Cisco Systems

Cisco UCS C240 M5 (Intel Xeon Platinum 8280, 2.70 GHz)

SPECompG_peak2012 = Not Run
SPECompG_base2012 = 12.0

OMPG2012 license: 9019
Test sponsor: Cisco Systems
Tested by: Cisco Systems
Test date: Mar-2019
Hardware Availability: Apr-2019
Software Availability: Mar-2019

Threads

<table>
<thead>
<tr>
<th>Program</th>
<th>Threads</th>
<th>SPECompG_base2012</th>
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<tr>
<td>350.md</td>
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<tr>
<td>351.bwaves</td>
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<td>357.bt331</td>
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<td>363.swim</td>
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<td>367.imagick</td>
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<td>371.applu331</td>
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<td>372.smithwa</td>
<td>56</td>
<td>11.8</td>
</tr>
<tr>
<td>376.kdmtree</td>
<td>56</td>
<td>9.24</td>
</tr>
</tbody>
</table>

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: 28 cores, 1 chip, 28 cores/chip, 2 threads/core
CPU(s) orderable: 1 Chips
Primary Cache: 32 KB 1 + 32 KB D on chip per core
Secondary Cache: 1 MB 1+D on chip per core
L3 Cache: 38.5 MB 1+D on chip per chip
Other Cache: None
Memory: 382 GB (12 x 32 GB 2Rx4 PC4-2933V-R)
Disk Subsystem: 1 X 480 GB SSD SAS
Other Hardware: None
Base Threads Run: 56
Minimum Peak Threads: --

Software

Operating System: SUSE Linux Enterprise Server 15 (x86_64)
Compiler: C/C++/Fortran; Version 19.0.1.144 of Intel Composer for Linux Build 20181018
Auto Parallel: No
File System: btrfs
System State: Run Level 3 (multi-user)
Base Pointers: 64-bit
Peak Pointers: Not Applicable
Other Software: None

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Maximum Peak Threads: --

Results Table

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<tr>
<th>Benchmark</th>
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<th>Ratio</th>
<th>Seconds</th>
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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/OMP2012/Docs/sysinfo
Revision 563 of 2016-06-10 (097295389cf6073d8c3b03fa376740a5)
running on linux-8ofr Tue Mar 12 10:36:14 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(R) Xeon(R) Platinum 8280 CPU @ 2.70GHz
1 "physical id"s (chips)
56 "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 18 19 20 21 22 24
25 26 27 28 29 30
cache size : 39424 KB

From /proc/meminfo
MemTotal: 394840428 kB
Continued on next page
Cisco Systems

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Platform Notes (Continued)

HugePages_Total: 0
Hugepagesize: 2048 kB

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

os-release:
NAME="SLES"
VERSION="15"
VERSION_ID="15"
PRETTY_NAME="SUSE Linux Enterprise Server 15"
ID="sles"
ID_LIKE="suse"
ANSI_COLOR="0;32"
CPE_NAME="cpe:/o:suse:sles:15"

uname -a:
Linux linux-8ofr 4.12.14-23-default #1 SMP Tue May 29 21:04:44 UTC 2018 (cd0437b) x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Mar 11 21:06

SPEC is set to: /home/OMP2012

Filesystem Type Size Used Avail Use% Mounted on
/dev/sda3 btrfs 222G 53G 168G 24% /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 Cisco Systems, Inc. C240M5.4.0.3.34.0301190218 03/01/2019
Memory:
12x 0xCE00 M393A4K40CB2-CVF 32 GB 2 rank 2933 MT/s, configured at 2934 MT/s
12x NO DIMM NO DIMM

(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
  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

Continued on next page

Standard Performance Evaluation Corporation
info@spec.org
http://www.spec.org/
Cisco Systems  
Cisco UCS C240 M5 (Intel Xeon Platinum 8280, 2.70 GHz)  

SPECCompG_peak2012 = Not Run  
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**General Notes (Continued)**

```plaintext
ENV_OMP_SCHEDULE=static  
ENV_KMP_BLOCKTIME=200  
ENV_KMP_STACKSIZE=702M  
ENV_OMP_DYNAMIC=FALSE  
ENV_OMP_NESTED=FALSE
```

------------------------------------------------------------------------

**General base OMP Library Settings**

ENV_KMP_AFFINITY=compact,1

------------------------------------------------------------------------

**Spectre and Meltdown**

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:

```plaintext
icc
```

C++ benchmarks:

```plaintext
icpc
```

Fortran benchmarks:

```plaintext
ifort
```

**Base Portability Flags**

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

**Base Optimization Flags**

C benchmarks:

```plaintext
-03 -qopenmp -ipo -xCORE-AVX512 -ansi-alias
```

C++ benchmarks:

```plaintext
-03 -qopenmp -ipo -xCORE-AVX512 -ansi-alias
```
**Cisco Systems**

Cisco UCS C240 M5 (Intel Xeon Platinum 8280, 2.70 GHz)

<table>
<thead>
<tr>
<th>OMP2012 license</th>
<th>Test date</th>
<th>Test sponsor</th>
<th>Hardware Availability</th>
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</tr>
</tbody>
</table>

**SPECompG_peak2012 = Not Run**

**SPECompG_base2012 = 12.0**

**Base Optimization Flags (Continued)**

Fortran benchmarks:
- -O3 -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-ic19.0-linux64.html](http://www.spec.org/omp2012/flags/Intel-ic19.0-linux64.html)

You can also download the XML flags sources by saving the following links:
- [http://www.spec.org/omp2012/flags/Intel-ic19.0-linux64.xml](http://www.spec.org/omp2012/flags/Intel-ic19.0-linux64.xml)