



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 = 4.36

OMP2012 license:3440A

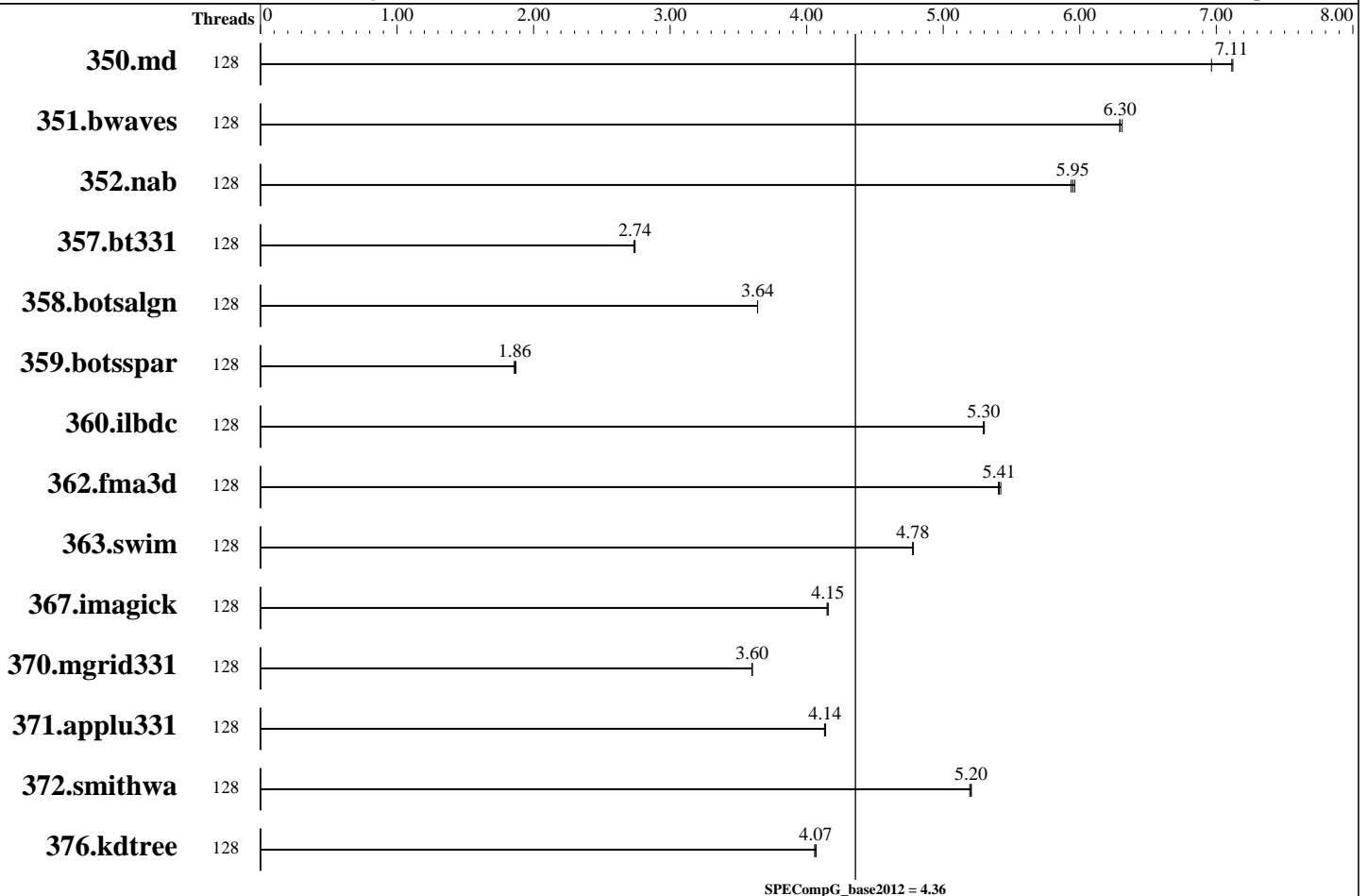
Test sponsor: Indiana University

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: 128

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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	128	665	6.97	651	7.11	650	7.12									
351.bwaves	128	720	6.29	720	6.30	718	6.31									
352.nab	128	655	5.94	654	5.95	652	5.96									
357.bt331	128	1733	2.74	1729	2.74	1728	2.74									
358.botsalgn	128	1195	3.64	1195	3.64	1195	3.64									
359.botsspar	128	2818	1.86	2806	1.87	2824	1.86									
360.ilbdc	128	672	5.30	673	5.29	672	5.30									
362.fma3d	128	703	5.40	702	5.41	701	5.42									
363.swim	128	948	4.78	948	4.78	948	4.78									
367.imagick	128	1694	4.15	1692	4.15	1691	4.16									
370.mgrid331	128	1227	3.60	1227	3.60	1228	3.60									
371.applu331	128	1467	4.13	1464	4.14	1465	4.14									
372.smithwa	128	1032	5.19	1030	5.20	1030	5.21									
376.kdtree	128	1107	4.07	1109	4.06	1106	4.07									

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 Tue Aug 30 10:46:57 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: -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.

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