SPEC® OMPG2012 Result

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Cisco Systems

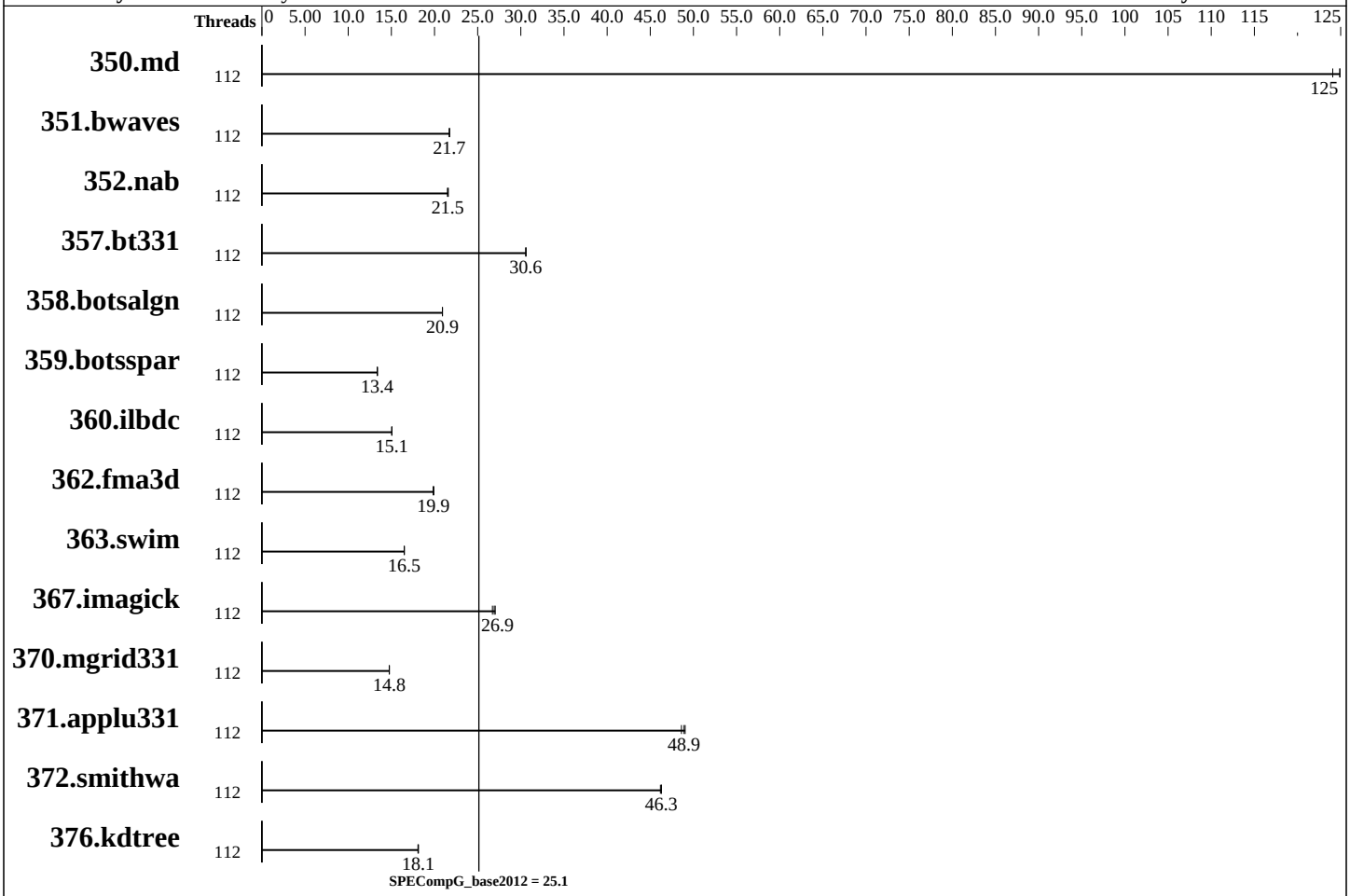
Cisco UCS C240 M5 (Intel Xeon Platinum 8280, 2.70 GHz)

SPECompG_peak2012 = Not Run

SPECompG_base2012 = 25.1

OMP2012 license: 9019
Test sponsor: Cisco Systems
Tested by: Cisco Systems

Test date: Mar-2019
Hardware Availability: Apr-2019
Software Availability: Mar-2019



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:	768 GB (24 x 32 GB 2Rx4 PC4-2933V-R)
Disk Subsystem:	1 X 1.8 TB SAS HDD, 10K RPM
Other Hardware:	None
Base Threads Run:	112
Minimum Peak Threads:	--

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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:	xfs
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

Benchmark	Base							Peak						
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
350.md	112	37.3	124	**37.1**	**125**	37.1	125							
351.bwaves	112	208	21.7	209	21.7	**208**	**21.7**							
352.nab	112	**181**	**21.5**	180	21.6	181	21.5							
357.bt331	112	155	30.6	155	30.6	**155**	**30.6**							
358.botsalgn	112	**208**	**20.9**	208	20.9	208	20.9							
359.botsspar	112	393	13.4	393	13.4	**393**	**13.4**							
360.ilbdc	112	236	15.1	237	15.0	**236**	**15.1**							
362.fma3d	112	191	19.9	192	19.8	**191**	**19.9**							
363.swim	112	275	16.5	275	16.5	**275**	**16.5**							
367.imagick	112	263	26.7	260	27.0	**261**	**26.9**							
370.mgrid331	112	300	14.8	299	14.8	**299**	**14.8**							
371.applu331	112	125	48.6	**124**	**48.9**	124	49.0							
372.smithwa	112	116	46.3	116	46.2	**116**	**46.3**							
376.kdtree	112	**249**	**18.1**	249	18.1	248	18.1							

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-3aqe Sun Apr  7 13:07:19 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
      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
```

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Platform Notes (Continued)

```
From /proc/meminfo
   MemTotal:       791189940 kB
   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-3aqe 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 Apr 7 00:47

SPEC is set to: /home/OMP2012
   Filesystem     Type  Size  Used Avail Use% Mounted on
   /dev/sda2      xfs   1.8T   64G  1.7T   4% /
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:
   24x 0xCE00 M393A4K40CB2-CVF 32 GB 2 rank 2933 MT/s, configured at 2934 MT/s

(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
```

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General Notes (Continued)

```
  ENV_KMP_LIBRARY=turnaround
  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:
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:
-O3 -qopenmp -ipo -xHost -ansi-alias

C++ benchmarks:
-O3 -qopenmp -ipo -xHost -ansi-alias

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Base Optimization Flags (Continued)

Fortran benchmarks:
`-O3 -qopenmp -ipo -xHost -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/Cisco-Platform-Settings-V1.2-revH.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/Cisco-Platform-Settings-V1.2-revH.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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