



# SPEC® OMPG2012 Result

Copyright 2012-2017 Standard Performance Evaluation Corporation

## Intel

SPECompG\_peak2012 = 19.5

Intel Server System R2208WFTZS (Intel Xeon Gold 6148, DDR4-2666 Turbo ON, SMT ON) Endeavour Node

SPECompG\_base2012 = 15.8

OMP2012 license:13

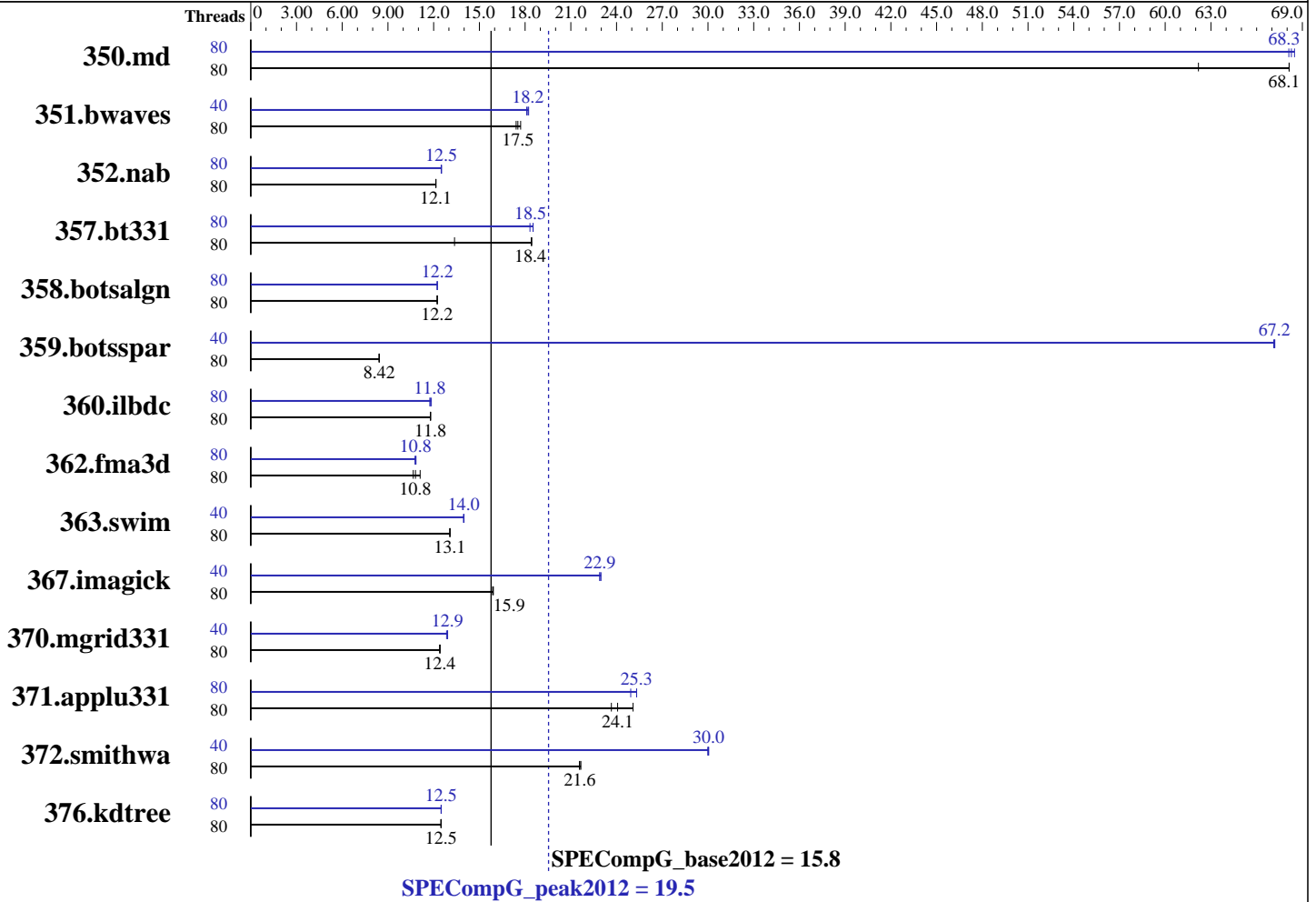
Test date: Jul-2017

Test sponsor: Intel

Hardware Availability: Jul-2017

Tested by: Intel

Software Availability: Sep-2017



### Hardware

CPU Name: Intel Xeon Gold 6148  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.7 GHz  
 CPU MHz: 2400  
 CPU MHz Maximum: 3700  
 FPU: Integrated  
 CPU(s) enabled: 40 cores, 2 chips, 20 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: 27.5 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 192 GB (12 x 16 GB 2Rx4 DDR4-2666 ECC Registered)  
 Disk Subsystem: Panasas ActiveStor 14 (Size 124TB)  
 Other Hardware: --  
 Base Threads Run: 80  
 Minimum Peak Threads: 40

Continued on next page

### Software

Operating System: Oracle Linux Server release 7.3  
 Compiler: C/C++/Fortran: Version 18.0.0.082 of Intel Compiler for Linux Beta Build 20170510  
 Auto Parallel: No  
 File System: Linux ext3  
 System State: Default  
 Base Pointers: 64-bit  
 Peak Pointers: 64-bit  
 Other Software: None



# SPEC OMPG2012 Result

Copyright 2012-2017 Standard Performance Evaluation Corporation

## Intel

Intel Server System R2208WFTZS (Intel Xeon Gold 6148, DDR4-2666 Turbo ON, SMT ON) Endeavour Node

SPECompG\_peak2012 = 19.5

SPECompG\_base2012 = 15.8

OMP2012 license:13

Test sponsor: Intel

Tested by: Intel

Test date: Jul-2017

Hardware Availability: Jul-2017

Software Availability: Sep-2017

Maximum Peak Threads: 80

## Results Table

Benchmark	Base							Peak						
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
350.md	80	74.5	62.2	<b>68.0</b>	<b>68.1</b>	68.0	68.1	80	67.6	68.5	<b>67.8</b>	<b>68.3</b>	68.0	68.1
351.bwaves	80	260	17.4	256	17.7	<b>258</b>	<b>17.5</b>	40	250	18.1	<b>249</b>	<b>18.2</b>	248	18.2
352.nab	80	<b>320</b>	<b>12.1</b>	320	12.1	320	12.2	80	311	12.5	311	12.5	<b>311</b>	<b>12.5</b>
357.bt331	80	355	13.4	257	18.4	<b>258</b>	<b>18.4</b>	80	256	18.5	<b>256</b>	<b>18.5</b>	259	18.3
358.botsalgn	80	355	12.2	<b>355</b>	<b>12.2</b>	356	12.2	80	356	12.2	355	12.2	<b>355</b>	<b>12.2</b>
359.botsspar	80	622	8.44	624	8.42	<b>623</b>	<b>8.42</b>	40	<b>78.2</b>	<b>67.2</b>	78.2	67.1	78.1	67.2
360.ilbdc	80	<b>302</b>	<b>11.8</b>	302	11.8	302	11.8	80	303	11.8	<b>303</b>	<b>11.8</b>	300	11.8
362.fma3d	80	<b>352</b>	<b>10.8</b>	342	11.1	357	10.7	80	353	10.8	351	10.8	<b>351</b>	<b>10.8</b>
363.swim	80	347	13.1	346	13.1	<b>347</b>	<b>13.1</b>	40	325	14.0	324	14.0	<b>324</b>	<b>14.0</b>
367.imagick	80	<b>442</b>	<b>15.9</b>	443	15.9	442	15.9	40	<b>307</b>	<b>22.9</b>	307	22.9	306	23.0
370.mgrid331	80	357	12.4	356	12.4	<b>356</b>	<b>12.4</b>	40	344	12.8	342	12.9	<b>342</b>	<b>12.9</b>
371.applu331	80	256	23.7	242	25.1	<b>252</b>	<b>24.1</b>	80	239	25.3	<b>239</b>	<b>25.3</b>	243	24.9
372.smithwa	80	247	21.7	249	21.6	<b>248</b>	<b>21.6</b>	40	<b>178</b>	<b>30.0</b>	179	30.0	178	30.0
376.kdtree	80	361	12.5	<b>361</b>	<b>12.5</b>	360	12.5	80	360	12.5	<b>360</b>	<b>12.5</b>	360	12.5

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

## Platform Notes

```

Sysinfo program /global/panfs02/innl/aknyazel/OMP2012/1.0/Docs/sysinfo
$Rev: 395 $ $Date:: 2012-07-25 #$ 8f8c0fe9e19c658963ale67685e50647
running on epb343 Tue Jul 4 06:33:00 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) Gold 6148 CPU @ 2.40GHz
 2 "physical id"s (chips)
 80 "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 : 20
siblings : 40
physical 0: cores 0 1 2 3 4 8 9 10 11 12 16 17 18 19 20 24 25 26 27 28
physical 1: cores 0 1 2 3 4 8 9 10 11 12 16 17 18 19 20 24 25 26 27 28
cache size : 28160 KB

```

```

From /proc/meminfo
MemTotal: 196699188 kB

```

Continued on next page



# SPEC OMPG2012 Result

Copyright 2012-2017 Standard Performance Evaluation Corporation

## Intel

Intel Server System R2208WFTZS (Intel Xeon Gold 6148, DDR4-2666 Turbo ON, SMT ON) Endeavour Node

SPECompG\_peak2012 = 19.5

SPECompG\_base2012 = 15.8

OMP2012 license:13

Test sponsor: Intel

Tested by: Intel

Test date: Jul-2017

Hardware Availability: Jul-2017

Software Availability: Sep-2017

### Platform Notes (Continued)

HugePages\_Total: 0  
Hugepagesize: 2048 kB

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

oracle-release: Oracle Linux Server release 7.3

os-release:

NAME="Oracle Linux Server"

VERSION="7.3"

ID="ol"

VERSION\_ID="7.3"

PRETTY\_NAME="Oracle Linux Server 7.3"

ANSI\_COLOR="0;31"

CPE\_NAME="cpe:/o:oracle:linux:7:3:server"

HOME\_URL="https://linux.oracle.com/"

redhat-release: Red Hat Enterprise Linux Server release 7.3 (Maipo)

system-release: Oracle Linux Server release 7.3

system-release-cpe: cpe:/o:oracle:linux:7:3:server

uname -a:

Linux epb343 3.10.0-514.6.2.0.1.el7.x86\_64.knl1 #1 SMP Thu Mar 2 10:19:17 MST 2017 x86\_64 x86\_64 x86\_64 GNU/Linux

run-level 3 Jul 1 13:13

SPEC is set to: /global/panfs02/innl/aknyazel/OMP2012/1.0

Filesystem	Type	Size	Used	Avail	Use%	Mounted on
panfs://36.101.212.1/innl	panfs	108T	40T	69T	37%	/global/panfs02/innl

Additional information from dmidecode:

(End of data from sysinfo program)

### General Notes

=====  
Intel Turbo Boost Technology Enabled (Up to 3.7 Ghz)  
=====

General base OMP Library Settings  
ENV\_KMP\_AFFINITY=compact,0,verbose

=====  
General peak OMP Library Settings  
ENV\_KMP\_AFFINITY=compact,0,verbose

=====  
Per benchmark peak OMP Library Settings

=====  
System settings notes:  
=====

Continued on next page



# SPEC OMPG2012 Result

Copyright 2012-2017 Standard Performance Evaluation Corporation

## Intel

Intel Server System R2208WFTZS (Intel Xeon Gold 6148, DDR4-2666 Turbo ON, SMT ON) Endeavour Node

SPECompG\_peak2012 = 19.5

SPECompG\_base2012 = 15.8

OMP2012 license:13

Test sponsor: Intel

Tested by: Intel

Test date: Jul-2017

Hardware Availability: Jul-2017

Software Availability: Sep-2017

## General Notes (Continued)

General OMP Library Settings

KMP\_LIBRARY=turnaround

KMP\_STACKSIZE=292M

KMP\_BLOCKTIME=infinite

OMP\_DYNAMIC=FALSE

OMP\_NESTED=FALSE

OMP\_SCHEDULE=static

=====

351.bwaves:peak:

ENV\_KMP\_AFFINITY=compact,1,verbose

=====

359.botsspar:peak:

ENV\_KMP\_AFFINITY=compact,1,verbose

=====

363.swim:peak:

ENV\_KMP\_AFFINITY=compact,1,verbose

=====

367.imagick:peak:

ENV\_KMP\_AFFINITY=compact,1,verbose

=====

370.mgrid331:peak:

ENV\_KMP\_AFFINITY=compact,1,verbose

=====

372.smithwa:peak:

ENV\_KMP\_AFFINITY=compact,1,verbose

## Base Compiler Invocation

C benchmarks:

icc

C++ benchmarks:

icpc

Fortran benchmarks:

ifort

## Base Portability Flags

350.md: -FR

357.bt331: -mcmmodel=medium

Continued on next page

Standard Performance Evaluation Corporation

info@spec.org

http://www.spec.org/



# SPEC OMPG2012 Result

Copyright 2012-2017 Standard Performance Evaluation Corporation

**Intel**

Intel Server System R2208WFTZS (Intel Xeon Gold 6148, DDR4-2666 Turbo ON, SMT ON) Endeavour Node

**SPECompG\_peak2012 = 19.5**

**SPECompG\_base2012 = 15.8**

**OMP2012 license:**13

**Test sponsor:** Intel

**Tested by:** Intel

**Test date:** Jul-2017

**Hardware Availability:** Jul-2017

**Software Availability:** Sep-2017

## Base Portability Flags (Continued)

363.swim: -mmodel=medium  
367.imagick: -std=c99

## Base Optimization Flags

C benchmarks:

-O3 -qopenmp -xCORE-AVX512 -fp-model fast=2 -ansi-alias -no-prec-div  
-no-prec-sqrt

C++ benchmarks:

-O3 -qopenmp -xCORE-AVX512 -fp-model fast=2 -ansi-alias -no-prec-div  
-no-prec-sqrt

Fortran benchmarks:

-O3 -qopenmp -xCORE-AVX512 -fp-model fast=2 -ansi-alias -no-prec-div  
-no-prec-sqrt -align all

## Peak Compiler Invocation

C benchmarks:

icc

C++ benchmarks:

icpc

Fortran benchmarks:

ifort

## Peak Portability Flags

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

## Peak Optimization Flags

C benchmarks:

352.nab: -O3 -qopenmp -xCORE-AVX512 -fp-model fast=2 -no-prec-div  
-no-prec-sqrt -fno-alias -qopt-malloc-options=1 -qopt-calloc

Continued on next page



# SPEC OMPG2012 Result

Copyright 2012-2017 Standard Performance Evaluation Corporation

## Intel

Intel Server System R2208WFTZS (Intel Xeon Gold 6148, DDR4-2666 Turbo ON, SMT ON) Endeavour Node

SPECompG\_peak2012 = 19.5

SPECompG\_base2012 = 15.8

OMP2012 license:13

Test sponsor: Intel

Tested by: Intel

Test date: Jul-2017

Hardware Availability: Jul-2017

Software Availability: Sep-2017

## Peak Optimization Flags (Continued)

358.botsalgn: -O3 -qopenmp -xCORE-AVX512 -fp-model fast=2 -fno-alias  
-no-prec-div -no-prec-sqrt

359.botsspar: Same as 358.botsalgn

367.imagick: -O3 -qopenmp -xCORE-AVX2 -fp-model fast=2 -fno-alias  
-no-prec-div -no-prec-sqrt

372.smithwa: Same as 367.imagick

### C++ benchmarks:

-O3 -qopenmp -xCORE-AVX512 -fp-model fast=2 -fno-alias -no-prec-div  
-no-prec-sqrt

### Fortran benchmarks:

350.md: -O3 -qopenmp -xCORE-AVX512 -fp-model fast=2 -fno-alias  
-no-prec-div -no-prec-sqrt -align all

351.bwaves: -O3 -qopenmp -xCORE-AVX2 -fp-model fast=2 -fno-alias  
-no-prec-div -no-prec-sqrt -align all

357.bt331: Same as 350.md

360.ilbdc: -O3 -qopenmp -xCORE-AVX512 -fp-model fast=2 -ansi-alias  
-no-prec-div -no-prec-sqrt -align all

362.fma3d: Same as 350.md

363.swim: -O3 -qopenmp -xCORE-AVX2 -fp-model fast=2 -no-prec-div  
-no-prec-sqrt -fno-alias -qopt-malloc-options=3 -align all

370.mgrid331: Same as 363.swim

371.aplu331: Same as 351.bwaves

The flags file that was used to format this result can be browsed at

<http://www.spec.org/omp2012/flags/Intel-ic13.0-linux64.20170722.html>

You can also download the XML flags source by saving the following link:

<http://www.spec.org/omp2012/flags/Intel-ic13.0-linux64.20170722.xml>



# SPEC OMPG2012 Result

Copyright 2012-2017 Standard Performance Evaluation Corporation

## Intel

Intel Server System R2208WFTZS (Intel Xeon Gold 6148, DDR4-2666 Turbo ON, SMT ON) Endeavour Node

SPECompG\_peak2012 = 19.5

SPECompG\_base2012 = 15.8

**OMP2012 license:**13

**Test sponsor:** Intel

**Tested by:** Intel

**Test date:** Jul-2017

**Hardware Availability:** Jul-2017

**Software Availability:** Sep-2017

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](mailto:webmaster@spec.org).

Tested with SPEC OMP2012 v1.0.  
Report generated on Sat Jul 22 17:30:01 2017 by SPEC OMP2012 PS/PDF formatter v541.  
Originally published on 22 July 2017.