



SPEC® OMPG2012 Result

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Colfax International

(Test Sponsor: Indiana University)

Intel Xeon Phi 7210, 1.30GHz,
SMT on, Turbo off, flat DRAM+MCDRAM

SPECompG_peak2012 = Not Run

SPECompG_base2012 = 4.25

OMP2012 license:3440A

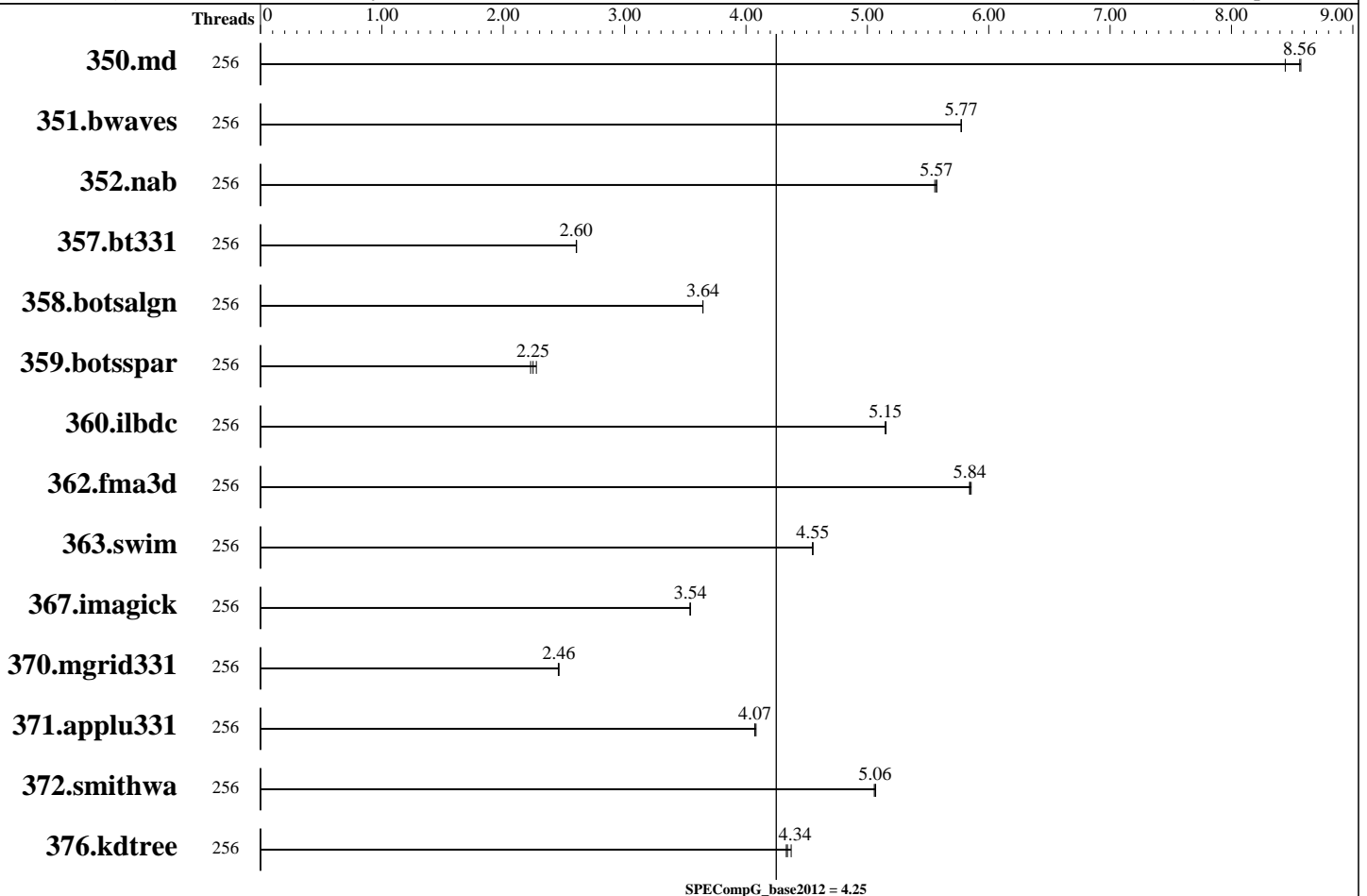
Test sponsor: Indiana University

Tested by: Indiana University

Test date: Aug-2016

Hardware Availability: Aug-2016

Software Availability: Apr-2016



Hardware

CPU Name: Intel Xeon Phi 7210
 CPU Characteristics: Intel Turbo Boost Technology off, Simultaneous Multithreading (SMT) on
 CPU MHz: 1300
 CPU MHz Maximum: 1500
 FPU: Integrated
 CPU(s) enabled: 64 cores, 1 chip, 64 cores/chip, 4 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 two cores
 L3 Cache: None
 Other Cache: None
 Memory: 96 GB (6 x 16 GB 2Rx8 PC4-2400T-REB-11, ECC)
 Disk Subsystem: Intel S3510 SSD 800GB, SATA3
 Other Hardware: None
 Base Threads Run: 256

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Software

Operating System: CentOS Linux release 7.2.1511
 3.10.0-327.13.1.el7.xppsl_1.3.3.151.x86_64
 Compiler: C/C++/Fortran: Version 16.0.3.210 of Intel Composer XE 2016 for Linux Build 20160415
 Auto Parallel: No
 File System: ext4
 System State: Runlevel 3 (multi-user with networking)
 Base Pointers: 64-bit
 Peak Pointers: Not Applicable
 Other Software: None



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Minimum Peak Threads: --

Maximum Peak Threads: --

Results Table

Benchmark	Base							Peak						
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
350.md	256	548	8.44	540	8.57	541	8.56							
351.bwaves	256	785	5.77	785	5.77	785	5.77							
352.nab	256	699	5.57	698	5.57	700	5.56							
357.bt331	256	1822	2.60	1820	2.60	1822	2.60							
358.botsalgn	256	1193	3.65	1193	3.64	1194	3.64							
359.botsspar	256	2359	2.23	2310	2.27	2338	2.25							
360.ilbdc	256	691	5.15	692	5.15	691	5.15							
362.fma3d	256	649	5.86	650	5.84	650	5.84							
363.swim	256	996	4.55	995	4.55	996	4.55							
367.imagick	256	1985	3.54	1985	3.54	1986	3.54							
370.mgrid331	256	1797	2.46	1801	2.45	1799	2.46							
371.applu331	256	1484	4.08	1487	4.07	1488	4.07							
372.smithwa	256	1060	5.06	1058	5.06	1058	5.07							
376.kdtree	256	1039	4.33	1037	4.34	1029	4.37							

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

Platform Notes

Sysinfo program /home/lijunj/SPEC/omp2012-1.1-run/Docs/sysinfo
Revision 563 of 2016-06-10 (097295389cf6073d8c3b03fa376740a5)
running on knl1.uits.indiana.edu Mon Aug 29 17:30:38 2016

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 Phi(TM) CPU 7210 @ 1.30GHz

1 "physical id"s (chips)

256 "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 : 64

siblings : 256

physical 0: cores 0 1 2 3 6 7 10 11 12 13 14 15 18 19 20 21 22 23 24 25 26

27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51

52 53 56 57 58 59 60 61 62 63 64 65 68 69 70 71 72 73

cache size : 1024 KB

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Platform Notes (Continued)

From /proc/meminfo

```
MemTotal:      115193108 kB
HugePages_Total:    0
Hugepagesize:    2048 kB
```

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

```
centos-release: CentOS Linux release 7.2.1511 (Core)
centos-release-upstream: Derived from Red Hat Enterprise Linux 7.2 (Source)
os-release:
  NAME="CentOS Linux"
  VERSION="7 (Core)"
  ID="centos"
  ID_LIKE="rhel fedora"
  VERSION_ID="7"
  PRETTY_NAME="CentOS Linux 7 (Core)"
  ANSI_COLOR="0;31"
  CPE_NAME="cpe:/o:centos:centos:7"
redhat-release: CentOS Linux release 7.2.1511 (Core)
system-release: CentOS Linux release 7.2.1511 (Core)
system-release-cpe: cpe:/o:centos:centos:7
```

uname -a:

```
Linux kn11.uits.indiana.edu 3.10.0-327.13.1.el7.xppsl_1.3.3.151.x86_64 #1 SMP
Fri Jun 10 15:04:35 UTC 2016 x86_64 x86_64 x86_64 GNU/Linux
```

run-level 3 Aug 3 01:08

SPEC is set to: /home/lijunj/SPEC/omp2012-1.1-run

```
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sda3       ext4  713G  44G  633G   7% /
```

Cannot run dmidecode; consider saying 'chmod +s /usr/sbin/dmidecode'

(End of data from sysinfo program)

General Notes

Environment:

KMP_AFFINITY=scatter

BIOS settings:

```
Intel Simultaneous Multithreading (SMT): on
Intel Turbo Boost Technology (Turbo): off
Cluster Mode: quadrant
Memory Mode: flat
```



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Base Compiler Invocation

C benchmarks:

icc

C++ benchmarks:

icpc

Fortran benchmarks:

ifort

Base Portability Flags

350.md: -free
357.bt331: -mcmodel=medium
363.swim: -mcmodel=medium
367.imagick: -std=c99

Base Optimization Flags

C benchmarks:

-O3 -ansi-alias -no-prec-div -qopenmp -ipo -xMIC-AVX512
-fp-model fast=2

C++ benchmarks:

-O3 -ansi-alias -no-prec-div -qopenmp -ipo -xMIC-AVX512
-fp-model fast=2

Fortran benchmarks:

-O3 -no-prec-div -qopenmp -ipo -xMIC-AVX512 -fp-model fast=2

The flags files that were used to format this result can be browsed at

<http://www.spec.org/omp2012/flags/Intel-ic16.0-linux64.html>

<http://www.spec.org/omp2012/flags/knl.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/omp2012/flags/Intel-ic16.0-linux64.xml>

<http://www.spec.org/omp2012/flags/knl.xml>



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

Tested with SPEC OMP2012 v1.1.
Report generated on Wed Oct 26 11:19:52 2016 by SPEC OMP2012 PS/PDF formatter v541.
Originally published on 26 October 2016.