



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 = 7.51

OMP2012 license:3440A

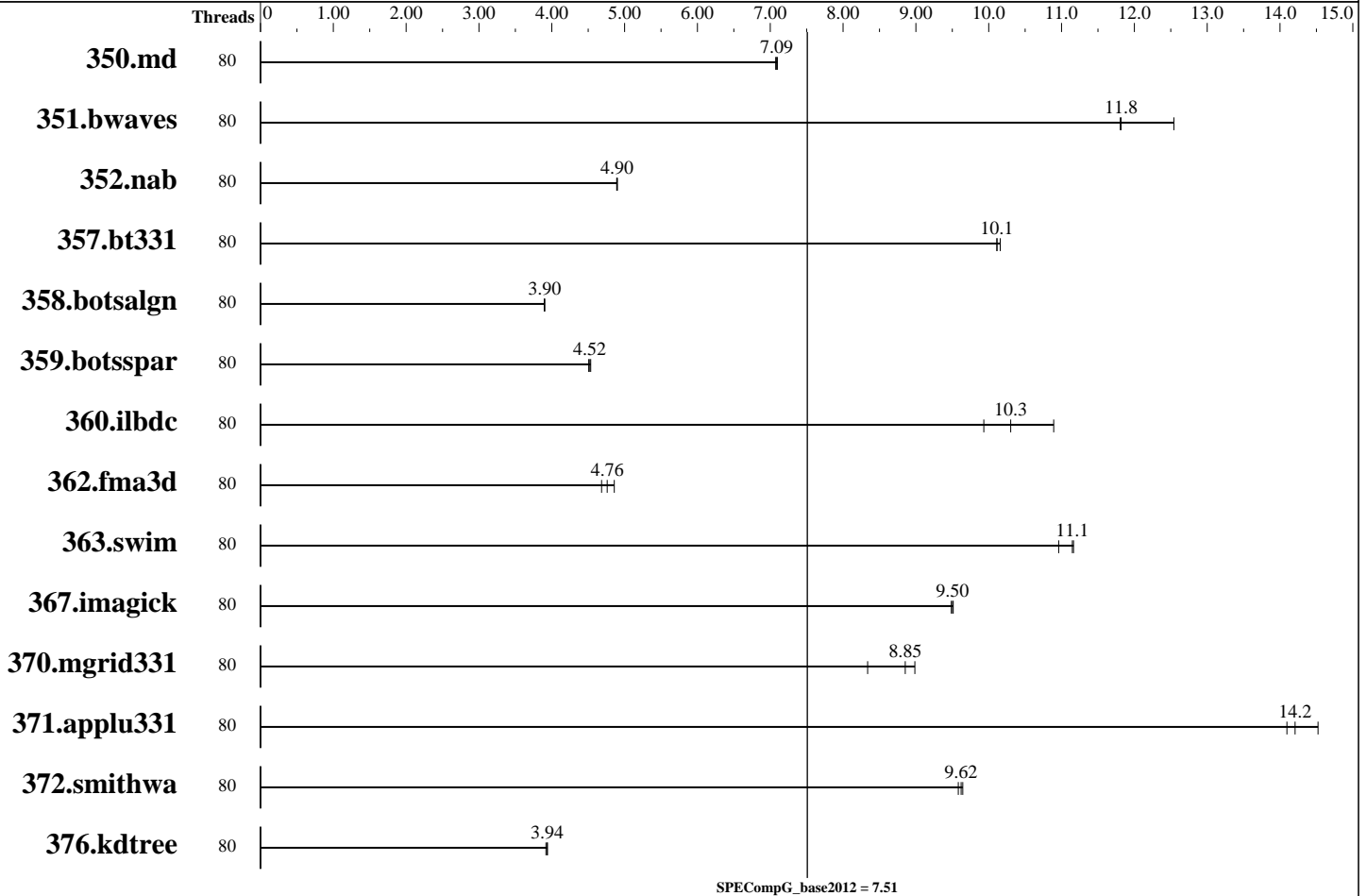
Test sponsor: Indiana University

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: 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 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 | 80 | <u>653</u> | <u>7.09</u> | 652 | 7.10 | 654 | 7.07 | | | | | | | |
| 351.bwaves | 80 | 384 | 11.8 | <u>383</u> | <u>11.8</u> | 361 | 12.5 | | | | | | | |
| 352.nab | 80 | 794 | 4.90 | 795 | 4.89 | <u>795</u> | <u>4.90</u> | | | | | | | |
| 357.bt331 | 80 | 469 | 10.1 | 467 | 10.2 | <u>469</u> | <u>10.1</u> | | | | | | | |
| 358.botsalgn | 80 | 1116 | 3.90 | 1114 | 3.90 | <u>1115</u> | <u>3.90</u> | | | | | | | |
| 359.botsspar | 80 | <u>1161</u> | <u>4.52</u> | 1158 | 4.53 | 1165 | 4.51 | | | | | | | |
| 360.ilbdc | 80 | 358 | 9.93 | <u>346</u> | <u>10.3</u> | 327 | 10.9 | | | | | | | |
| 362.fma3d | 80 | 811 | 4.68 | <u>798</u> | <u>4.76</u> | 782 | 4.86 | | | | | | | |
| 363.swim | 80 | 413 | 11.0 | <u>406</u> | <u>11.1</u> | 406 | 11.2 | | | | | | | |
| 367.imagick | 80 | 741 | 9.49 | <u>740</u> | <u>9.50</u> | 739 | 9.51 | | | | | | | |
| 370.mgrid331 | 80 | 530 | 8.34 | 492 | 8.99 | <u>499</u> | <u>8.85</u> | | | | | | | |
| 371.applu331 | 80 | <u>427</u> | <u>14.2</u> | 417 | 14.5 | 430 | 14.1 | | | | | | | |
| 372.smithwa | 80 | <u>557</u> | <u>9.62</u> | 559 | 9.58 | 556 | 9.64 | | | | | | | |
| 376.kdtree | 80 | 1148 | 3.92 | <u>1142</u> | <u>3.94</u> | 1142 | 3.94 | | | | | | | |

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 02:33:10 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 juroncl7.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 499T 111T 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

info@spec.org

http://www.spec.org/



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Base Compiler Invocation (Continued)

Fortran benchmarks:
pgf90

Base Portability Flags

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

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

Tested with SPEC OMP2012 v1.1.
Report generated on Wed Jun 20 15:26:34 2018 by SPEC OMP2012 PS/PDF formatter v541.
Originally published on 20 June 2018.