



# SPEC® OMPG2012 Result

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## Colfax International

(Test Sponsor: Indiana University)

Intel Xeon Phi 7210, 1.30GHz,  
SMT on, Turbo off, flat (MCDRAM Preferred)

SPECompG\_peak2012 = Not Run

SPECompG\_base2012 = 7.64

OMP2012 license:3440A

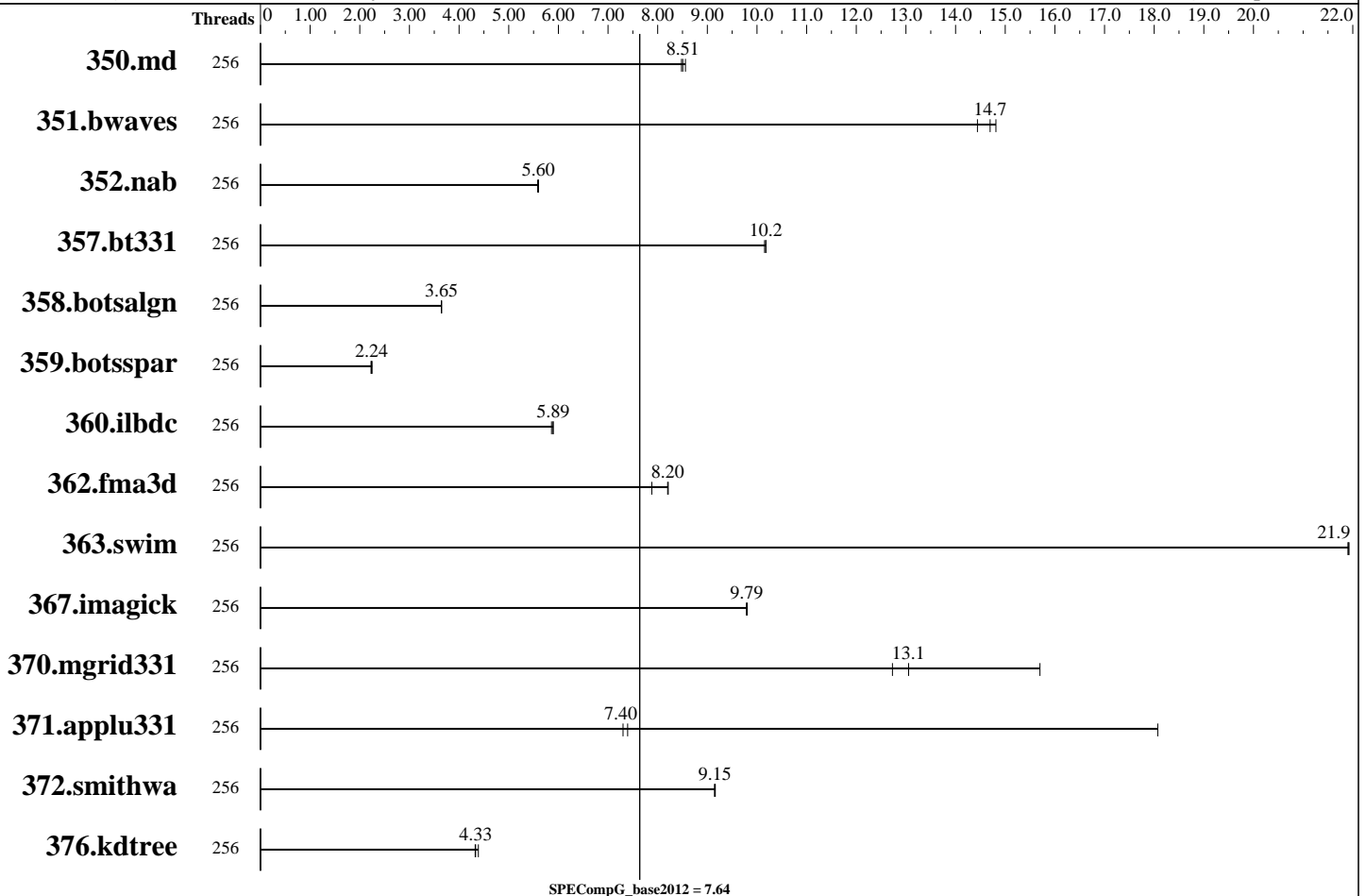
Test sponsor: Indiana University

Tested by: Indiana University

Test date: Dec-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  
 CentOS Linux release 7.2.1511 (Core)  
 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	<b>544</b>	<b>8.51</b>	546	8.48	541	8.56							
351.bwaves	256	306	14.8	<b>308</b>	<b>14.7</b>	314	14.4							
352.nab	256	695	5.60	<b>695</b>	<b>5.60</b>	697	5.58							
357.bt331	256	466	10.2	467	10.2	<b>466</b>	<b>10.2</b>							
358.botsalgn	256	1193	3.65	1193	3.65	<b>1193</b>	<b>3.65</b>							
359.botsspar	256	2336	2.25	<b>2348</b>	<b>2.24</b>	2358	2.23							
360.ilbdc	256	604	5.90	<b>604</b>	<b>5.89</b>	607	5.86							
362.fma3d	256	482	7.88	463	8.21	<b>463</b>	<b>8.20</b>							
363.swim	256	207	21.9	207	21.9	<b>207</b>	<b>21.9</b>							
367.imagick	256	<b>718</b>	<b>9.79</b>	718	9.79	717	9.80							
370.mgrid331	256	282	15.7	<b>339</b>	<b>13.1</b>	347	12.7							
371.applu331	256	335	18.1	<b>819</b>	<b>7.40</b>	830	7.30							
372.smithwa	256	<b>586</b>	<b>9.15</b>	585	9.16	586	9.15							
376.kdtree	256	1025	4.39	1041	4.32	<b>1038</b>	<b>4.33</b>							

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

## Submit Notes

The config file option 'submit' was used.  
submit = numactl -p 1 \$command

## Platform Notes

Sysinfo program /home/lijunj/SPEC/omp2012-1.1-run/Docs/sysinfo  
Revision 563 of 2016-06-10 (097295389cf6073d8c3b03fa376740a5)  
running on kn11.uits.indiana.edu Wed Dec 14 15:10:41 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
```

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## Platform Notes (Continued)

```

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

```

```

From /proc/meminfo
MemTotal:      115193108 kB
HugePages_Total: 0
Hugepagesize:  2048 kB

```

```

/usr/bin/lsb_release -d
CentOS Linux release 7.2.1511 (Core)

```

```

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 Dec 13 14:23

```

SPEC is set to: /home/lijunj/SPEC/omp2012-1.1-run
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sda3        ext4  713G  109G  568G  17% /

```

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

(End of data from sysinfo program)

## General Notes

```

BIOS settings:
Intel Simultaneous Multithreading (SMT): on
Intel Turbo Boost Technology (Turbo): off
Cluster Mode: quadrant

```

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## General Notes (Continued)

Memory Mode: flat

## Base Compiler Invocation

C benchmarks:

icc

C++ benchmarks:

icpc

Fortran benchmarks:

ifort

## Base Portability Flags

350.md: -free  
357.bt331: -mmodel=medium  
363.swim: -mmodel=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/colfax-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>

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For questions about this result, please contact the tester.  
For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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