SPEC® OMPG2012 Result

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Huawei

Huawei 2488H V5 (Intel Xeon Platinum 8180)

SPECompG_peak2012 = NC

SPECompG_base2012 = NC

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

Test date: Jun-2017
Hardware Availability: Jul-2017
Software Availability: Apr-2017

SPEC has determined that this result is not in compliance with the SPEC OMP2012 run and reporting rules. Specifically, the result does not meet the 90 day general availability requirement as the system was not available within 90 days of result publication.

Non-Compliant

Threads
350.md
351.bwaves
352.nab
357.bt331
358.botsalgn
359.botsspar
360.ilbdc
362.fma3d
363.swim
367.imagick
370.mgrid331
371.applu331
372.[illegible]
376.kdtree

Hardware

CPU Name:	Intel Xeon Platinum 8180
CPU Characteristics:	Intel Turbo Boost Technology up to 3.80 GHz
CPU MHz:	2500
CPU MHz Maximum:	3800
FPU:	Integrated

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Software

Operating System:	Red Hat Enterprise Linux Server 7.3 (Maipo) Linux Kernel 3.10.0-514.el7.x86_64

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CPU(s) enabled:	112 cores, 4 chips, 28 cores/chip, 2 threads/core
CPU(s) orderable:	2, 4 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 PC4-2666V, running at 2666 MHz)
Disk Subsystem:	2 x 600 GB 10K RPM SAS
Other Hardware:	None
Base Threads Run:	224
Minimum Peak Threads:	112
Maximum Peak Threads:	224

Compiler:	C/C++/Fortran: Version 17.0.4.196 of Intel Parallel Studio XE 2017 for Linux;
Auto Parallel:	No
File System:	xfs
System State:	run-level 3
Base Pointers:	64-bit
Peak Pointers:	64-bit
Other Software:	None

Results Table

Benchmark	Base							Peak						
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
350.md	224	NC	NC	NC	NC	NC	NC	224	NC	NC	NC	NC	NC	NC
351.bwaves	224	NC	NC	NC	NC	NC	NC	112	NC	NC	NC	NC	NC	NC
352.nab	224	NC	NC	NC	NC	NC	NC	224	NC	NC	NC	NC	NC	NC
357.bt331	224	NC	NC	NC	NC	NC	NC	224	NC	NC	NC	NC	NC	NC
358.botsalgn	224	NC	NC	NC	NC	NC	NC	224	NC	NC	NC	NC	NC	NC
359.botsspar	224	NC	NC	NC	NC	NC	NC	224	NC	NC	NC	NC	NC	NC
360.ilbdc	224	NC	NC	NC	NC	NC	NC	224	NC	NC	NC	NC	NC	NC
362.fma3d	224	NC	NC	NC	NC	NC	NC	224	NC	NC	NC	NC	NC	NC
363.swim	224	NC	NC	NC	NC	NC	NC	112	NC	NC	NC	NC	NC	NC
367.imagick	224	NC	NC	NC	NC	NC	NC	224	NC	NC	NC	NC	NC	NC
370.mgrid331	224	NC	NC	NC	NC	NC	NC	112	NC	NC	NC	NC	NC	NC
371.applu331	224	NC	NC	NC	NC	NC	NC	224	NC	NC	NC	NC	NC	NC
372.smithwa	224	NC	NC	NC	NC	NC	NC	112	NC	NC	NC	NC	NC	NC
376.kdtree	224	NC	NC	NC	NC	NC	NC	224	NC	NC	NC	NC	NC	NC

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

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Platform Notes

```
Sysinfo program /omp2012/Docs/sysinfo
$Rev: 395 $ $Date:: 2012-07-25 #$ 8f8c0fe[illegible]19c658[illegible]11e67685e50647
running on myhost1 Tue Jun 13 00:19:59 2017

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 8180 CPU @ 2.50GHz
      4 "physical id"s (chips)
      224 "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
      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
   cache size : 39424 KB

From /proc/meminfo
   MemTotal:       790643032 kB
   HugePages_Total:   24576
   Hugepagesize:       2048 kB

From /etc/*release* /etc/*version*
   os-release:
      NAME="Red Hat Enterprise Linux Server"
      VERSION="7.3 (Maipo)"
      ID="rhel"
      ID_LIKE="fedora"
      VERSION_ID="7.3"
      PRETTY_NAME="Red Hat Enterprise Linux Server 7.3 (Maipo)"
      ANSI_COLOR="0;31"
```

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Non-Compliant

Platform Notes (Continued)

```
      CPE_NAME="cpe:/o:redhat:enterprise_linux:7.3:GA:server"
   redhat-release: Red Hat Enterprise Linux Server release 7.3 (Maipo)
   system-release: Red Hat Enterprise Linux Server release 7.3 (Maipo)
   system-release-cpe: cpe:/o:redhat:enterprise_linux:7.3:ga:server

uname -a:
   Linux myhost1 3.10.0-514.el7.x86_64 #1 SMP Wed Oct 19 11:24:13 EDT 2016
   x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Jun 12 22:00

SPEC is set to: /omp2012
   Filesystem     Type  Size  Used Avail Use% Mounted on
   /dev/mapper/rhel00-root xfs   197G   53G  134G  29% /

Additional information from dmidecode:
  BIOS INSYDE Corp. 0.09 06/29/2017
  Memory:
   8x NO DIMM NO DIMM
   24x Samsung M393A4K40BB1-CTD 32 GB 2666 MHz 2 rank

(End of data from sysinfo program)
```

General Notes

```
------------------------------------------------------------------------
Power profile set with:
cpupower 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
```

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Non-Compliant

General Notes (Continued)

```
  ENV_KMP_STACKSIZE=256M
  ENV_OMP_NESTED=FALSE
  ENV_OMP_NUM_THREADS=224

------------------------------------------------------------------------
General base OMP Library Settings
  ENV_KMP_AFFINITY=granularity=fine,proclist=[0-55,112-167,56-111,168-223],explicit

------------------------------------------------------------------------
General peak OMP Library Settings
  ENV_KMP_AFFINITY=compact,1

------------------------------------------------------------------------
Per benchmark peak OMP Library Settings

------------------------------------------------------------------------
351.bwaves:peak:
  ENV_KMP_AFFINITY=compact,1
  ENV_OMP_SCHEDULE=static,1

------------------------------------------------------------------------
359.botsspar:peak:
  ENV_KMP_AFFINITY=compact,1
  ENV_OMP_SCHEDULE=guided

------------------------------------------------------------------------
363.swim:peak:
  ENV_KMP_AFFINITY=compact,1

------------------------------------------------------------------------
371.applu331:peak:
  ENV_KMP_AFFINITY=granularity=fine,proclist=[0-55,112-167,56-111,168-223],explicit

------------------------------------------------------------------------
372.smithwa:peak:
  ENV_KMP_AFFINITY=compact,1
```

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Non-Compliant

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 -xCORE-AVX512 -fp-model fast=2 -no-prec-div -no-prec-sqrt -ansi-alias

C++ benchmarks:
-O3 -qopenmp -ipo -xCORE-AVX512 -fp-model fast=2 -no-prec-div -no-prec-sqrt -ansi-alias

Fortran benchmarks:
-O3 -qopenmp -ipo -xCORE-AVX512 -fp-model fast=2 -no-prec-div -no-prec-sqrt -align all

Peak Compiler Invocation

C benchmarks:
icc

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Non-Compliant

Peak Compiler Invocation (Continued)

C++ benchmarks:
icpc

Fortran benchmarks:
ifort

Peak Portability Flags

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

Peak Optimization Flags

C benchmarks:

352.nab: basepeak = yes

358.botsalgn: basepeak = yes

359.botsspar: basepeak = yes

[illegible]: basepeak = yes

372.smithwa: -O3 -qopenmp -ipo -xCORE-AVX512 -fno-alias
-opt-streaming-stores always -opt-malloc-options=1
-ansi-alias

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

Fortran benchmarks:

350.md: -O3 -qopenmp -ipo -xCORE-AVX512 -fno-alias
-opt-malloc-options=1 -fp-model fast=2 -no-prec-div
-no-prec-sqrt -align array64byte

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Non-Compliant

Peak Optimization Flags (Continued)

351.bwaves: -O3 -qopenmp -ipo -xCORE-AVX512 -fno-alias
-fp-model fast=2 -no-prec-div -no-prec-sqrt
-align array64byte

357.bt331: basepeak = yes

360.ilbdc: -O3 -qopenmp -ipo -xCORE-AVX512 -fno-alias
-align array64byte

362.fma3d: -O3 -qopenmp -ipo -xCORE-AVX512 -fno-alias -no-prec-div
-no-prec-sqrt

363.swim: -O3 -qopenmp -ipo -xCORE-AVX512 -fno-alias
-opt-streaming-stores always -opt-malloc-options=3 -align all

370.mgrid331: -O3 -qopenmp -ipo -xCORE-AVX512 -fno-alias
-opt-malloc-options=3 -fp-model strict

371.applu331: -O3 -qopenmp -ipo -xCORE-AVX512 -align all

The flags file that was used to format this result can be browsed at
http://www.spec.org/omp2012/flags/Intel-ic13.0-linux64.20170711.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/omp2012/flags/Intel-ic13.0-linux64.20170711.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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