SPEC® OMPG2012 Result

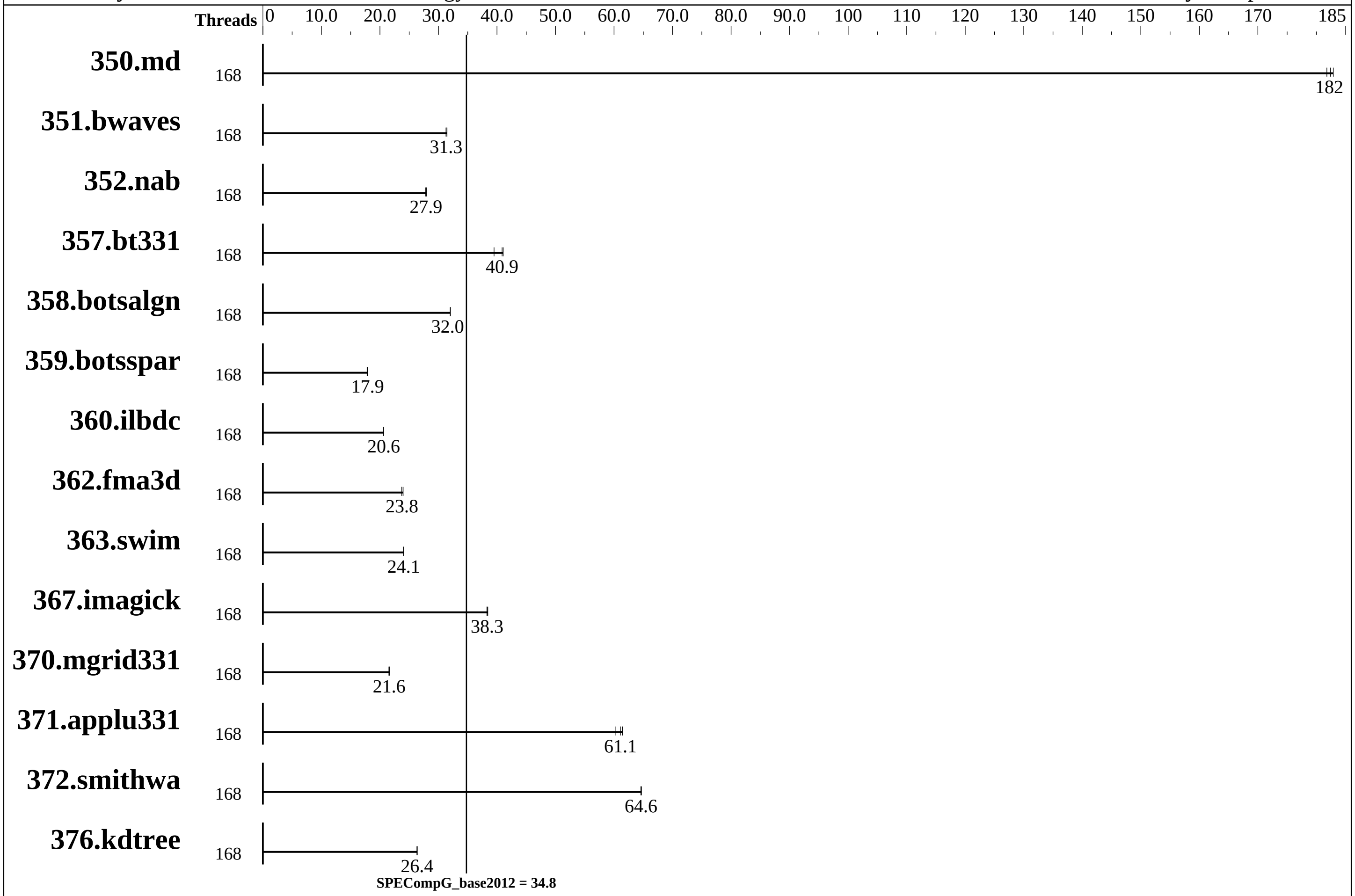
Lenovo Global Technology

ThinkSystem SR950 (Intel Xeon Platinum 8280L, 2.70 GHz)

SPECompG_peak2012 = Not Run

SPECompG_base2012 = 34.8

OMP2012 license: 9017		**Test date:**	Mar-2019
Test sponsor:	Lenovo Global Technology	**Hardware Availability:**	Apr-2019
Tested by:	Lenovo Global Technology	**Software Availability:**	Apr-2019



Hardware

CPU Name:	Intel Xeon Platinum 8280L
CPU Characteristics:	Intel Turbo Boost Technology up to 4.0 GHz
CPU MHz:	2700
CPU MHz Maximum:	4000
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:	38.5 MB I+D on chip per chip
Other Cache:	None
Memory:	576 GB (36 x 16 GB 2Rx8 PC4-2933Y-R)
Disk Subsystem:	1x Lenovo 0.96TB PX04PMB NVMe Mainstream PCIe SSDs
Other Hardware:	None
Base Threads Run:	168
Minimum Peak Threads:	--

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Software

Operating System:	Red Hat Enterprise Linux Server release 7.6, Kernel 3.10.0-957.el7.x86_64
Compiler:	C/C++/Fortran: Version 19.0.2.187 of Intel Composer XE for Linux Build 20190117
Auto Parallel:	No
File System:	ext3
System State:	Multi-user, run level 3
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	25.5	182	**25.4**	**182**	25.3	183							
351.bwaves	168	144	31.5	145	31.3	**145**	**31.3**							
352.nab	168	140	27.8	139	27.9	**140**	**27.9**							
357.bt331	168	**116**	**40.9**	115	41.1	120	39.5							
358.botsalgn	168	136	32.0	**136**	**32.0**	136	32.0							
359.botsspar	168	295	17.8	**293**	**17.9**	293	17.9							
360.ilbdc	168	172	20.6	**172**	**20.6**	173	20.6							
362.fma3d	168	160	23.7	**160**	**23.8**	159	24.0							
363.swim	168	189	24.0	**188**	**24.1**	188	24.1							
367.imagick	168	**184**	**38.3**	184	38.3	183	38.4							
370.mgrid331	168	205	21.5	204	21.7	**205**	**21.6**							
371.applu331	168	98.6	61.5	100	60.3	**99.2**	**61.1**							
372.smithwa	168	**83.0**	**64.6**	83.0	64.6	82.9	64.7							
376.kdtree	168	171	26.3	**171**	**26.4**	171	26.4							

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

Operating System Notes

```
ulimit -s unlimited
```

Platform Notes

```
Sysinfo program /home/omp2012/Docs/sysinfo
$Rev: 395 $ $Date:: 2012-07-25 #$ 8f8c0fe9e19c658963a1e67685e50647
running on localhost.localdomain Tue Mar 12 00:44:38 2019

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 8280L CPU @ 2.70GHz
      3 "physical id"s (chips)
      168 "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 : 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
```

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Platform Notes (Continued)

```
        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:       593766652 kB
     HugePages_Total:       0
     Hugepagesize:       2048 kB

  From /etc/*release* /etc/*version*
     os-release:
        NAME="Red Hat Enterprise Linux Server"
        VERSION="7.6 (Maipo)"
        ID="rhel"
        ID_LIKE="fedora"
        VARIANT="Server"
        VARIANT_ID="server"
        VERSION_ID="7.6"
        PRETTY_NAME="Red Hat Enterprise Linux Server 7.6 (Maipo)"
     redhat-release: Red Hat Enterprise Linux Server release 7.6 (Maipo)
     system-release: Red Hat Enterprise Linux Server release 7.6 (Maipo)
     system-release-cpe: cpe:/o:redhat:enterprise_linux:7.6:ga:server

  uname -a:
     Linux localhost.localdomain 3.10.0-957.el7.x86_64 #1 SMP Thu Oct 4 20:48:51
     UTC 2018 x86_64 x86_64 x86_64 GNU/Linux

  run-level 3 Mar 11 18:02

  SPEC is set to: /home/omp2012
     Filesystem            Type  Size  Used Avail Use% Mounted on
     /dev/mapper/rhel-home xfs   839G   33G  807G   4% /home

  Additional information from dmidecode:
    BIOS Lenovo -[PSE121I-1.50]- 03/01/2019
    Memory:
     60x NO DIMM NO DIMM
     36x Samsung M393A2K43CB2-CVF 16 GB 2933 MT/s 2 rank

  (End of data from sysinfo program)
```

General Notes

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

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

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General Notes (Continued)

```
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
=========================================================================
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.
```

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 file that was used to format this result can be browsed at
http://www.spec.org/omp2012/flags/lenovo.20180912.html

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