



SPEC® OMPG2012 Result

Copyright 2012-2018 Standard Performance Evaluation Corporation

Lenovo Global Technology ThinkSystem SR950

SPECompG_peak2012 = Not Run

SPECompG_base2012 = 32.9

OMP2012 license:28

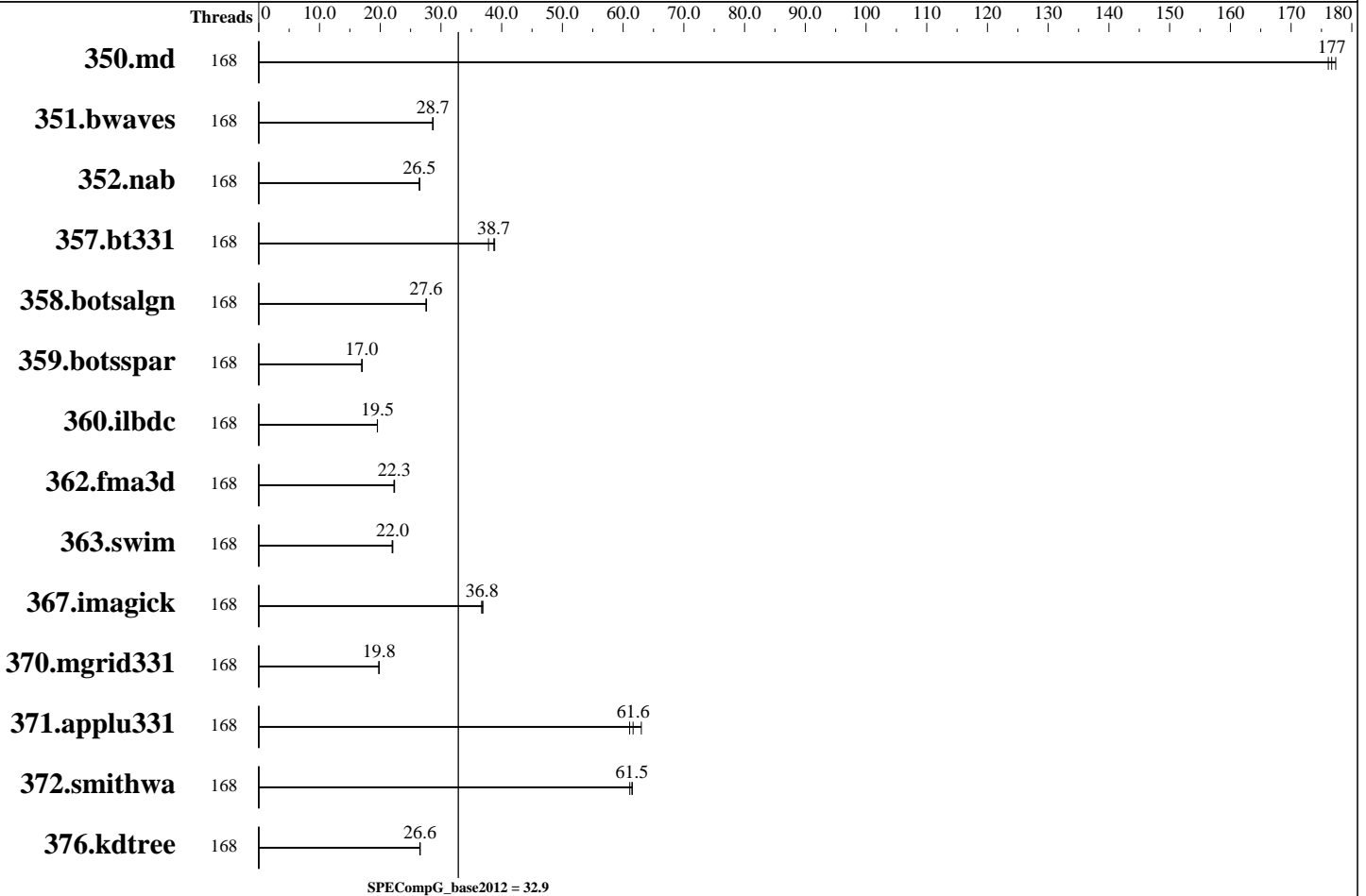
Test sponsor: Lenovo Global Technology

Tested by: Lenovo Global Technology

Test date: Aug-2018

Hardware Availability: Aug-2017

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	<u>26.2</u>	<u>177</u>							
351.bwaves	168	158	28.7	158	28.6	<u>158</u>	<u>28.7</u>							
352.nab	168	147	26.5	147	26.5	<u>147</u>	<u>26.5</u>							
357.bt331	168	<u>122</u>	<u>38.7</u>	125	37.8	122	38.8							
358.botsalgn	168	157	27.6	158	27.6	<u>158</u>	<u>27.6</u>							
359.botsspar	168	308	17.0	310	17.0	<u>309</u>	<u>17.0</u>							
360.ilbdc	168	<u>182</u>	<u>19.5</u>	182	19.5	182	19.5							
362.fma3d	168	170	22.4	<u>170</u>	<u>22.3</u>	171	22.3							
363.swim	168	205	22.1	<u>205</u>	<u>22.0</u>	206	22.0							
367.imagick	168	190	36.9	191	36.7	<u>191</u>	<u>36.8</u>							
370.mgrid331	168	223	19.8	<u>223</u>	<u>19.8</u>	223	19.8							
371.applu331	168	<u>98.3</u>	<u>61.6</u>	96.2	63.0	99.2	61.1							
372.smithwa	168	<u>87.2</u>	<u>61.5</u>	87.7	61.1	87.1	61.5							
376.kdtree	168	<u>169</u>	<u>26.6</u>	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 $# 8f8c0fe9e19c658963ale67685e50647
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)



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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: -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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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>

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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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