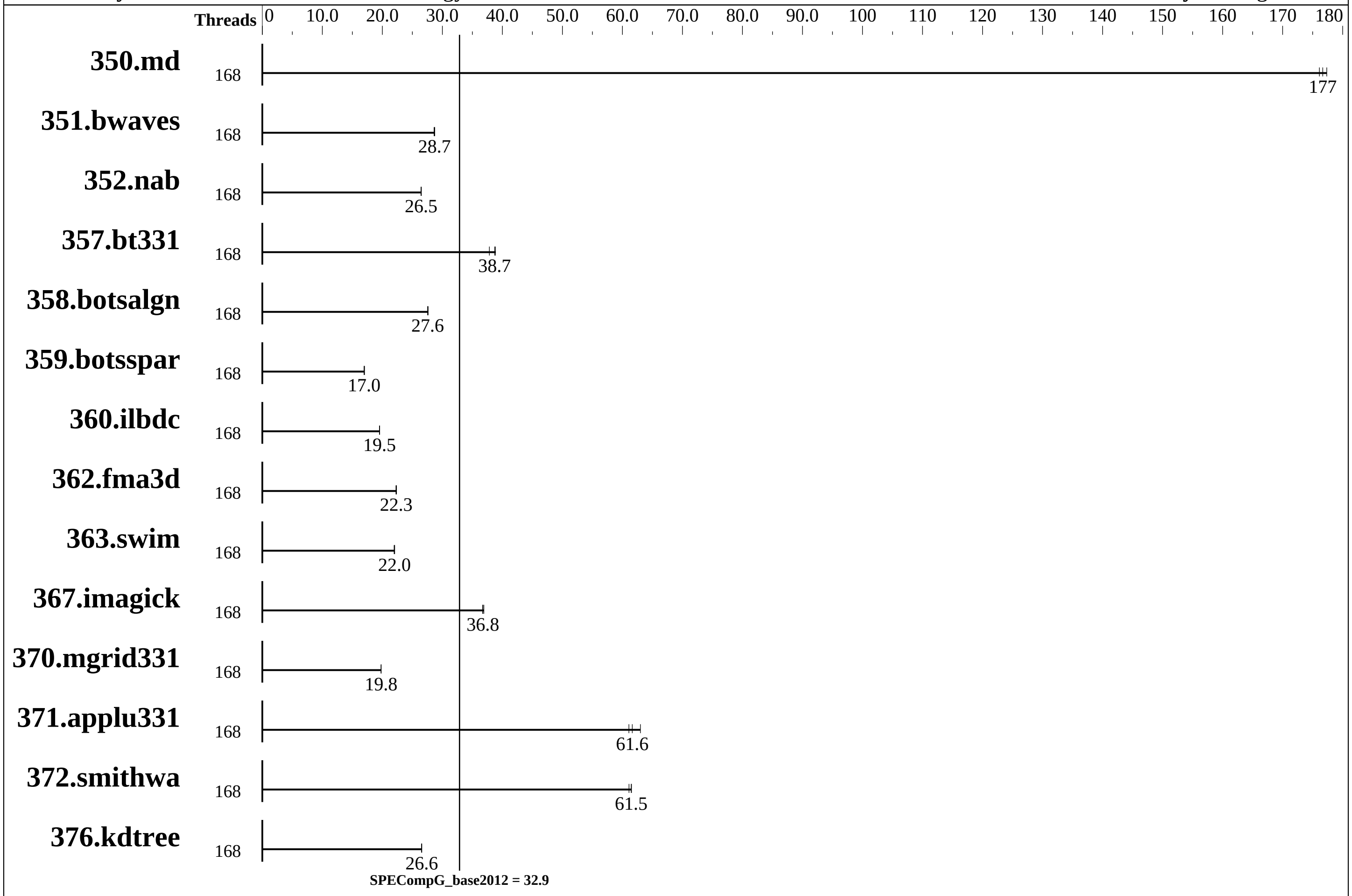
SPEC® OMPG2012 Result

Lenovo Global Technology
ThinkSystem SR950

SPECompG_peak2012 = Not Run

SPECompG_base2012 = 32.9

OMP2012 license:	28	**Test date:**	Aug-2018
Test sponsor:	Lenovo Global Technology	**Hardware Availability:**	Aug-2017
Tested by:	Lenovo Global Technology	**Software Availability:**	Aug-2018



Hardware

CPU Name:	Intel Xeon Platinum 8180
CPU Characteristics:	Intel Turbo Boost Technology up to 3.80 GHz
CPU MHz:	2500
CPU MHz Maximum:	3800
FPU:	Integrated
CPU(s) enabled:	84 cores, 3 chips, 28 cores/chip, 2 threads/core
CPU(s) orderable:	2,3,4,6,8 Chips
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	1 MB I+D on chip per core
L3 Cache:	39424 KB I+D on chip per chip
Other Cache:	None
Memory:	576 GB (36 x 16 GB 2Rx8 PC4-2666V)
Disk Subsystem:	0.96TB NVMe SSD
Other Hardware:	None
Base Threads Run:	168
Minimum Peak Threads:	--

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Software

Operating System:	Red Hat Enterprise Linux Server release 7.5, Kernel 3.10.0-862.3.2.el7.x86_64
Compiler:	C/C++/Fortran: Version 18.0.3.222 of Intel Composer XE for Linux Build 20180516
Auto Parallel:	No
File System:	ext3
System State:	Default
Base Pointers:	64-bit
Peak Pointers:	Not Applicable
Other Software:	None

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Maximum Peak Threads: --

Results Table

Benchmark	Base							Peak						
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
350.md	168	26.3	176	26.1	177	**26.2**	**177**							
351.bwaves	168	158	28.7	158	28.6	**158**	**28.7**							
352.nab	168	147	26.5	147	26.5	**147**	**26.5**							
357.bt331	168	**122**	**38.7**	125	37.8	122	38.8							
358.botsalgn	168	157	27.6	158	27.6	**158**	**27.6**							
359.botsspar	168	308	17.0	310	17.0	**309**	**17.0**							
360.ilbdc	168	**182**	**19.5**	182	19.5	182	19.5							
362.fma3d	168	170	22.4	**170**	**22.3**	171	22.3							
363.swim	168	205	22.1	**205**	**22.0**	206	22.0							
367.imagick	168	190	36.9	191	36.7	**191**	**36.8**							
370.mgrid331	168	223	19.8	**223**	**19.8**	223	19.8							
371.applu331	168	**98.3**	**61.6**	96.2	63.0	99.2	61.1							
372.smithwa	168	**87.2**	**61.5**	87.7	61.1	87.1	61.5							
376.kdtree	168	**169**	**26.6**	169	26.6	170	26.5							

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

Operating System Notes

```
Yes: The test sponsor attests, as of date of publication, that CVE-2017-5754 (Meltdown)
is mitigated in the system as tested and documented.
Yes: 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.
Yes: 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.
ulimit -s unlimited
```

Platform Notes

```
Sysinfo program /home/omp2012/Docs/sysinfo
$Rev: 395 $ $Date:: 2012-07-25 #$ 8f8c0fe9e19c658963a1e67685e50647
running on localhost.localdomain Thu Aug 23 14:02:58 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
   model name : Intel(R) Xeon(R) Platinum 8180 CPU @ 2.50GHz
      3 "physical id"s (chips)
      168 "processors"
```

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Platform Notes (Continued)

```
      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 : 28
         siblings  : 56
         physical 0: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14 16 17 18 19 20 21 22 24
         25 26 27 28 29 30
         physical 1: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14 16 17 18 19 20 21 22 24
         25 26 27 28 29 30
         physical 3: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14 16 17 18 19 20 21 22 24
         25 26 27 28 29 30
      cache size : 39424 KB

   From /proc/meminfo
      MemTotal:       593801136 kB
      HugePages_Total:       0
      Hugepagesize:       2048 kB

   From /etc/*release* /etc/*version*
      os-release:
         NAME="Red Hat Enterprise Linux Server"
         VERSION="7.5 (Maipo)"
         ID="rhel"
         ID_LIKE="fedora"
         VARIANT="Server"
         VARIANT_ID="server"
         VERSION_ID="7.5"
         PRETTY_NAME="Red Hat Enterprise Linux Server 7.5 (Maipo)"
      redhat-release: Red Hat Enterprise Linux Server release 7.5 (Maipo)
      system-release: Red Hat Enterprise Linux Server release 7.5 (Maipo)
      system-release-cpe: cpe:/o:redhat:enterprise_linux:7.5:ga:server

   uname -a:
      Linux localhost.localdomain 3.10.0-862.3.2.el7.x86_64 #1 SMP Tue May 15
      18:22:15 EDT 2018 x86_64 x86_64 x86_64 GNU/Linux

   run-level 3 Aug 21 10:44

   SPEC is set to: /home/omp2012
      Filesystem            Type  Size  Used Avail Use% Mounted on
      /dev/mapper/rhel-home xfs   839G   17G  822G   2% /home

   Additional information from dmidecode:
     BIOS Lenovo -[PSE113P-1.30]- 06/14/2018
     Memory:
      60x NO DIMM NO DIMM
      36x Samsung M393A2K43BB1-CTD 16 GB 2666 MHz 2 rank

   (End of data from sysinfo program)
```

General Notes

```
==========================================================================
General base OMP Library Settings
  ENV_KMP_AFFINITY=compact,1

==========================================================================
General OMP Library Settings
  KMP_LIBRARY=turnaround
  KMP_STACKSIZE=16G
  KMP_BLOCKTIME=infinite
  OMP_DYNAMIC=FALSE
  OMP_NESTED=FALSE
  OMP_SCHEDULE=static

==========================================================================
BIOS setting notes:
Operating Mode set to Maximum Performance Mode

==========================================================================
```

Base Compiler Invocation

C benchmarks:
`icc`

C++ benchmarks:
`icpc`

Fortran benchmarks:
`ifort`

Base Portability Flags

350.md: `-FR`
357.bt331: `-mcmodel=medium`
363.swim: `-mcmodel=medium`
367.imagick: `-std=c99`

Base Optimization Flags

C benchmarks:
`-O2 -qopenmp -ipo -xHOST -ansi-alias`

C++ benchmarks:
`-O2 -qopenmp -ipo -xHOST -ansi-alias`

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Base Optimization Flags (Continued)

Fortran benchmarks:
-O2 -qopenmp -ipo -xHOST -align array64byte

The flags files that were used to format this result can be browsed at
http://www.spec.org/omp2012/flags/Lenovo-Platform-Flags-V1.2-SKL-C.html
http://www.spec.org/omp2012/flags/lenovo.20180912.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/omp2012/flags/Lenovo-Platform-Flags-V1.2-SKL-C.xml
http://www.spec.org/omp2012/flags/lenovo.20180912.xml

For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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