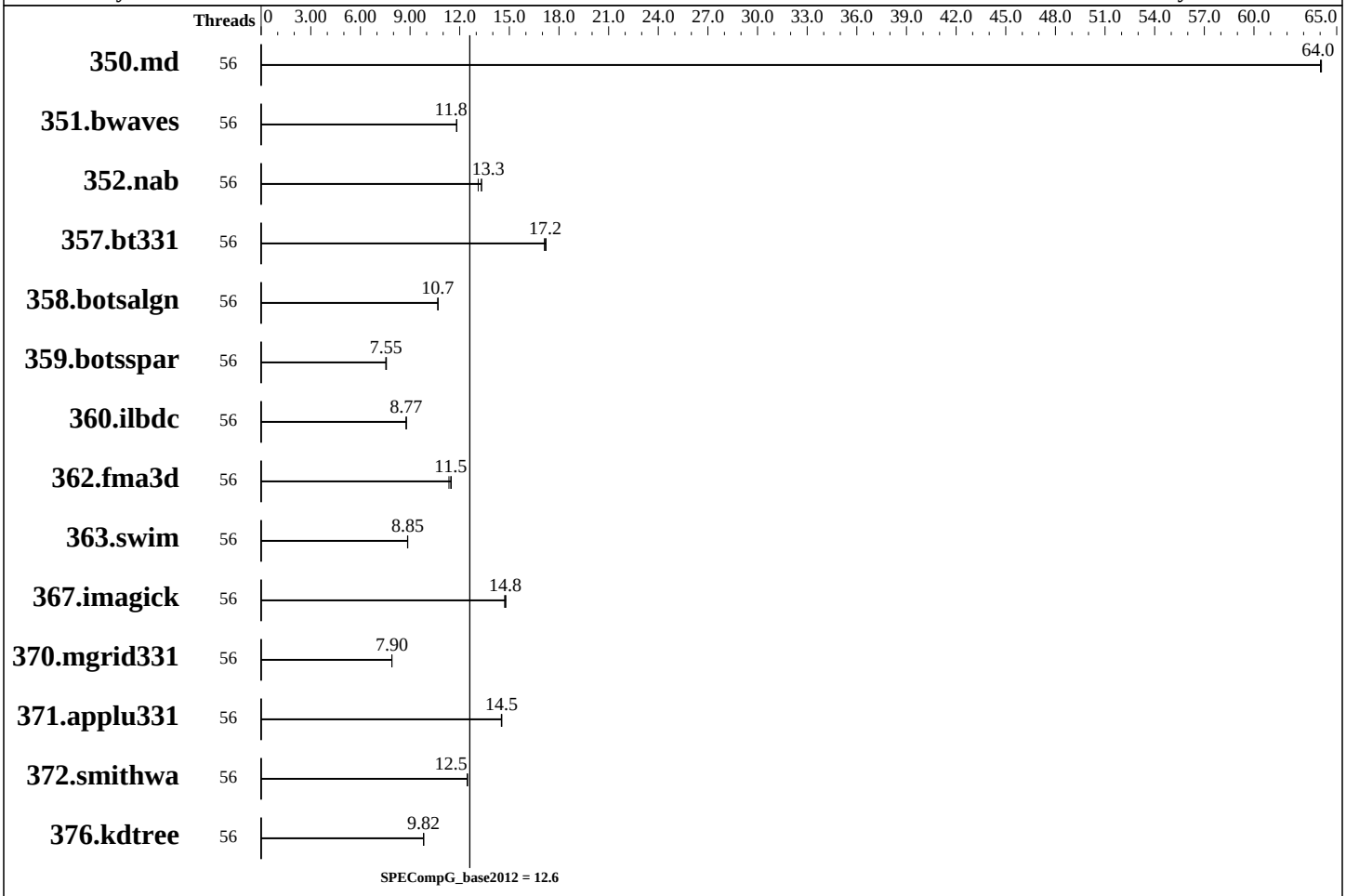
Huawei 2288H V5 (Intel Xeon Platinum 8280, 2.7 GHz)

SPECompG_peak2012 = Not Run

SPECompG_base2012 = 12.6

OMP2012 license: 27
Test sponsor: Huawei
Tested by: Huawei

Test date: Mar-2019
Hardware Availability: Jul-2017
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

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

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For other inquiries, please contact webmaster@spec.org.

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