Colfax International
(Test Sponsor: Indiana University)

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

OMPG2012 Result

SPECompG_peak2012 = Not Run
SPECompG_base2012 = 8.38

OMPG2012 license: 3440A
Test date: Dec-2016
Tested by: Indiana University
Software Availability: Apr-2016

Test date: Dec-2016
Tested by: Indiana University
Hardware Availability: Aug-2016

Threads

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<tr>
<td>376.kdtree</td>
<td>4.04</td>
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</table>

SPECompG_base2012 = 8.38

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

Software

Operating System: CentOS Linux release 7.2.1511
CentOS Linux release 7.2.1511 (Core)
3.10.0-327.13.1.el7.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

Continued on next page
SPEC OMPG2012 Result

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SPECompG_peak2012 = Not Run
SPECompG_base2012 = 8.38

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</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 Wed Dec 14 06:19:19 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 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 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

Continued on next page
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Test sponsor: Indiana University
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Test date: Dec-2016
Hardware Availability: Aug-2016
Software Availability: Apr-2016

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: -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/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
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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.