



SPEC® OMPG2012 Result

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NEC

(Test Sponsor: RWTH University Aachen)

SPECompG_peak2012 = Not Run

NEC HPC 1812Rg

SPECompG_base2012 = 7.65

OMP2012 license:055A

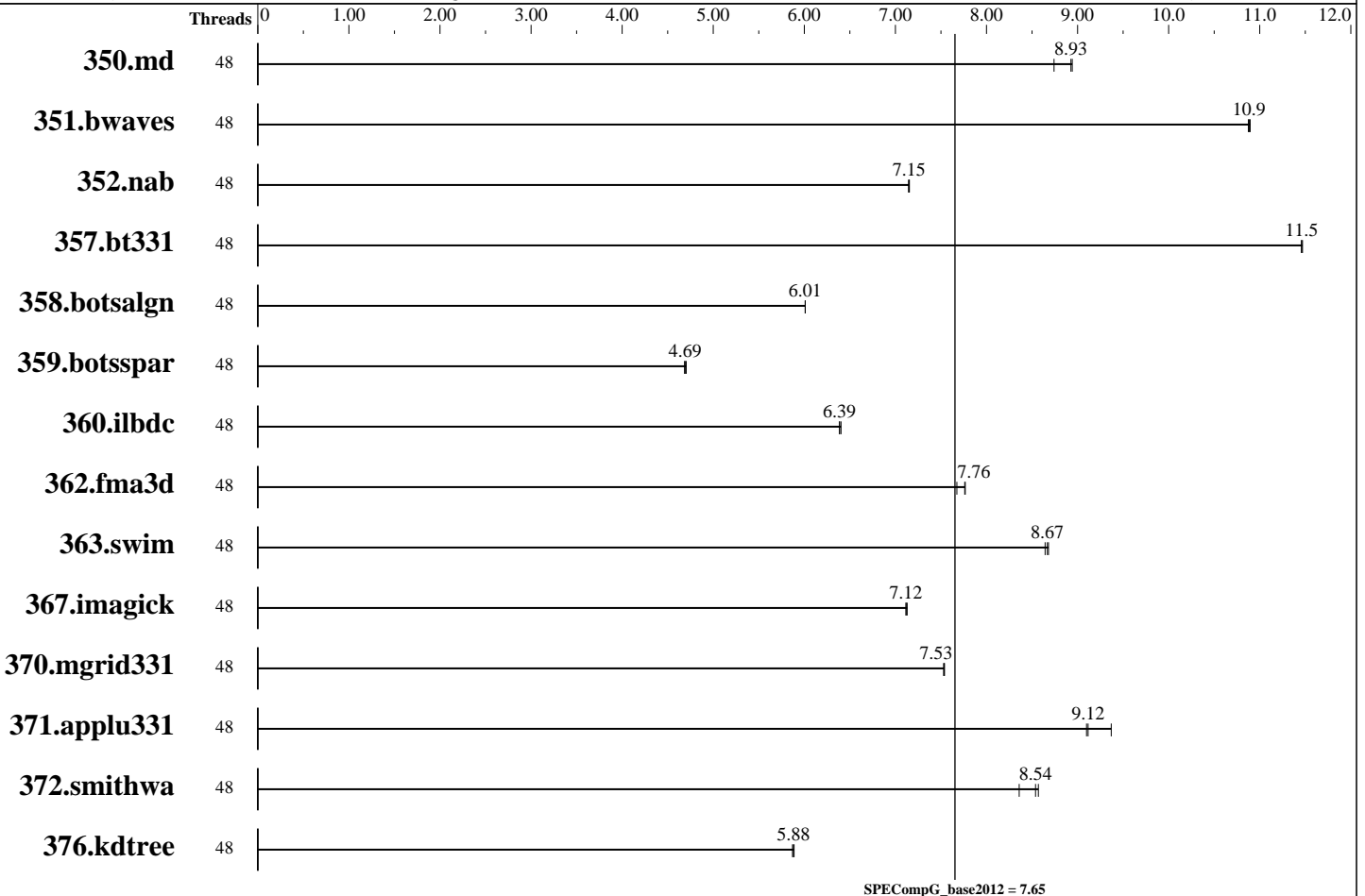
Test sponsor: RWTH University Aachen

Tested by: Jennifer Witham, Bo Wang

Test date: Sep-2017

Hardware Availability: Oct-2016

Software Availability: Feb-2016



Hardware

CPU Name: Intel Xeon E5-2650 v4
 CPU Characteristics: Intel Turbo Boost Technology up to 2.9 GHz (single)/2.2 GHz (all), 9.6 GT/s QPI, Hyper-Threading enabled
 CPU MHz: 2200
 CPU MHz Maximum: 2900
 FPU: Integrated
 CPU(s) enabled: 24 cores, 2 chips, 12 cores/chip, 2 threads/core
 CPU(s) orderable: 1-2 chips
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 256 KB I+D on chip per core
 L3 Cache: 30 MB I+D on chip per chip
 Other Cache: None
 Memory: 128 GB (8 x 16 GB 2Rx8 PC4-2400T-R)
 Disk Subsystem: SATA, Samsung SM863, 120GB, SSD
 Other Hardware: None

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Software

Operating System: CentOS Linux release 7.3.1611 (Core) 3.10.0-514.26.2.el7.x86_64
 Compiler: C/C++/Fortran: Version 16.0.2.181 of Intel Parallel Studio XE
 Auto Parallel: No
 File System: NFS
 System State: Multi-User
 Base Pointers: 64-bit
 Peak Pointers: 64-bit
 Other Software: None



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Base Threads Run: 48

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	48	<u>519</u>	<u>8.93</u>	530	8.74	518	8.94									
351.bwaves	48	<u>416</u>	<u>10.9</u>	417	10.9	416	10.9									
352.nab	48	<u>544</u>	<u>7.15</u>	544	7.15	545	7.14									
357.bt331	48	413	11.5	<u>414</u>	<u>11.5</u>	414	11.5									
358.botsalgn	48	<u>724</u>	<u>6.01</u>	724	6.01	724	6.01									
359.botsspar	48	<u>1119</u>	<u>4.69</u>	1116	4.70	1121	4.68									
360.ilbdc	48	<u>557</u>	<u>6.39</u>	557	6.39	556	6.40									
362.fma3d	48	<u>490</u>	<u>7.76</u>	495	7.67	489	7.77									
363.swim	48	522	8.68	524	8.64	<u>523</u>	<u>8.67</u>									
367.imagick	48	988	7.12	986	7.13	<u>988</u>	<u>7.12</u>									
370.mgrid331	48	587	7.53	586	7.54	<u>587</u>	<u>7.53</u>									
371.applu331	48	666	9.10	<u>665</u>	<u>9.12</u>	647	9.37									
372.smithwa	48	<u>628</u>	<u>8.54</u>	625	8.57	641	8.36									
376.kdtree	48	767	5.87	<u>765</u>	<u>5.88</u>	764	5.89									

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

Platform Notes

Sysinfo program /rwthfs/rz/cluster/home/jw331215/work/claixspec/Docs/sysinfo
Revision 563 of 2016-06-10 (097295389cf6073d8c3b03fa376740a5)
running on lnm357.hpc.itc.rwth-aachen.de Wed Sep 13 10:46:31 2017

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(R) CPU E5-2650 v4 @ 2.20GHz
 2 "physical id"s (chips)
 48 "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 : 12
siblings : 24
physical 0: cores 0 1 2 3 4 5 8 9 10 11 12 13
physical 1: cores 0 1 2 3 4 5 8 9 10 11 12 13
cache size : 30720 KB
```

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Platform Notes (Continued)

From /proc/meminfo

```
MemTotal:      131744940 kB
HugePages_Total:      0
Hugepagesize:    2048 kB
```

/usr/bin/lsb_release -d

```
CentOS Linux release 7.3.1611 (Core)
```

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

```
centos-release: CentOS Linux release 7.3.1611 (Core)
centos-release-upstream: Derived from Red Hat Enterprise Linux 7.3 (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 7.3.1611 (Core)
system-release: CentOS Linux release 7.3.1611 (Core)
system-release-cpe: cpe:/o:centos:centos:7
```

uname -a:

```
Linux lnm357.hpc.itc.rwth-aachen.de 3.10.0-514.26.2.el7.x86_64 #1 SMP Tue Jul
4 15:04:05 UTC 2017 x86_64 x86_64 x86_64 GNU/Linux
```

run-level 3 Aug 7 23:17

SPEC is set to: /rwthfs/rz/cluster/home/jw331215/work/claixspec

Filesystem	Type	Size	Used	Avail	Use%
isi.isi.hpc.itc.rwth-aachen.de:/home/jw331215	nfs	150G	64G	87G	43%
/rwthfs/rz/cluster/home/jw331215					

Additional information from dmidecode:

Warning: Use caution when you interpret this section. The 'dmidecode' program reads system data which is "intended to allow hardware to be accurately determined", but the intent may not be met, as there are frequent changes to hardware, firmware, and the "DMTF SMBIOS" standard.

(End of data from sysinfo program)

General Notes

BIOS settings:

```
Intel Hyper-Threading Technology (SMT): Enabled
Intel Turbo Boost Technology (Turbo) : Enabled
ENV_OMP_SCHEDULE=static
```

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General Notes (Continued)

ENV_KMP_BLOCKTIME=200
ENV_KMP_STACKSIZE=8192M
ENV_OMP_DYNAMIC=FALSE

Base Compiler Invocation

C benchmarks:

icc

C++ benchmarks:

icpc

Fortran benchmarks:

ifort

Base Portability Flags

350.md: -free
357.bt331: -mmodel=medium
363.swim: -mmodel=medium
367.imagick: -std=c99

Base Optimization Flags

C benchmarks:

-O3 -openmp -ipo -xCORE-AVX2 -ansi-alias

C++ benchmarks:

-O3 -openmp -ipo -xCORE-AVX2 -ansi-alias

Fortran benchmarks:

-O3 -openmp -ipo -xCORE-AVX2 -align all

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

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

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

<http://www.spec.org/omp2012/flags/Intel-linux64.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 Oct 25 17:17:07 2017 by SPEC OMP2012 PS/PDF formatter v541.
Originally published on 25 October 2017.