Lenovo Global Technology
ThinkSystem SR950

SPECompG_peak2012 = Not Run
SPECompG_base2012 = 40.6

OMP2012 license: 28
Test sponsor: Lenovo Global Technology
Tested by: Lenovo Global Technology

Test date: Jul-2018
Hardware Availability: Aug-2017
Software Availability: Aug-2018

350.md
351.bwaves
352.nab
357.bt331
358.botsalg
359.botsspar
360.ilbdc
362.fma3d
363.swim
367.imagick
370.mgrid331
371.applu331
372.smithwa
376.kdtree

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: 112 cores, 4 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: 768 GB (48 x 16 GB 2Rx8 PC4-2666V)
Disk Subsystem: 0.96TB NVMe SSD
Other Hardware: None
Base Threads Run: 224
Minimum Peak Threads: --

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

Continued on next page
## Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Threads</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Base</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Peak</th>
<th>Seconds</th>
<th>Ratio</th>
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</tbody>
</table>

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 Tue Jul 24 20:09:25 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

```plaintext
model name : Intel(R) Xeon(R) Platinum 8180 CPU @ 2.50GHz
4 "physical id"s (chips)
224 "processors"
```

Continued on next page
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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.)

```plaintext
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 2: 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

```plaintext
MemTotal: 791969344 kB
HugePages_Total: 0
Hugepagesize: 2048 kB
```

From /etc/*release* /etc/*version*

```plaintext
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)"
```

run-level 3 Jul 24 13:40

SPECompG_peak2012 is set to: /home/omp2012
Filesystem Type Size Used Avail Use% Mounted on
/dev/mapper/rhel-home xfs 839G 16G 823G 2% /home

Additional information from dmidecode:

```plaintext
BIOS Lenovo -[PSE113P-1.30]- 06/14/2018
Memory:
48x NO DIMM NO DIMM
48x Samsung M393A2K43BB1-CTD 16 GB 2666 MHz 2 rank
```

(END of data from sysinfo program)
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SPEC OMPG2012 Result

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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: -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

Fortran benchmarks:
   -O2 -qopenmp -ipo -xHOST -align array64byte
Lenovo Global Technology  
ThinkSystem SR950  

**SPEC OMPG2012 Result**

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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-Platform-Flags-V1.2-SKL-C.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-Platform-Flags-V1.2-SKL-C.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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