



# SPEC® OMPG2012 Result

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## Lenovo Global Technology

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

SPECompG\_peak2012 = Not Run

SPECompG\_base2012 = 34.8

OMP2012 license:9017

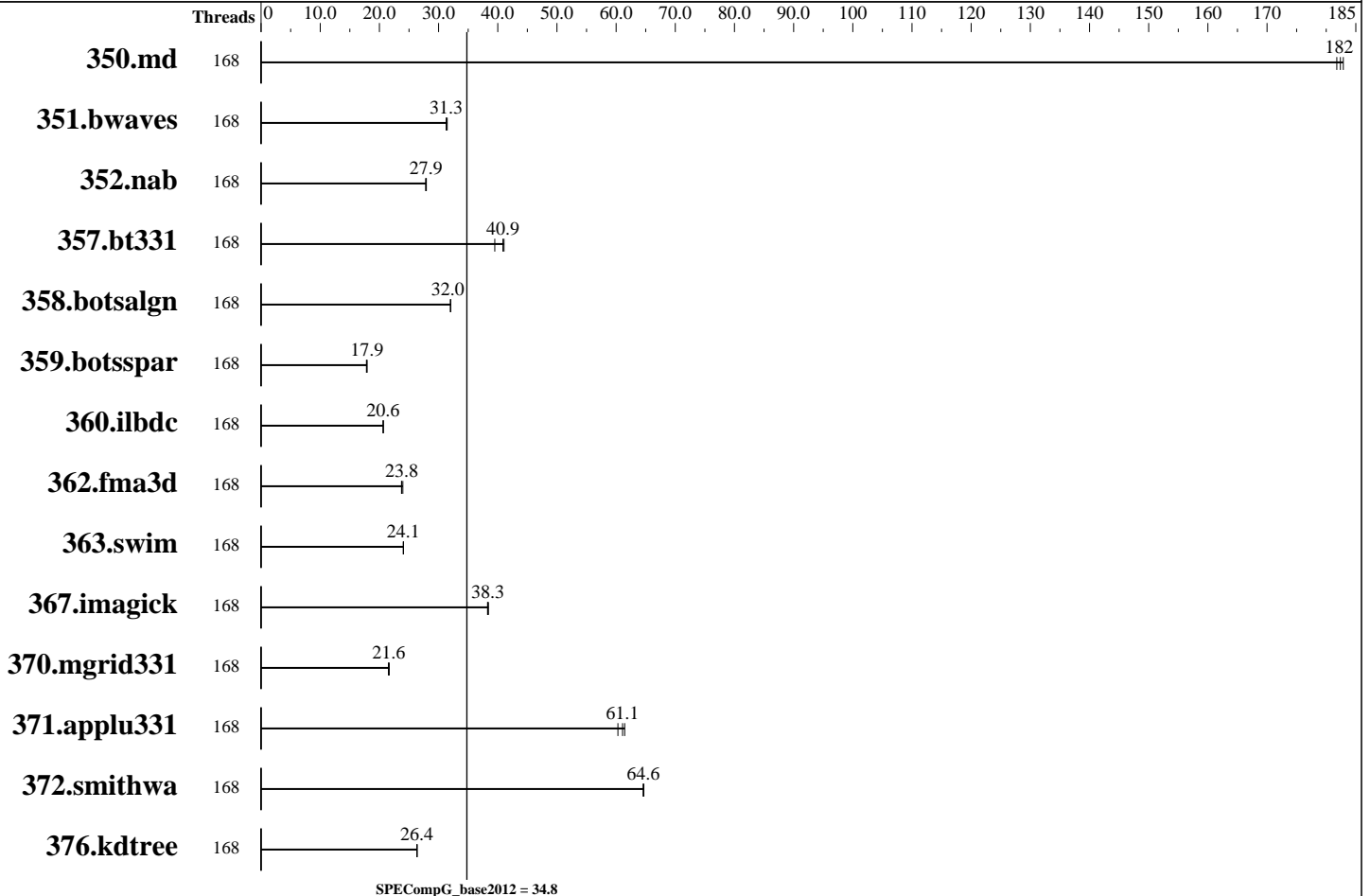
Test sponsor: Lenovo Global Technology

Tested by: Lenovo Global Technology

Test date: Mar-2019

Hardware Availability: Apr-2019

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	<u>25.4</u>	<u>182</u>	25.3	183							
351.bwaves	168	144	31.5	145	31.3	<b>145</b>	<b>31.3</b>							
352.nab	168	140	27.8	139	27.9	<b>140</b>	<b>27.9</b>							
357.bt331	168	<b>116</b>	<b>40.9</b>	115	41.1	120	39.5							
358.botsalgn	168	136	32.0	<b>136</b>	<b>32.0</b>	136	32.0							
359.botsspar	168	295	17.8	<b>293</b>	<b>17.9</b>	293	17.9							
360.ilbdc	168	172	20.6	<b>172</b>	<b>20.6</b>	173	20.6							
362.fma3d	168	160	23.7	<b>160</b>	<b>23.8</b>	159	24.0							
363.swim	168	189	24.0	<b>188</b>	<b>24.1</b>	188	24.1							
367.imagick	168	<b>184</b>	<b>38.3</b>	184	38.3	183	38.4							
370.mgrid331	168	205	21.5	204	21.7	<b>205</b>	<b>21.6</b>							
371.applu331	168	98.6	61.5	100	60.3	<b>99.2</b>	<b>61.1</b>							
372.smithwa	168	<b>83.0</b>	<b>64.6</b>	83.0	64.6	82.9	64.7							
376.kdtree	168	171	26.3	<b>171</b>	<b>26.4</b>	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 $# 8f8c0fe9e19c658963ale67685e50647
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: -mmodel=medium

363.swim: -mmodel=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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Standard Performance Evaluation Corporation

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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>

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For questions about this result, please contact the tester.  
For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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