SPEC® OMPG2012 Result

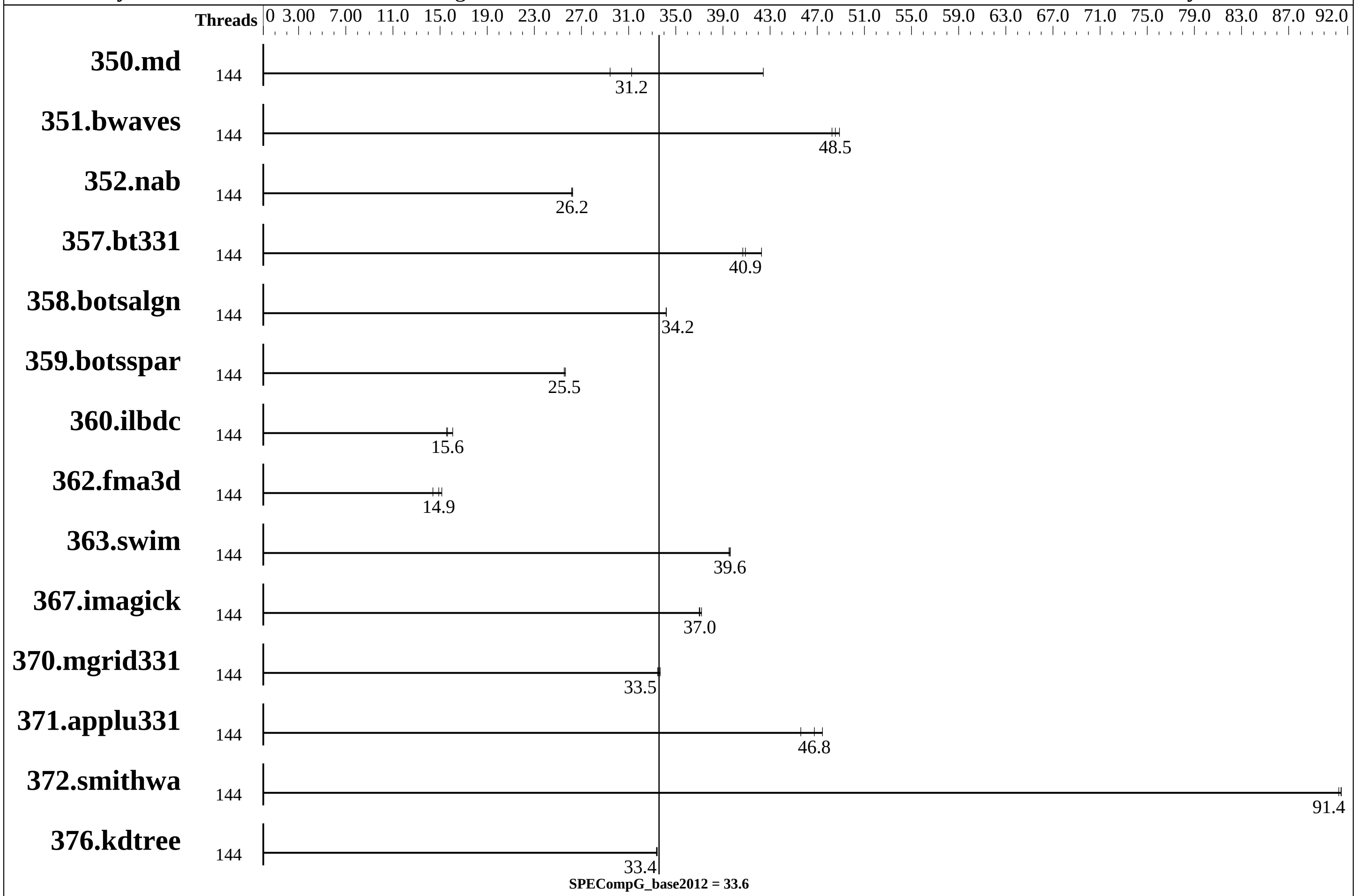
NEC
(Test Sponsor: RWTH University Aachen)

NEC HPC 1812Rg

SPECompG_peak2012 = Not Run

SPECompG_base2012 = 33.6

OMP2012 license:	055A	**Test date:**	Sep-2017
Test sponsor:	RWTH University Aachen	**Hardware Availability:**	Oct-2016
Tested by:	Jennifer Witham, Bo Wang	**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: 144
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	144	**148**	**31.2**	157	29.4	109	42.4							
351.bwaves	144	93.9	48.3	**93.3**	**48.5**	92.7	48.9							
352.nab	144	148	26.3	**149**	**26.2**	149	26.2							
357.bt331	144	**116**	**40.9**	117	40.7	112	42.3							
358.botsalgn	144	127	34.2	127	34.2	**127**	**34.2**							
359.botsspar	144	205	25.6	**205**	**25.5**	206	25.5							
360.ilbdc	144	229	15.6	**228**	**15.6**	221	16.1							
362.fma3d	144	251	15.1	264	14.4	**255**	**14.9**							
363.swim	144	**114**	**39.6**	115	39.5	114	39.6							
367.imagick	144	189	37.2	**190**	**37.0**	190	37.0							
370.mgrid331	144	132	33.5	131	33.7	**132**	**33.5**							
371.applu331	144	**130**	**46.8**	128	47.4	133	45.6							
372.smithwa	144	58.7	91.3	58.6	91.5	**58.6**	**91.4**							
376.kdtree	144	**135**	**33.4**	135	33.4	135	33.4							

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 lns08.hpc.itc.rwth-aachen.de Fri Sep  8 12:50:00 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:       1056480760 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 lns08.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 16:51

  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  44%
     /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: -mcmodel=medium
363.swim: -mcmodel=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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