



SPEC® OMPG2012 Result

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Huawei

SPECompG_peak2012 = 22.6

Huawei CH121 V5 (Intel Xeon Platinum 8180)

SPECompG_base2012 = 22.1

OMP2012 license:27

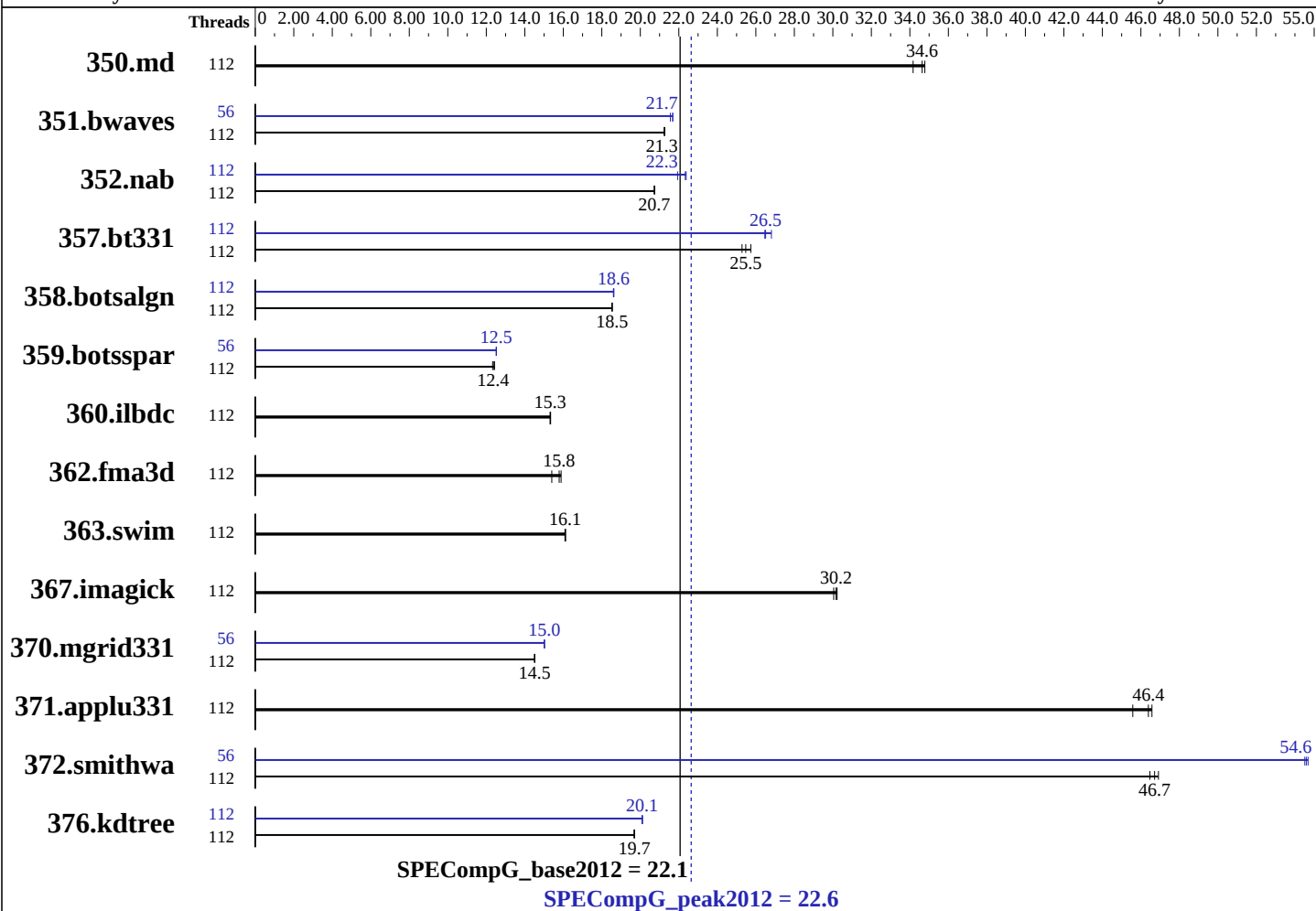
Test sponsor: Huawei

Tested by: Huawei

Test date: Jun-2017

Hardware Availability: Jul-2017

Software Availability: Feb-2017



Hardware

CPU Name: Intel Xeon Platinum 8180
CPU Characteristics: Intel Turbo Boost Technology up to 3.80 GHz
CPU MHz: 2500
CPU MHz Maximum: 3800
FPU: Integrated
CPU(s) enabled: 56 cores, 2 chips, 28 cores/chip, 2 threads/core
CPU(s) orderable: 1, 2 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: 384 GB (24 x 16 GB 2Rx8 PC4-2666V-R)
Disk Subsystem: 1 X 1.2 TB SAS, 10000 RPM
Other Hardware: None
Base Threads Run: 112
Minimum Peak Threads: 56

Continued on next page

Software

Operating System: SUSE Linux Enterprise Server 12 SP2
linux-jm4z 4.4.21-69-default
Compiler: C/C++/Fortran: Version 17.0.4.196 of Intel
Composer XE
for Linux Build 20170411
Auto Parallel: No
File System: ext4
System State: run level 3
Base Pointers: 64-bit
Peak Pointers: 64-bit
Other Software: None



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Maximum Peak Threads: 112

Results Table

Benchmark	Base							Peak						
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
350.md	112	136	34.2	<u>134</u>	<u>34.6</u>	133	34.8	<u>112</u>	136	34.2	<u>134</u>	<u>34.6</u>	133	34.8
351.bwaves	112	213	21.2	213	21.3	<u>213</u>	<u>21.3</u>	<u>56</u>	210	21.6	209	21.7	<u>209</u>	<u>21.7</u>
352.nab	112	188	20.7	<u>188</u>	<u>20.7</u>	187	20.8	<u>112</u>	<u>174</u>	<u>22.3</u>	177	21.9	174	22.4
357.bt331	112	187	25.3	184	25.7	<u>186</u>	<u>25.5</u>	<u>112</u>	<u>179</u>	<u>26.5</u>	177	26.8	179	26.5
358.botsalgn	112	235	18.5	<u>235</u>	<u>18.5</u>	235	18.5	<u>112</u>	234	18.6	234	18.6	<u>234</u>	<u>18.6</u>
359.botsspar	112	426	12.3	422	12.4	<u>424</u>	<u>12.4</u>	<u>56</u>	419	12.5	<u>419</u>	<u>12.5</u>	419	12.5
360.ilbdc	112	232	15.3	232	15.3	<u>232</u>	<u>15.3</u>	<u>112</u>	232	15.3	232	15.3	<u>232</u>	<u>15.3</u>
362.fma3d	112	247	15.4	<u>241</u>	<u>15.8</u>	239	15.9	<u>112</u>	247	15.4	<u>241</u>	<u>15.8</u>	239	15.9
363.swim	112	281	16.1	<u>281</u>	<u>16.1</u>	282	16.1	<u>112</u>	281	16.1	<u>281</u>	<u>16.1</u>	282	16.1
367.imagick	112	<u>233</u>	<u>30.2</u>	233	30.2	234	30.0	<u>112</u>	<u>233</u>	<u>30.2</u>	233	30.2	234	30.0
370.mgrid331	112	304	14.5	305	14.5	<u>305</u>	<u>14.5</u>	<u>56</u>	294	15.0	<u>294</u>	<u>15.0</u>	295	15.0
371.applu331	112	130	46.6	<u>131</u>	<u>46.4</u>	133	45.6	<u>112</u>	130	46.6	<u>131</u>	<u>46.4</u>	133	45.6
372.smithwa	112	<u>115</u>	<u>46.7</u>	115	46.5	114	46.9	<u>56</u>	98.0	54.7	<u>98.2</u>	<u>54.6</u>	98.3	54.5
376.kdtree	112	228	19.7	229	19.7	<u>228</u>	<u>19.7</u>	<u>112</u>	224	20.1	<u>224</u>	<u>20.1</u>	224	20.1

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

Platform Notes

Sysinfo program /specomp2012/Docs/sysinfo

\$Rev: 395 \$ \$Date:: 2012-07-25 \$# 8f8c0fe9e19c658963a1e67685e50647

running on linux-jm4z Tue Jun 20 00:07:03 2017

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 8180 CPU @ 2.50GHz

2 "physical id"s (chips)

112 "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

cache size : 39424 KB

Continued on next page

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Page 2



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Platform Notes (Continued)

From /proc/meminfo

MemTotal: 394122080 kB

HugePages_Total: 0

Hugepagesize: 2048 kB

From /etc/*release* /etc/*version*

SuSE-release:

SUSE Linux Enterprise Server 12 (x86_64)

VERSION = 12

PATCHLEVEL = 2

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-SP2"

VERSION_ID="12.2"

PRETTY_NAME="SUSE Linux Enterprise Server 12 SP2"

ID="sles"

ANSI_COLOR="0;32"

CPE_NAME="cpe:/o:suse:sles:12:sp2"

uname -a:

Linux linux-jm4z 4.4.21-69-default #1 SMP Tue Oct 25 10:58:20 UTC 2016
(9464f67) x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Jun 17 16:37

SPEC is set to: /specomp2012

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
/dev/sda2	xfs	828G	57G	772G	7%	/

Additional information from dmidecode:

BIOS INSYDE Corp. 0.10 03/09/2017

Memory:

24x Samsung M393A2K43BB1-CTD 16 GB 2666 MHz 2 rank

(End of data from sysinfo program)

General Notes

Transparent Huge Pages enabled with:

echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled

BIOS settings notes:

Power Policy set to Performance

Set Patrol Scrub to Disable

General OMP Library Settings

ENV_KMP_LIBRARY=turnaround

ENV_OMP_SCHEDULE=static

ENV_KMP_STACKSIZE=256M

Continued on next page

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Page 3



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General Notes (Continued)

ENV_OMP_DYNAMIC=FALSE
ENV_OMP_NESTED=FALSE
ENV_KMP_AFFINITY=compact,0

=====
Per benchmark peak OMP Library Settings

=====
351.bwaves:peak:
ENV_KMP_AFFINITY=compact,1
ENV_OMP_SCHEDULE=static,1

=====
357.bt331:peak
ENV_OMP_SCHEDULE=static,1

=====
359.botsspar:peak:
ENV_KMP_AFFINITY=compact,1
ENV_OMP_SCHEDULE=guided

=====
370.mgrid331:peak
ENV_KMP_AFFINITY=compact,1

=====
372.smithwa:peak:
ENV_KMP_AFFINITY=compact,1
ENV_OMP_SCHEDULE=static,1

Base Compiler Invocation

C benchmarks:
icc

C++ benchmarks:
icpc

Fortran benchmarks:
ifort

Base Portability Flags

350.md: -FR
357.bt331: -mmodel=medium
363.swin: -mmodel=medium
367.imagick: -std=c99



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Base Optimization Flags

C benchmarks:

-O2 -openmp -ipo -xCORE-AVX2 -ansi-alias

C++ benchmarks:

-O2 -openmp -ipo -xCORE-AVX2 -ansi-alias

Fortran benchmarks:

-O2 -openmp -ipo -xCORE-AVX2 -align array64byte

Peak Compiler Invocation

C benchmarks:

icc

C++ benchmarks:

icpc

Fortran benchmarks:

ifort

Peak Portability Flags

350.md: -FR

357.bt331: -mcmmodel=medium

363.swin: -mcmmodel=medium

367.imagick: -std=c99

Peak Optimization Flags

C benchmarks:

352.nab: -O3 -openmp -ipo -xCORE-AVX2 -fno-alias
-opt-malloc-options=1 -opt-calloc -fp-model fast=2
-no-prec-div -no-prec-sqrt -ansi-alias

358.botsalgn: -O3 -openmp -ipo -xCORE-AVX2 -fno-alias -ansi-alias

359.botsspar: Same as 358.botsalgn

367.imagick: basepeak = yes

372.smithwa: -O2 -openmp -ipo -xCORE-AVX2 -fno-alias
-opt-streaming-stores always -opt-malloc-options=1
-ansi-alias

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Peak Optimization Flags (Continued)

C++ benchmarks:

-O3 -openmp -ipo -xCORE-AVX2 -fno-alias -ansi-alias

Fortran benchmarks:

350.md: basepeak = yes

351.bwaves: -O3 -openmp -ipo -xCORE-AVX2 -fno-alias -fp-model fast=2
-no-prec-div -no-prec-sqrt -align array64byte

357.bt331: Same as 351.bwaves

360.ilbdc: basepeak = yes

362.fma3d: basepeak = yes

363.swim: basepeak = yes

370.mgrid331: -O2 -openmp -ipo -xCORE-AVX2 -fno-alias
-opt-malloc-options=3 -align array64byte

371.aplu331: basepeak = yes

The flags file that was used to format this result can be browsed at

<http://www.spec.org/omp2012/flags/Intel-ic13.0-linux64.20161208.html>

You can also download the XML flags source by saving the following link:

<http://www.spec.org/omp2012/flags/Intel-ic13.0-linux64.20161208.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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Page 6