## SPEC® OMPG2012 Result

**Test Sponsor:** Indiana University

**CPU Name:** Intel Xeon Phi 7210

**Operating System:** CentOS Linux release 7.2.1511

**Compiler:** C/C++/Fortran: Version 16.0.3.210 of Intel Composer XE 2016 for Linux Build 20160415

**Auto Parallel:** No

**FPU:** Integrated

**File System:** ext4

**CPU Characteristics:** Intel Turbo Boost Technology off, Simultaneous Multithreading (SMT) off

**System State:** Runlevel 3 (multi-user with networking)

**CPU MHz:** 1300

**Base Pointers:** 64-bit

**CPU MHz Maximum:** 1500

**Peak Pointers:** Not Applicable

**Primary Cache:** 32 KB I + 32 KB D on chip per core

**Other Software:** None

**Secondary Cache:** 1 MB I+D on chip per two cores

**Peak Pointers:** None

**L3 Cache:** None

**Base Pointers:** 64-bit

**Other Cache:** None

**Memory:** 96 GB (6 x 16 GB 2Rx8 PC4-2400T-REB-11, ECC)

**Disk Subsystem:** Intel S3510 SSD 800GB, SATA3

**Other Software:** None

**Hardware Availability:** Aug-2016

**Software Availability:** Apr-2016

**Test Sponsor:** Indiana University

**Tested by:** Indiana University

**Software**

<table>
<thead>
<tr>
<th>Threads</th>
<th>SPECompG_base2012</th>
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<tbody>
<tr>
<td>64</td>
<td>7.19</td>
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### OMP2012 license: 3440A

**Test date:** Aug-2016

**Hardware**

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<th>Model</th>
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<tr>
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<td>Intel Xeon Phi 7210</td>
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<tr>
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<td>Intel Turbo Boost Technology off, Simultaneous Multithreading (SMT) off</td>
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<tr>
<td>CPU MHz</td>
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<td>CPU MHz Maximum</td>
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<tr>
<td>FPU</td>
<td>Integrated</td>
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<td>CPU(s) enabled</td>
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<td>CPU(s) orderable</td>
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<tr>
<td>Primary Cache</td>
<td>32 KB I + 32 KB D on chip per core</td>
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<td>L3 Cache</td>
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<td>Other Cache</td>
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<td>Memory</td>
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<td>Other Hardware</td>
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<td>Base Threads Run</td>
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### Software

**Operating System:** CentOS Linux release 7.2.1511

**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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Continued on next page
### Results Table

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</tbody>
</table>

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 knl1.uits.indiana.edu Thu Oct 13 16:12:58 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)
64 "processors"
cores, siblings: counting these is hw and system dependent. The following excerpts from /proc/cpuinfo might not be reliable. Use with caution.
cpu cores : 64

Continued on next page
**SPEC OMPG2012 Result**

Colfax International  
(Test Sponsor: Indiana University)  
Intel Xeon Phi 7210, 1.30GHz,  
SMT off, Turbo off, flat (MCDRAM Preferred)  

<table>
<thead>
<tr>
<th>SPECOMP peak2012</th>
<th>7.19</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECOMP base2012</td>
<td>7.19</td>
</tr>
</tbody>
</table>

**Platform Notes (Continued)**

siblings : 64  
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 66 67 68 69 70 71 72 73  

cache size : 1024 KB  

From /proc/meminfo  
MemTotal: 115216920 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 knl1.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 Oct 13 14:15  

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

<table>
<thead>
<tr>
<th>Filesystem</th>
<th>Type</th>
<th>Size</th>
<th>Used</th>
<th>Avail</th>
<th>Use%</th>
<th>Mounted on</th>
</tr>
</thead>
<tbody>
<tr>
<td>/dev/sda3</td>
<td>ext4</td>
<td>713G</td>
<td>78G</td>
<td>599G</td>
<td>12%</td>
<td>/</td>
</tr>
</tbody>
</table>

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  

Continued on next page
Colfax International
(Test Sponsor: Indiana University)
Intel Xeon Phi 7210, 1.30GHz,
SMT off, Turbo off, flat (MCDRAM Preferred)

SPEC OMPG2012 Result

SPECCompG_peak2012 = Not Run
SPECCompG_base2012 = 7.19

<table>
<thead>
<tr>
<th>OMP2012 license:</th>
<th>3440A</th>
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</thead>
<tbody>
<tr>
<td>Test sponsor:</td>
<td>Indiana University</td>
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<td>Tested by:</td>
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<td>Aug-2016</td>
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<tr>
<td>Software Availability:</td>
<td>Apr-2016</td>
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</tbody>
</table>

General Notes (Continued)

Memory Mode: flat

Base Compiler Invocation

C benchmarks:
icc

C++ benchmarks:
icpc

Fortran benchmarks:
ifort

Base Portability Flags

350.md: -fPIC
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/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
http://www.spec.org/omp2012/flags/colfax-knl.xml
## Colfax International

(Test Sponsor: Indiana University)

<table>
<thead>
<tr>
<th>Intel Xeon Phi 7210, 1.30GHz, SMT off, Turbo off, flat (MCDRAM Preferred)</th>
</tr>
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<tbody>
<tr>
<td><strong>SPECompG_peak2012</strong> = Not Run</td>
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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.