Huawei
Huawei Kunlun 9008 V5 (Intel Xeon Platinum 8280, 2.7 GHz)

<table>
<thead>
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<tr>
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<td>345</td>
<td>360</td>
<td>375</td>
<td>448</td>
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</tbody>
</table>

SPECompG_peak2012 = Not Run
SPECompG_base2012 = 48.6

Hardware
CPU Name: Intel Xeon Platinum 8280
CPU Characteristics: Intel Turbo Boost Technology up to 4.00 GHz
CPU MHz: 2700
CPU MHz Maximum: 4000
FPU: Integrated
CPU(s) enabled: 224 cores, 8 chips, 28 cores/chip, 2 threads/core
CPU(s) orderable: 2,4,6,8 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: 1536 GB (48 x 32 GB 2Rx4 PC4-2933Y-R)
Disk Subsystem: 2x900 GB 10 K RPM SAS HDD, RAID 0
Other Hardware: None
Base Threads Run: 448
Minimum Peak Threads: --

Software
Operating System: SUSE Linux Enterprise Server 12 SP4 4.12.14-94.41-default
Compiler: C/C++: Version 19.0.1.144 of Intel C++ Studio XE for Linux; Fortran: Version 19.0.1.144 of Intel Fortran
Auto Parallel: No
File System: btrfs
System State: Default
Base Pointers: 64-bit
Peak Pointers: Not Applicable
Other Software: None

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**SPEC OMPG2012 Result**

SPECompG_peak2012 = Not Run
SPECompG_base2012 = 48.6

OMP2012 license: 27
Test sponsor: Huawei
Tested by: Huawei

Maximum Peak Threads: --

### Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Threads</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
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<td>68.4</td>
<td>65.8</td>
<td>68.9</td>
<td>65.3</td>
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</tbody>
</table>

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

### Platform Notes

Sysinfo program /home/omp/Docs/sysinfo
$Rev: 395 $ $Date:: 2012-07-25 #$ 8f8c0fe9e19c658963a1e67685e50647
running on linux-2yo1 Mon Mar 4 14:11:43 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 Xeon Platinum 8280 CPU @ 2.70GHz
8 "physical id"s (chips)
448 "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
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

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Platform Notes (Continued)

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
physical 4: 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 5: 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 6: 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 7: 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: 1583360772 kB
HugePages_Total: 524288
Hugepagesize: 2048 kB

/usr/bin/lsb_release -d
SUSE Linux Enterprise Server 12 SP4

From /etc/*release* /etc/*version*
SuSE-release:
  SUSE Linux Enterprise Server 12 (x86_64)
  VERSION = 12
  PATCHLEVEL = 4
  # This file is deprecated and will be removed in a future service pack or release.
  # Please check /etc/os-release for details about this release.
  os-release:
    NAME="SLES"
    VERSION="12-SP4"
    VERSION_ID="12.4"
    PRETTY_NAME="SUSE Linux Enterprise Server 12 SP4"
    ID="sles"
    ANSI_COLOR="0;32"
    CPE_NAME="cpe:/o:suse:sles:12:sp4"

uname -a:
(3090901) x86_64 x86_64 x86_64 GNU/Linux

run-level 5 Mar 4 14:09

SPEC is set to: /home/omp
Filesystem Type Size Used Avail Use% Mounted on
/dev/sda4 xfs 1.6T 52G 1.5T 4% /home

Additional information from dmidecode:
BIOS INSYDE Corp. 9.25 02/15/2019
Memory:
  48x NO DIMM NO DIMM
  48x Samsung M393A4K40CB2-CVF 32 GB 2933 MHz 2 rank
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Test sponsor: Huawei
Tested by: Huawei

Platform Notes (Continued)

(End of data from sysinfo program)

General Notes

Power profile set with:
cpupower -c all frequency-set -g performance

System settings notes:
Intel Turbo Boost Technology (Turbo) : Enabled
Memory RAS Configuration set to Maximum Performance

General Notes and Enviroment variables
ENV_KMP_BLOCKTIME=infinite
ENV_KMP_DETERMINISTIC_REDUCTION=1
ENV_OMP_DYNAMIC=FALSE
ENV_KMP_LIBRARY=turnaround
ENV_KMP_SCHEDULE=static,balanced
ENV_KMP_STACKSIZE=256M
ENV_OMP_NESTED=FALSE
ENV_OMP_NUM_THREADS=448

General base OMP Library Settings

BIOS settings:
XPT Prefetch Set to Enabled
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
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OMP2012 license: 27
Test sponsor: Huawei
Tested by: Huawei
Test date: Mar-2019
Hardware Availability: Jun-2019
Software Availability: Feb-2019

Base Portability Flags

350.md: -FR
357.bt331: -mcmodel=medium
363.swim: -mcmodel=medium
367.imagick: -std=c99

Base Optimization Flags

C benchmarks:
-03 -qopenmp -ipo -xCORE-AVX512 -fp-model fast=2 -no-prec-div
-no-prec-sqrt -ansi-alias

C++ benchmarks:
-03 -qopenmp -ipo -xCORE-AVX512 -fp-model fast=2 -no-prec-div
-no-prec-sqrt -ansi-alias

Fortran benchmarks:
-03 -qopenmp -ipo -xCORE-AVX512 -fp-model fast=2 -no-prec-div
-no-prec-sqrt -align all

The flags files that were used to format this result can be browsed at
http://www.spec.org/omp2012/flags/Huawei_Intel-ic17.0-linux64.html
http://www.spec.org/omp2012/flags/Huawei-Platform-Settings-SKL-V1.7.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/omp2012/flags/Huawei_Intel-ic17.0-linux64.xml
http://www.spec.org/omp2012/flags/Huawei-Platform-Settings-SKL-V1.7.xml

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For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

Tested with SPEC OMP2012 v1.0.
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