



# SPEC® OMPG2012 Result

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## IBM

(Test Sponsor: Indiana University)

IBM S822LC for HPC  
(Power8 with NVLink, 2.860 GHz)

SPECompG\_peak2012 = Not Run

SPECompG\_base2012 = 5.67

OMP2012 license:3440A

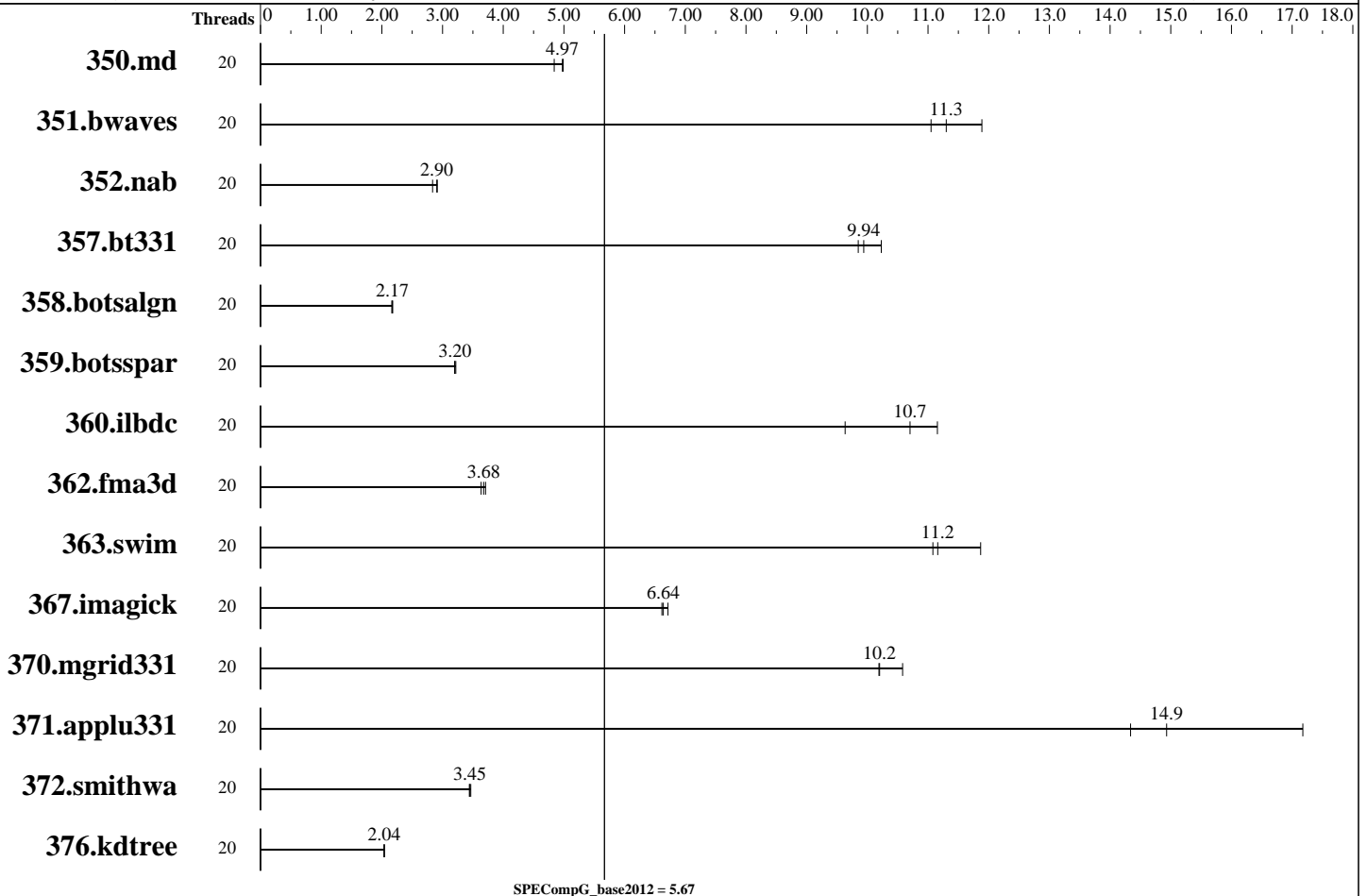
Test sponsor: Indiana University

Tested by: Indiana University

Test date: Apr-2018

Hardware Availability: Sep-2017

Software Availability: Oct-2017



### Hardware

CPU Name: POWER8 with NVLink  
 CPU Characteristics: IBM Intelligent Energy Optimization enabled, up to 3.492 GHz  
 CPU MHz: 2860  
 CPU MHz Maximum: 3492  
 FPU: Integrated  
 CPU(s) enabled: 20 cores, 2 chips, 10 cores/chip, 8 threads/core  
 CPU(s) orderable: 1-2 chips  
 Primary Cache: 32 KB I + 64 KB D on chip per core  
 Secondary Cache: 512 KB I+D on chip per core  
 L3 Cache: 8 MB I+D on chip per core  
 Other Cache: 16 MB I+D off chip per 4 DIMMs  
 Memory: 256 GB (32 x 8 GB DIMMs DDR4 1600 MHz)  
 Disk Subsystem: 609TB GPFS  
 Other Hardware: None  
 Base Threads Run: 20

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### Software

Operating System: CentOS Linux release 7.4.1708 (AltArch)  
 3.10.0-693.11.1.el7.ppc64le  
 Compiler: C/C++/Fortran: Version 17.10 of PGI Community Edition  
 Auto Parallel: No  
 File System: GPFS 4.2.3.6  
 System State: Run level 3 (Multi-user)  
 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	20	928	4.99	<u>931</u>	<u>4.97</u>	957	4.84							
351.bwaves	20	410	11.0	<u>401</u>	<u>11.3</u>	381	11.9							
352.nab	20	1372	2.84	1335	2.91	<u>1339</u>	<u>2.90</u>							
357.bt331	20	<u>477</u>	<u>9.94</u>	463	10.2	481	9.85							
358.botsalgn	20	<u>2002</u>	<u>2.17</u>	1997	2.18	2011	2.16							
359.botsspar	20	<u>1638</u>	<u>3.20</u>	1631	3.22	1641	3.20							
360.ilbdc	20	<u>333</u>	<u>10.7</u>	319	11.2	370	9.63							
362.fma3d	20	1025	3.71	1045	3.64	<u>1033</u>	<u>3.68</u>							
363.swim	20	<u>406</u>	<u>11.2</u>	382	11.9	409	11.1							
367.imagick	20	1047	6.71	<u>1059</u>	<u>6.64</u>	1063	6.61							
370.mgrid331	20	<u>433</u>	<u>10.2</u>	418	10.6	434	10.2							
371.applu331	20	353	17.2	423	14.3	<u>406</u>	<u>14.9</u>							
372.smithwa	20	<u>1554</u>	<u>3.45</u>	1547	3.47	1557	3.44							
376.kdtree	20	2204	2.04	2211	2.04	<u>2207</u>	<u>2.04</u>							

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

## Platform Notes

Sysinfo program /gpfs/homeb/padc/padc021/spec/omp2012-1.1-run/Docs/sysinfo  
Revision 563 of 2016-06-10 (097295389cf6073d8c3b03fa376740a5)  
running on juroncl17.juron.dns.zone Sun Apr 22 19:05:30 2018

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
clock : 4023.000000MHz
machine : PowerNV 8335-GTB
model : 8335-GTB
platform : PowerNV
revision : 1.0 (pvr 004c 0100)
cpu : POWER8NVL (raw), altivec supported
```

```
*
* 0 "physical id" tags found. Perhaps this is an older system,
* or a virtualized system. Not attempting to guess how to
* count chips/cores for this system.
*
```

160 "processors"  
cores, siblings (Caution: counting these is hw and system dependent. The

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## Platform Notes (Continued)

following excerpts from /proc/cpuinfo might not be reliable. Use with caution.)

From /proc/meminfo

MemTotal: 267801664 kB

HugePages\_Total: 0

Hugepagesize: 16384 kB

From /etc/\*release\* /etc/\*version\*

centos-release: CentOS Linux release 7.4.1708 (AltArch)

centos-release-upstream: Derived from Red Hat Enterprise Linux 7.4 (Source)

os-release:

NAME="CentOS Linux"

VERSION="7 (AltArch)"

ID="centos"

ID\_LIKE="rhel fedora"

VERSION\_ID="7"

PRETTY\_NAME="CentOS Linux 7 (AltArch)"

ANSI\_COLOR="0;31"

CPE\_NAME="cpe:/o:centos:centos:7"

redhat-release: CentOS Linux release 7.4.1708 (AltArch)

system-release: CentOS Linux release 7.4.1708 (AltArch)

system-release-cpe: cpe:/o:centos:centos:7

uname -a:

Linux juroncl17.juron.dns.zone 3.10.0-693.11.1.el7.ppc64le #1 SMP Mon Dec 4 15:48:14 GMT 2017 ppc64le ppc64le ppc64le GNU/Linux

run-level 3 Apr 10 19:41

SPEC is set to: /gpfs/homeb/padc/padc021/spec/omp2012-1.1-run

Filesystem Type Size Used Avail Use% Mounted on

homeb gpfs 609T 498T 112T 82% /gpfs/homeb

(End of data from sysinfo program)

## General Notes

Environment:

## Base Compiler Invocation

C benchmarks:

pgcc

C++ benchmarks:

pgc++

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Standard Performance Evaluation Corporation

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http://www.spec.org/



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## Base Compiler Invocation (Continued)

Fortran benchmarks:  
pgf90

## Base Portability Flags

350.md: -Mfree  
357.bt331: -mmodel=medium  
363.swim: -mmodel=medium

## Base Optimization Flags

C benchmarks:  
-fast -Mfprelaxed -mp -Mschar

C++ benchmarks:  
-fast -Mfprelaxed -mp

Fortran benchmarks:  
-fast -Mfprelaxed -mp

The flags file that was used to format this result can be browsed at  
[http://www.spec.org/omp2012/flags/pgi17\\_linux\\_flags.20180620.html](http://www.spec.org/omp2012/flags/pgi17_linux_flags.20180620.html)

You can also download the XML flags source by saving the following link:  
[http://www.spec.org/omp2012/flags/pgi17\\_linux\\_flags.20180620.xml](http://www.spec.org/omp2012/flags/pgi17_linux_flags.20180620.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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