## Lenovo Global Technology
**ThinkSystem SR860 V2**

### SPECCompG_peak2012 = Not Run

### SPECompG_base2012 = 50.2

#### OMP2012 license: 28

**Test date:** Aug-2020  
**Hardware Availability:** Oct-2020

| Threads | 15.0 | 30.0 | 45.0 | 60.0 | 75.0 | 90.0 | 105 | 120 | 135 | 150 | 165 | 180 | 195 | 210 | 225 | 240 | 255 | 270 | 285 | 300 | 315 | 330 | 345 | 360 | 375 |
|---------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 350.md  | 224  |      |      |      |      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 351.bwaves | 224 | 42.9 |      |      |      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 352.nab  | 224  | 38.5 |      |      |      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 357.bt331| 224  |      | 57.5 |      |      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 358.botsalgn | 224 | 42.0 |      |      |      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 359.botsspar | 224 | 23.8 |      |      |      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 360.ilbdc | 224 | 28.8 |      |      |      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 362.fma3d | 224 | 31.1 |      |      |      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 363.swim  | 224  |      | 33.9 |      |      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 367.imagick | 224 |      |      |      |      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 370.mgrid331 | 224 | 28.9 |      |      |      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 371.applu331 | 224 |      |      |      |      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 372.smithwa | 224 |      |      |      |      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 376.kdmtree | 224 |      |      |      |      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

### Hardware
- **CPU Name:** Intel Xeon Platinum 8380H  
- **CPU Characteristics:** Intel Turbo Boost Technology up to 4.30 GHz  
- **CPU MHz:** 2900  
- **CPU MHz Maximum:** 4300  
- **FPU:** Integrated  
- **CPU(s) enabled:** 112 cores, 4 chips, 28 cores/chip, 2 threads/core  
- **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:** 1536 GB (48 x 32 GB 2Rx8 PC4-3200AA-R)  
- **Disk Subsystem:** 1 x 1 TB SATA Hard Drive  
- **Other Hardware:** None  
- **Base Threads Run:** 224  
- **Minimum Peak Threads:** --  

### Software
- **Operating System:** Red Hat Enterprise Linux Server release 8.2  
- **Compiler:** C/C++/Fortran: Version 19.1.2.254 of Intel Parallel Studio for Linux  
- **Auto Parallel:** No  
- **File System:** xfs  
- **System State:** Multi-user, run level 3  
- **Base Pointers:** 64-bit  
- **Peak Pointers:** Not Applicable  
- **Other Software:** None  

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Continued on next page
Lenovo Global Technology
ThinkSystem SR860 V2

SPECompG_peak2012 = Not Run
SPECompG_base2012 = 50.2

OMP2012 license: 28
Test sponsor: Lenovo Global Technology
Tested by: Lenovo Global Technology
Maximum Peak Threads: --

Results Table

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<th>Threads</th>
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<th>Ratio</th>
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</table>

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

Platform Notes

Sysinfo program /home/omp2012/Docs/sysinfo
Revision 563 of 2016-06-10 (097295389cf6073d8c3b03fa376740a5)
running on Narvi-SIT Thu Aug 13 22:51:30 2020

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 8380H CPU @ 2.90GHz
4 "physical id"s (chips)
224 "processors"
cores, siblings (Caution: counting these is hw and system dependent. 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 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
Lenovo Global Technology
ThinkSystem SR860 V2

SPEC OMPG2012 Result
Copyright 2012-2020 Standard Performance Evaluation Corporation

SPECompG_peak2012 = Not Run
SPECompG_base2012 = 50.2

OMP2012 license: 28
Test sponsor: Lenovo Global Technology
Tested by: Lenovo Global Technology
Test date: Aug-2020
Hardware Availability: Oct-2020
Software Availability: Oct-2020

Platform Notes (Continued)

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<th>Physical 3:</th>
<th>Cores</th>
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<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
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</tbody>
</table>

From /proc/meminfo
MemTotal: 1584435456 kB
HugePages_Total: 0
Hugepagesize: 2048 kB

From /etc/*release* /etc/*version*
os-release:
NAME="Red Hat Enterprise Linux"
VERSION="8.2 (Ootpa)"
ID="rhel"
ID_LIKE="fedora"
PLATFORM_ID="platform:el8"
PRETTY_NAME="Red Hat Enterprise Linux 8.2 (Ootpa)"
ANSI_COLOR="0;31"
redhat-release: Red Hat Enterprise Linux release 8.2 (Ootpa)
system-release: Red Hat Enterprise Linux release 8.2 (Ootpa)
system-release-cpe: cpe:/o:redhat:enterprise_linux:8.2:ga

uname -a:
Linux Narvi-SIT 4.18.0-193.el8.x86_64 #1 SMP Fri Mar 27 14:35:58 UTC 2020
x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Aug 13 21:14

SPEC is set to: /home/omp2012
Filesystem | Type | Size | Used | Avail | Use% | Mounted on
--- | --- | --- | --- | --- | --- | ---
/dev/mapper/rhel-home | xfs | 178G | 40G | 138G | 23% | /home

Additional information from dmidecode:
Warning: Use caution when you interpret this section. The 'dmidecode' program reads system data which is "intended to allow hardware to be accurately determined", but the intent may not be met, as there are frequent changes to hardware, firmware, and the "DMTF SMBIOS" standard.

BIOS Lenovo M5E103H-1.00 06/24/2020
Memory:
48x Samsung M393A4G43AB3-CWE 32 GB 2 rank 3200 MT/s

(End of data from sysinfo program)

General Notes

General OMP Library Settings
ENV_KMP_AFFINITY = granularity=fine,compact,1,0
ENV_KMP_BLOCKTIME = infinite

Continued on next page
Lenovo Global Technology
ThinkSystem SR860 V2

SPECompG_peak2012 = Not Run
SPECompG_base2012 = 50.2

General Notes (Continued)

ENV_KMP_LIBRARY = turnaround
ENV_KMP_DETERMINISTIC_REDUCTION = TRUE
ENV_KMP_STACKSIZE = 256M
ENV_OMP_MAX_ACTIVE_LEVELS = 1
ENV_OMP_THREADS = 224
ENV_OMP_WAIT_POLICY = PASSIVE
ENV_OMP_SCHEDULE = static
ENV_OMP_DYNAMIC = FALSE
ENV_OMP_PROC_BIND = master

BIOS Setting notes:
Choose Operating Mode set to Maximum Performance
SNC = Enabled

Yes: The test sponsor attests, as of date of publication, the CVE-2017-5754 (Meltdown) is mitigated in the system as tested and documented.
Yes: The test sponsor attests, as of date of publication, the 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-2017-5754 (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: -mcmode=medium
363.swim: -mcmode=medium
367.imagick: -std=c99
Lenovo Global Technology
ThinkSystem SR860 V2

SPECompG_peak2012 = Not Run
SPECompG_base2012 = 50.2

Base Optimization Flags

C benchmarks:
-03 -qopenmp -xCORE-AVX512 -ipo -fp-model fast=2 -no-prec-div
-no-prec-sqrt -qopt-zmm-usage=high -qopt-malloc-options=0
-fomit-frame-pointer -ansi-alias -shared-intel

C++ benchmarks:
-03 -qopenmp -xCORE-AVX512 -ipo -fp-model fast=2 -no-prec-div
-no-prec-sqrt -qopt-zmm-usage=high -qopt-malloc-options=0
-fomit-frame-pointer -ansi-alias -shared-intel

Fortran benchmarks:
-03 -qopenmp -xCORE-AVX512 -ipo -fp-model fast=2 -no-prec-div
-no-prec-sqrt -qopt-zmm-usage=high -qopt-malloc-options=0
-fomit-frame-pointer -align array64byte

The flags file that was used to format this result can be browsed at

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

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For other inquiries, please contact webmaster@spec.org.

Tested with SPEC OMP2012 v1.1.
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