



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 = 4.27

OMP2012 license:3440A

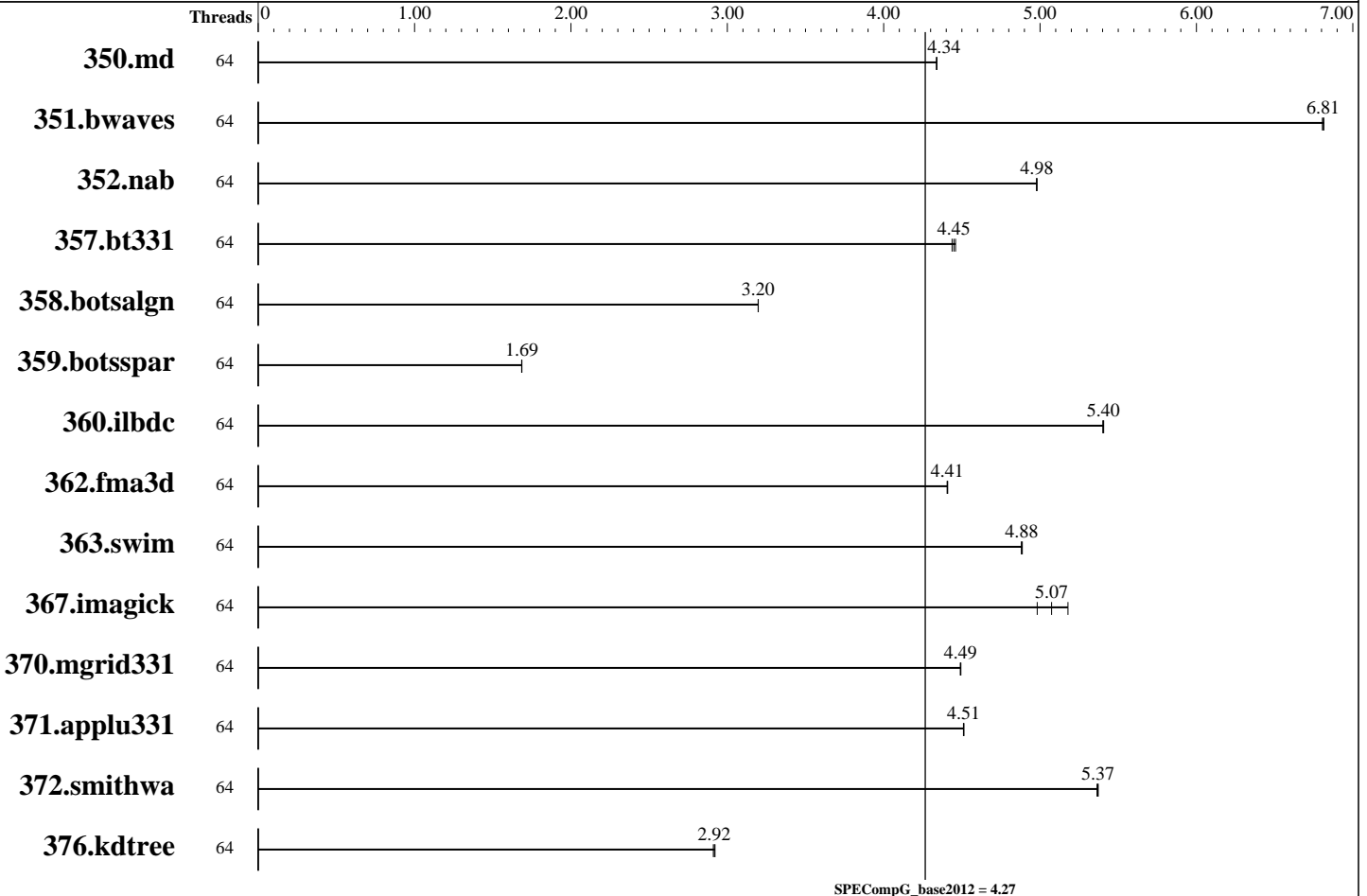
Test sponsor: Indiana University

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: 64

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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	64	1067	4.34	<u>1067</u>	<u>4.34</u>	1067	4.34									
351.bwaves	64	<u>665</u>	<u>6.81</u>	666	6.81	665	6.81									
352.nab	64	781	4.98	<u>781</u>	<u>4.98</u>	781	4.98									
357.bt331	64	<u>1065</u>	<u>4.45</u>	1063	4.46	1068	4.44									
358.botsalgn	64	1360	3.20	1360	3.20	<u>1360</u>	<u>3.20</u>									
359.botsspar	64	<u>3115</u>	<u>1.69</u>	3116	1.68	3113	1.69									
360.ilbdc	64	659	5.40	658	5.41	<u>659</u>	<u>5.40</u>									
362.fma3d	64	<u>862</u>	<u>4.41</u>	862	4.41	862	4.41									
363.swim	64	928	4.88	927	4.89	<u>928</u>	<u>4.88</u>									
367.imagick	64	<u>1386</u>	<u>5.07</u>	1358	5.18	1411	4.98									
370.mgrid331	64	984	4.49	984	4.49	<u>984</u>	<u>4.49</u>									
371.applu331	64	<u>1343</u>	<u>4.51</u>	1343	4.51	1344	4.51									
372.smithwa	64	<u>998</u>	<u>5.37</u>	998	5.37	999	5.36									
376.kdtree	64	1540	2.92	<u>1543</u>	<u>2.92</u>	1546	2.91									

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 Wed Aug 31 00:49:49 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  45G  632G   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: -mcmmodel=medium
363.swim: -mcmmodel=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.

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