Huawei

Huawei 2288H V5 (Intel Xeon Platinum 8280, 2.7 GHz)

**SPECompG_peak2012 = Not Run**

**SPECompG_base2012 = 25.9**

| Threads | 5.00 | 10.0 | 15.0 | 20.0 | 25.0 | 30.0 | 35.0 | 40.0 | 45.0 | 50.0 | 55.0 | 60.0 | 65.0 | 70.0 | 75.0 | 80.0 | 85.0 | 90.0 | 95.0 | 100 | 105 | 110 | 115 | 120 | 130 |
|---------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 350.md  | 112  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 351.bwaves | 112 | 23.0 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 352.nab  | 112  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 357.bt331| 112  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 358.botsalgn | 112 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 359.botsspar | 112 | 14.2 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 360.ilbdc | 112 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 362.fma3d | 112 | 17.1 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 363.swim  | 112  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 367.imagick | 112 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 370.mgrid331 | 112 | 15.5 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 371.applu331 | 112 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 372.smithwa | 112 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| 376.kdtree | 112 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |

**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:** 56 cores, 2 chips, 28 cores/chip, 2 threads/core
- **CPU(s) orderable:** 1,2 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:** 384 GB (24 x 16 GB 2Rx8 PC4-2933Y-R)
- **Disk Subsystem:** 1 X 480 GB SSD SAS
- **Other Hardware:** None
- **Base Threads Run:** 112
- **Minimum Peak Threads:** --

**Software**

- **Operating System:** SUSE Linux Enterprise Server 12 SP4 (x86_64)
- **Compiler:** C/C++/Fortran: Version 19.0.3.199 of Intel Composer for Linux Build 20190206
- **Auto Parallel:** No
- **File System:** xfs
- **System State:** Run Level 3 (multi-user)
- **Base Pointers:** 64-bit
- **Peak Pointers:** Not Applicable
- **Other Software:** None
Huawei

Huawei 2288H V5 (Intel Xeon Platinum 8280, 2.7 GHz)

SPECompG_peak2012 = Not Run
SPECompG_base2012 = 25.9

OMP2012 license:
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>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>350.md</td>
<td>112</td>
<td>36.7</td>
<td></td>
<td>126</td>
<td></td>
<td>36.6</td>
<td>127</td>
</tr>
<tr>
<td>351.bwaves</td>
<td>112</td>
<td>197</td>
<td>23.0</td>
<td>197</td>
<td>23.0</td>
<td>197</td>
<td>23.0</td>
</tr>
<tr>
<td>352.nab</td>
<td>112</td>
<td>175</td>
<td>22.2</td>
<td>176</td>
<td>22.1</td>
<td>175</td>
<td>22.2</td>
</tr>
<tr>
<td>357.bt331</td>
<td>112</td>
<td>148</td>
<td>31.9</td>
<td>149</td>
<td>31.9</td>
<td>149</td>
<td>31.9</td>
</tr>
<tr>
<td>358.botsalgn</td>
<td>112</td>
<td>204</td>
<td>21.3</td>
<td>204</td>
<td>21.3</td>
<td>204</td>
<td>21.3</td>
</tr>
<tr>
<td>359.botsspar</td>
<td>112</td>
<td>371</td>
<td>14.2</td>
<td>371</td>
<td>14.2</td>
<td>372</td>
<td>14.1</td>
</tr>
<tr>
<td>360.ilbdc</td>
<td>112</td>
<td>219</td>
<td>16.2</td>
<td>219</td>
<td>16.2</td>
<td>219</td>
<td>16.2</td>
</tr>
<tr>
<td>362.fma3d</td>
<td>112</td>
<td>222</td>
<td>17.1</td>
<td>226</td>
<td>16.8</td>
<td>220</td>
<td>17.3</td>
</tr>
<tr>
<td>363.swim</td>
<td>112</td>
<td>262</td>
<td>17.3</td>
<td>262</td>
<td>17.3</td>
<td>263</td>
<td>17.2</td>
</tr>
<tr>
<td>367.imagick</td>
<td>112</td>
<td>250</td>
<td>28.1</td>
<td></td>
<td></td>
<td>251</td>
<td>28.1</td>
</tr>
<tr>
<td>370.mgrid331</td>
<td>112</td>
<td>285</td>
<td>15.5</td>
<td>286</td>
<td>15.5</td>
<td>286</td>
<td>15.5</td>
</tr>
<tr>
<td>371.applu331</td>
<td>112</td>
<td>119</td>
<td>51.0</td>
<td>121</td>
<td>50.0</td>
<td>120</td>
<td>50.5</td>
</tr>
<tr>
<td>372.smithwa</td>
<td>112</td>
<td>109</td>
<td>49.3</td>
<td>109</td>
<td>49.4</td>
<td>109</td>
<td>49.3</td>
</tr>
<tr>
<td>376.kdtree</td>
<td>112</td>
<td>239</td>
<td>18.8</td>
<td>239</td>
<td>18.9</td>
<td>238</td>
<td>18.9</td>
</tr>
</tbody>
</table>

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

Platform Notes

Sysinfo program /omp201903199/Docs/sysinfo
$Rev: 395 $ $Date:: 2012-07-25 #$ 8f8c0fe9e19c658963a1e67685e50647
running on linux-fxye Tue Nov 20 00:52:50 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 8280 CPU @ 2.70GHz
  2 "physical id"s (chips)
  112 "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
  cache size : 39424 KB

Continued on next page
Huawei

Huawei 2288H V5 (Intel Xeon Platinum 8280, 2.7 GHz)

SPECompG_peak2012 = Not Run
SPECompG_base2012 = 25.9

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

Platform Notes (Continued)

From /proc/meminfo
   MemTotal:       394430744 kB
   HugePages_Total:       0
   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 3 Nov 19 19:53

SPEC is set to: /omp201903199
   Filesystem  Type  Size  Used  Avail  Use%  Mounted on
   /dev/sda3  xfs  425G  55G  371G  13%  /

Additional information from dmidecode:
   BIOS INSYDE Corp. 6.36 02/15/2019
   Memory:
      24x Samsung M393A2K43CB2-CVF 16 GB 2933 MHz 2 rank

(End of data from sysinfo program)

General Notes
---------------------------------------------------------------------------------------------------
BIOS settings notes:
   Transparent Huge Pages enabled with:
      echo always > /sys/kernel/mm/transparent_hugepage/enabled
BIOS settings notes:
   Intel HyperThreading Technology set to Enabled
   CPU performance set to Enterprise

Continued on next page
Huawei

Huawei 2288H V5 (Intel Xeon Platinum 8280, 2.7 GHz)

SPECompG_peak2012 = Not Run
SPECompG_base2012 = 25.9

General Notes (Continued)

Power Performance Tuning set to OS
Sub Numa Clustering (SNC) set to Disabled
IMC Interleaving set to Auto

General OMP Library Settings
ENV_KMP_LIBRARY=turnaround
ENV_OMP_SCHEDULE=static
ENV_KMP_BLOCKTIME=200
ENV_KMP_STACKSIZE=702M
ENV_OMP_DYNAMIC=FALSE
ENV_OMP_NESTED=FALSE

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

Base Optimization Flags

C benchmarks:
  -O3 -qopenmp -ipo -xCORE-AVX512 -ansi-alias

C++ benchmarks:
  -O3 -qopenmp -ipo -xCORE-AVX512 -ansi-alias
Huawei
Huawei 2288H V5 (Intel Xeon Platinum 8280, 2.7 GHz)

<table>
<thead>
<tr>
<th>SPEC OMPG2012 Result</th>
<th>Huawei 2288H V5 (Intel Xeon Platinum 8280, 2.7 GHz)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test sponsor:</td>
<td>Huawei</td>
</tr>
<tr>
<td>Tested by:</td>
<td>Huawei</td>
</tr>
<tr>
<td>OMP2012 license:</td>
<td>27</td>
</tr>
<tr>
<td>Test date:</td>
<td>Mar-2019</td>
</tr>
<tr>
<td>Hardware Availability:</td>
<td>Jul-2017</td>
</tr>
<tr>
<td>Software Availability:</td>
<td>Mar-2019</td>
</tr>
</tbody>
</table>

SPECompG_peak2012 = Not Run
SPECompG_base2012 = 25.9

Base Optimization Flags (Continued)

Fortran benchmarks:
-03 -qopenmp -ipo -xCORE-AVX512 -align array64byte

The flags files that were used to format this result can be browsed at
http://www.spec.org/omp2012/flags/Intel-ic18.0-linux64.20190329.html
http://www.spec.org/omp2012/flags/Huawei-Platform-Settings-Omp2012-Cascade-V1.0.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/omp2012/flags/Intel-ic18.0-linux64.20190329.xml
http://www.spec.org/omp2012/flags/Huawei-Platform-Settings-Omp2012-Cascade-V1.0.xml

SPEC is a registered trademark of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

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

Tested with SPEC OMP2012 v1.0.
Originally published on 2 April 2019.