



SPEC® OMPG2012 Result

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Huawei

Huawei 2488H V5 (Intel Xeon Platinum 8280, 2.7 GHz)

SPECompG_peak2012 = Not Run

SPECompG_base2012 = 45.9

OMP2012 license:27

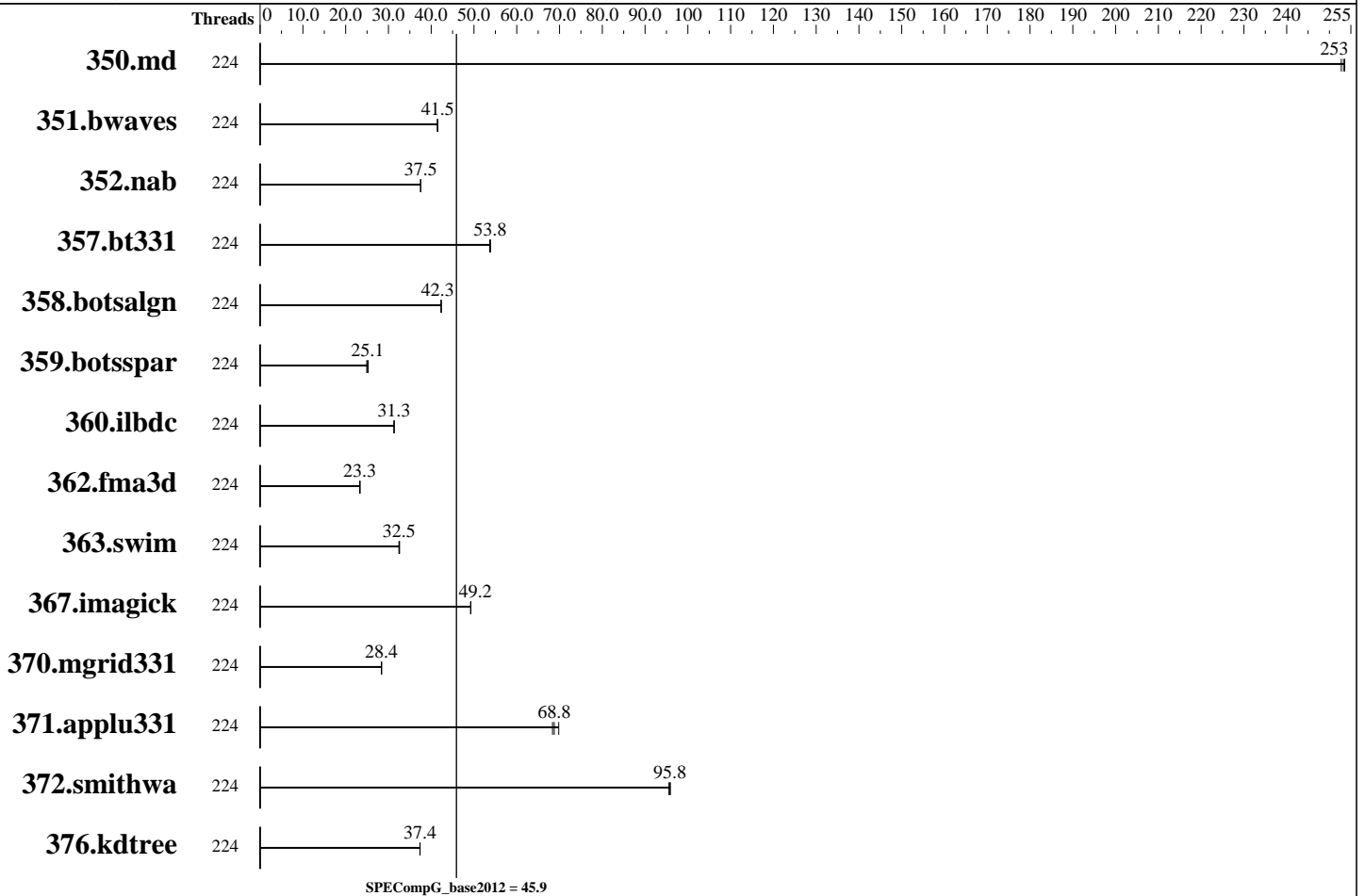
Test sponsor: Huawei

Tested by: Huawei

Test date: Feb-2019

Hardware Availability: Apr-2019

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: 112 cores, 4 chips, 28 cores/chip, 2 threads/core
 CPU(s) orderable: 2 to 4 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: 1x900 GB 10 K RPM SAS HDD,RAID 0
 Other Hardware: None
 Base Threads Run: 224
 Minimum Peak Threads: --

Continued on next page

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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Maximum Peak Threads: --

Results Table

Benchmark	Base								Peak							
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio		
350.md	224	18.3	253	<u>18.3</u>	<u>253</u>	18.3	254									
351.bwaves	224	<u>109</u>	<u>41.5</u>	109	41.5	109	41.5									
352.nab	224	<u>104</u>	<u>37.5</u>	104	37.5	104	37.6									
357.bt331	224	<u>88.1</u>	<u>53.8</u>	88.0	53.8	88.3	53.7									
358.botsalgn	224	103	42.3	<u>103</u>	<u>42.3</u>	103	42.3									
359.botsspar	224	208	25.3	<u>209</u>	<u>25.1</u>	211	24.9									
360.ilbdc	224	114	31.3	<u>114</u>	<u>31.3</u>	114	31.3									
362.fma3d	224	<u>163</u>	<u>23.3</u>	163	23.3	163	23.4									
363.swim	224	<u>139</u>	<u>32.5</u>	139	32.6	139	32.5									
367.imagick	224	143	49.2	<u>143</u>	<u>49.2</u>	143	49.3									
370.mgrid331	224	<u>156</u>	<u>28.4</u>	156	28.4	156	28.4									
371.applu331	224	<u>88.1</u>	<u>68.8</u>	88.6	68.4	86.8	69.8									
372.smithwa	224	56.1	95.6	55.9	95.9	<u>55.9</u>	<u>95.8</u>									
376.kdtree	224	120	37.4	120	37.4	<u>120</u>	<u>37.4</u>									

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-7ven Wed Feb 27 16:47:16 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
4 "physical id"s (chips)
224 "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
cache size : 39424 KB
```

```
From /proc/meminfo
MemTotal:      1583460908 kB
HugePages_Total: 262144
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-7ven 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 Feb 27 16:04
```

```
SPEC is set to: /home/omp
Filesystem      Type      Size  Used Avail Use% Mounted on
/dev/sda4        btrfs    696G   27G  668G   4% /home
```

```
Additional information from dmidecode:
BIOS INSYDE Corp. 6.36 02/15/2019
Memory:
48x 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
Continued on next page
```



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General Notes (Continued)

System settings notes:

Intel Turbo Boost Technology (Turbo) : Enabled

Memory RAS Configuration set to Maximum Performance

General Notes and Environment 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=224

```

General base OMP Library Settings

```

ENV_KMP_AFFINITY=granularity=fine,proclist=[0-27,112-139,28-55,140-167,56-83,168-195,84-111,196-223],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: -mcmmodel=medium
363.swim: -mcmmodel=medium
367.imagick: -std=c99

```



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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>

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

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