



SPEC® OMPG2012 Result

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NEC

(Test Sponsor: RWTH University Aachen)

NEC HPC 1812Rg

SPECompG_peak2012 = Not Run

SPECompG_base2012 = 19.5

OMP2012 license:055A

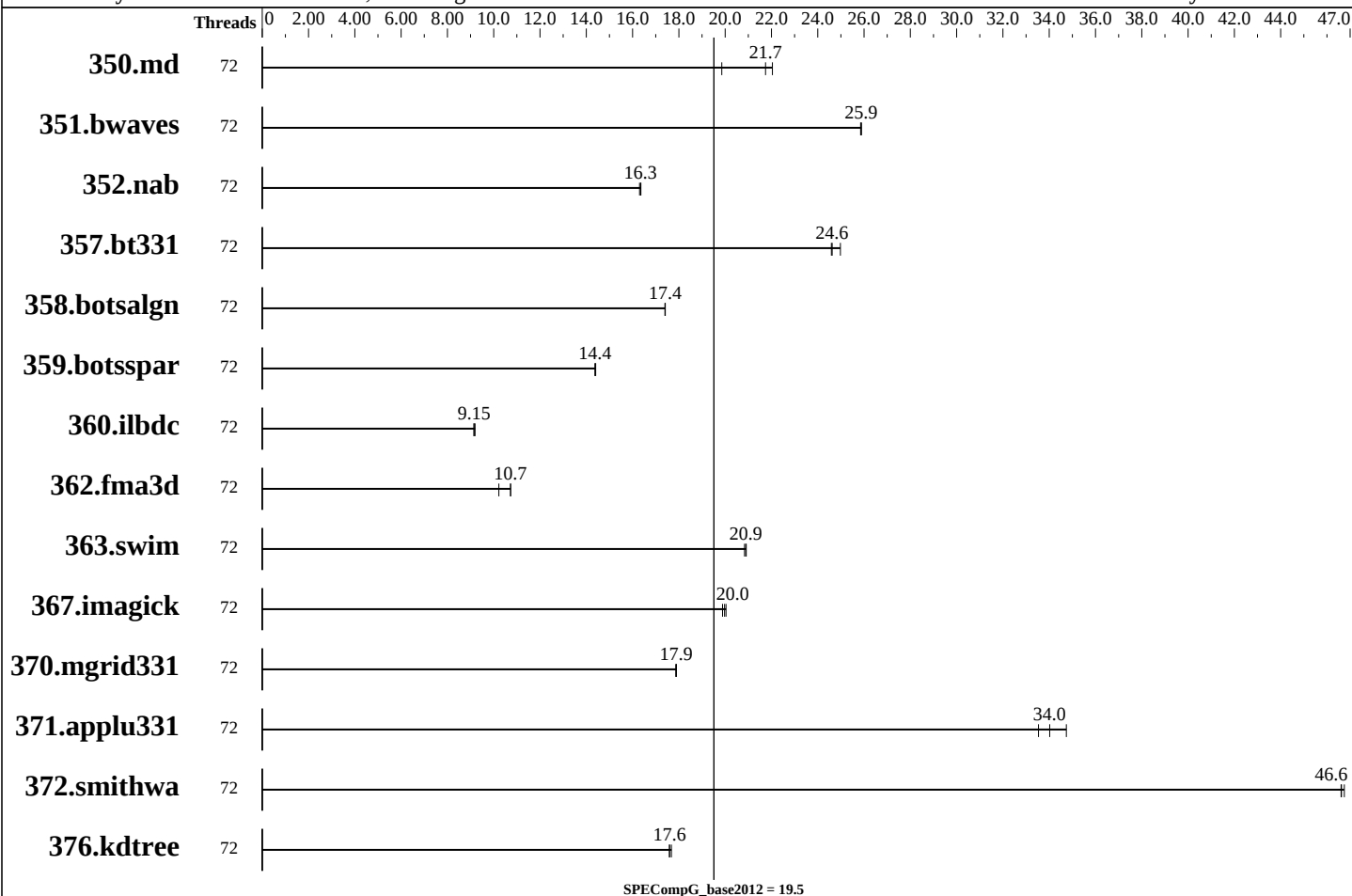
Test sponsor: RWTH University Aachen

Tested by: Jennifer Witham, Bo Wang

Test date: Sep-2017

Hardware Availability: Oct-2016

Software Availability: Feb-2016



Hardware

CPU Name: Intel Xeon E7-8860 v4
 CPU Characteristics: Intel Turbo Boost Technology up to 3.2 GHz (single)/2.2 GHz (all), 9.6 GT/s QPI, Hyper-Threading enabled
 CPU MHz: 2200
 CPU MHz Maximum: 3200
 FPU: Integrated
 CPU(s) enabled: 144 cores, 8 chips, 18 cores/chip, 2 threads/core
 CPU(s) orderable: 4,8 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: 45 MB I+D on chip per chip
 Other Cache: None
 Memory: 1 TB (64x16 GB 2Rx4 PC4-2400T-R)
 Disk Subsystem: SATA, Samsung SM863, 2x1.92TB, NVMe 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: 72

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	72	210	22.0	233	19.9	<u>213</u>	<u>21.7</u>							
351.bwaves	72	175	25.9	<u>175</u>	<u>25.9</u>	175	25.9							
352.nab	72	239	16.3	238	16.4	<u>238</u>	<u>16.3</u>							
357.bt331	72	<u>193</u>	<u>24.6</u>	193	24.6	190	25.0							
358.botsalgn	72	250	17.4	250	17.4	<u>250</u>	<u>17.4</u>							
359.botsspar	72	365	14.4	364	14.4	<u>365</u>	<u>14.4</u>							
360.ilbdc	72	389	9.15	<u>389</u>	<u>9.15</u>	387	9.19							
362.fma3d	72	354	10.7	<u>354</u>	<u>10.7</u>	372	10.2							
363.swim	72	<u>217</u>	<u>20.9</u>	217	20.8	217	20.9							
367.imagick	72	354	19.9	351	20.0	<u>352</u>	<u>20.0</u>							
370.mgrid331	72	247	17.9	<u>247</u>	<u>17.9</u>	247	17.9							
371.applu331	72	<u>178</u>	<u>34.0</u>	174	34.7	181	33.5							
372.smithwa	72	115	46.6	115	46.7	<u>115</u>	<u>46.6</u>							
376.kdtree	72	255	17.7	<u>256</u>	<u>17.6</u>	256	17.6							

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 lns02.hpc.itc.rwth-aachen.de Wed Sep 13 13:58:09 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 E7-8860 v4 @ 2.20GHz

8 "physical id"s (chips)

288 "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 : 18

siblings : 36

physical 0: cores 0 1 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27

physical 1: cores 0 1 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27

physical 2: cores 0 1 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27

physical 3: cores 0 1 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27

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Platform Notes (Continued)

```
physical 4: cores 0 1 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27
physical 5: cores 0 1 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27
physical 6: cores 0 1 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27
physical 7: cores 0 1 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27
cache size : 46080 KB
```

From /proc/meminfo

MemTotal: 1056480804 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 lns02.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 20:25

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

Filesystem	Type	Size	Used	Avail	Use%
------------	------	------	------	-------	------

Mounted on

isi.isi.hpc.itc.rwth-aachen.de:/home/jw331215	nfs	150G	65G	86G	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)



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General Notes

BIOS settings:

Intel Hyper-Threading Technology (SMT): Enabled

Intel Turbo Boost Technology (Turbo) : Enabled

ENV_OMP_SCHEDULE=static

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: -mcmmodel=medium

363.swin: -mcmmodel=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.

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