



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 = 5.71

OMP2012 license:3440A

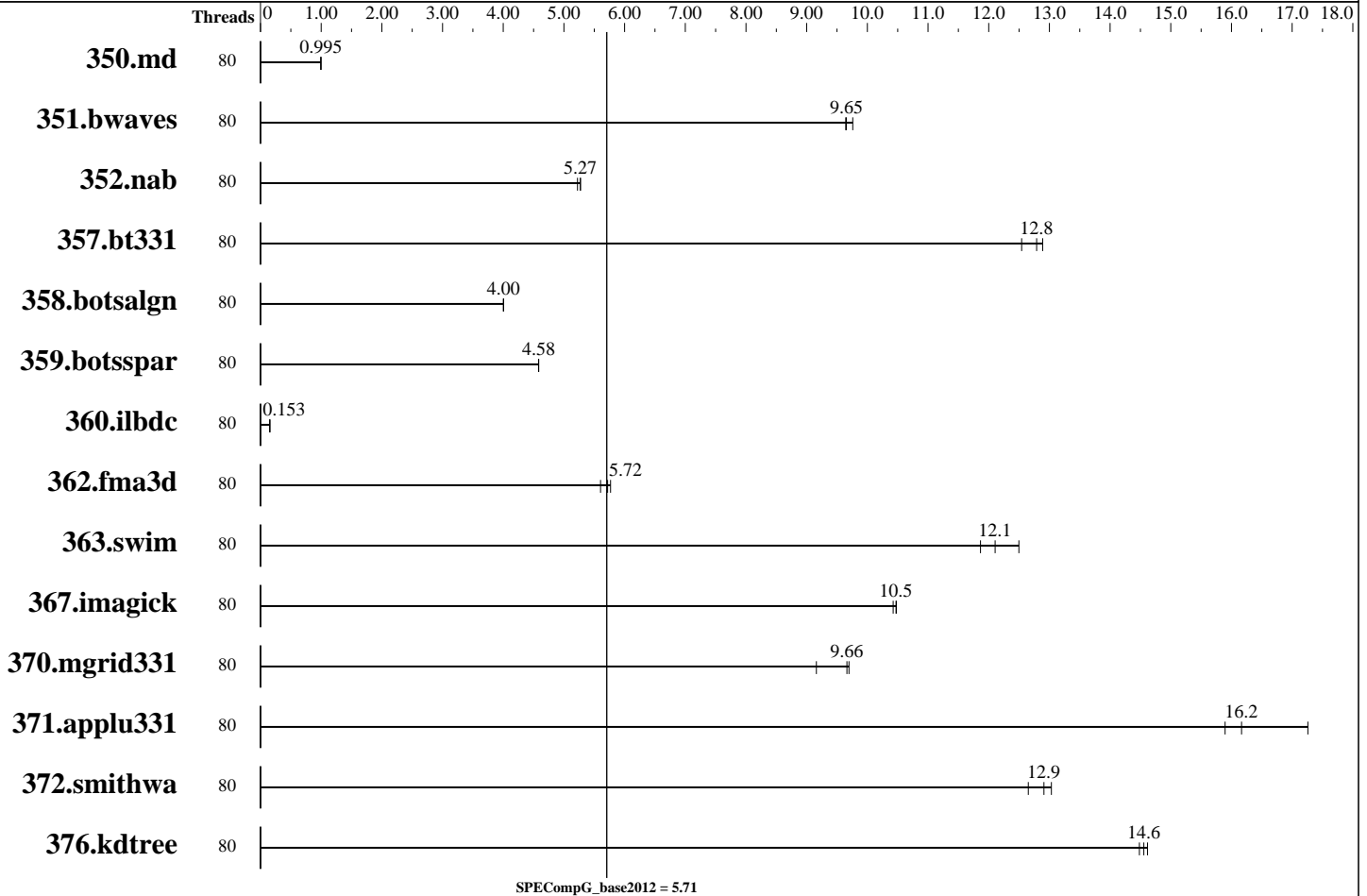
Test sponsor: Indiana University

Tested by: Indiana University

Test date: Jan-2018

Hardware Availability: Sep-2017

Software Availability: Aug-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: 80

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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 7.2.0 of gcc
 Auto Parallel: No
 File System: GPFS 4.2.3.6
 System State: Run level 5 (Multi-user, graphical)
 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	80	4652	0.995	4650	0.996	<u>4651</u>	<u>0.995</u>							
351.bwaves	80	<u>469</u>	<u>9.65</u>	464	9.76	470	9.64							
352.nab	80	<u>738</u>	<u>5.27</u>	738	5.27	745	5.22							
357.bt331	80	368	12.9	<u>371</u>	<u>12.8</u>	378	12.5							
358.botsalgn	80	1087	4.00	<u>1086</u>	<u>4.00</u>	1086	4.01							
359.botsspar	80	1145	4.59	<u>1146</u>	<u>4.58</u>	1146	4.58							
360.ilbdc	80	23221	0.153	<u>23215</u>	<u>0.153</u>	23208	0.153							
362.fma3d	80	678	5.60	659	5.77	<u>664</u>	<u>5.72</u>							
363.swim	80	362	12.5	382	11.9	<u>374</u>	<u>12.1</u>							
367.imagick	80	671	10.5	674	10.4	<u>671</u>	<u>10.5</u>							
370.mgrid331	80	<u>457</u>	<u>9.66</u>	483	9.16	456	9.70							
371.applu331	80	<u>375</u>	<u>16.2</u>	381	15.9	351	17.3							
372.smithwa	80	<u>415</u>	<u>12.9</u>	424	12.7	411	13.0							
376.kdtree	80	<u>309</u>	<u>14.6</u>	308	14.6	311	14.5							

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 juroncl3.juron.dns.zone Sat Jan 20 17:07:18 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 juroncl3.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 5 Dec 15 13:40

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

Filesystem Type Size Used Avail Use% Mounted on

homeb gpfs 609T 578T 31T 95% /gpfs/homeb

(End of data from sysinfo program)

General Notes

Environment Variables:

OMP_STACKSIZE=1G

ulimit -s unlimited

No: The test sponsor attests, as of date of publication, that CVE-2017-5754 (Meltdown) is mitigated in the system as tested and documented.

No: The test sponsor attests, as of date of publication, that CVE-2017-5753 (Spectre variant 1) is mitigated in the system as tested and documented.

No: The test sponsor attests, as of date of publication, that CVE-2017-5715 (Spectre variant 2) is mitigated in the system as tested and documented.

This benchmark result is intended to provide perspective on

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General Notes (Continued)

past performance using the historical hardware and/or software described on this result page.

The system as described on this result page was formerly generally available. At the time of this publication, it may not be shipping, and/or may not be supported, and/or may fail to meet other tests of General Availability described in the SPEC HPG Policy document, <http://www.spec.org/hpg/policy.html>

This measured result may not be representative of the result that would be measured were this benchmark run with hardware and software available as of the publication date.

Base Compiler Invocation

C benchmarks:

gcc

C++ benchmarks:

g++

Fortran benchmarks:

gfortran

Base Portability Flags

350.md: -ffree-form -fno-range-check

Base Optimization Flags

C benchmarks:

-Ofast -fopenmp -fsigned-char

C++ benchmarks:

-Ofast -fopenmp

Fortran benchmarks:

-Ofast -fopenmp

The flags file that was used to format this result can be browsed at

<http://www.spec.org/omp2012/flags/gcc-linux64.20180620.html>



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You can also download the XML flags source by saving the following link:

<http://www.spec.org/omp2012/flags/gcc-linux64.20180620.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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