SPEC® OMPG2012 Result

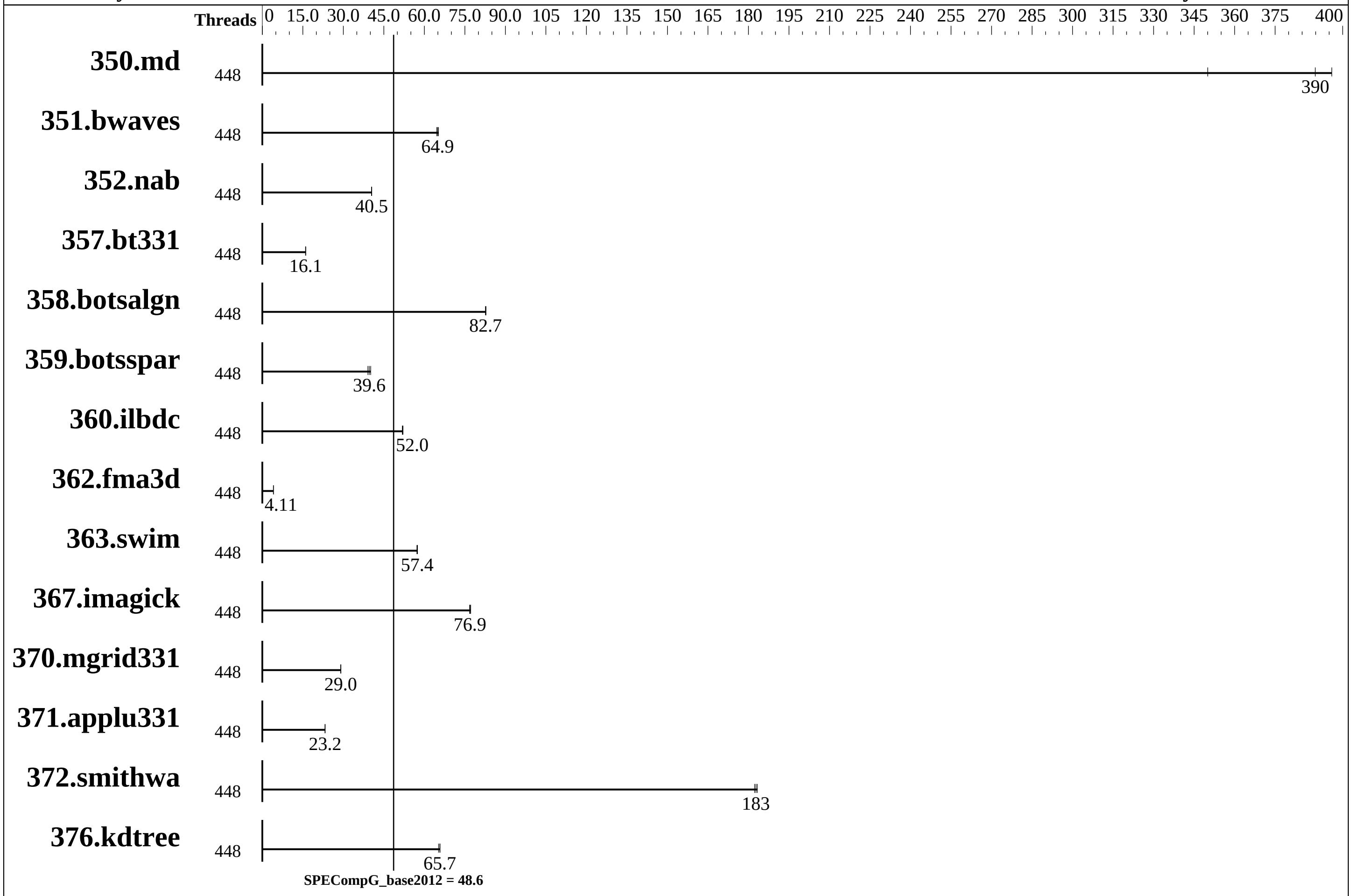
Huawei

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

SPECompG_peak2012 = Not Run

SPECompG_base2012 = 48.6

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:	224 cores, 8 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:	1536 GB (48 x 32 GB 2Rx4 PC4-2933Y-R)
Disk Subsystem:	2x900 GB 10 K RPM SAS HDD,RAID 0
Other Hardware:	None
Base Threads Run:	448
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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OMP2012 license: 27
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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	448	13.2	350	11.7	396	**11.9**	**390**							
351.bwaves	448	**69.8**	**64.9**	70.1	64.6	69.5	65.2							
352.nab	448	96.1	40.5	96.1	40.5	**96.1**	**40.5**							
357.bt331	448	296	16.0	295	16.1	**295**	**16.1**							
358.botsalgn	448	52.5	82.8	52.6	82.6	**52.6**	**82.7**							
359.botsspar	448	131	40.1	**133**	**39.6**	134	39.1							
360.ilbdc	448	68.3	52.1	68.6	51.9	**68.5**	**52.0**							
362.fma3d	448	**925**	**4.11**	925	4.11	928	4.10							
363.swim	448	78.9	57.4	79.1	57.2	**78.9**	**57.4**							
367.imagick	448	91.1	77.1	**91.4**	**76.9**	91.6	76.7							
370.mgrid331	448	152	29.0	152	29.1	**152**	**29.0**							
371.applu331	448	261	23.2	260	23.3	**261**	**23.2**							
372.smithwa	448	29.4	182	29.2	183	**29.3**	**183**							
376.kdtree	448	**68.5**	**65.7**	68.4	65.8	68.9	65.3							

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 Mon Mar  4 14:11:43 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
      8 "physical id"s (chips)
      448 "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
        physical 6: 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 7: 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:       1583360772 kB
     HugePages_Total:   524288
     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 4 14:09

  SPEC is set to: /home/omp
     Filesystem     Type  Size  Used Avail Use% Mounted on
     /dev/sda4      xfs   1.6T   52G  1.5T   4% /home

  Additional information from dmidecode:
    BIOS INSYDE Corp. 9.25 02/15/2019
    Memory:
     48x NO DIMM NO DIMM
     48x Samsung M393A4K40CB2-CVF 32 GB 2933 MHz 2 rank
```

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SPEC OMPG2012 Result

Platform Notes (Continued)

```
(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=448

========================================================================
General base OMP Library Settings
 ENV_KMP_AFFINITY=granularity=fine,proclist=[0-27,224-251,28-55,252-279,56-83,280-307,84-111,308-335,112-139,336-363,140-167,364-391,168-195,392-419,196-223,420-447],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`
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.

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