



# SPEC® OMPG2012 Result

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## Bull

(Test Sponsor: Technische Universitaet Dresden)

bullx DLC B720 (Intel Xeon E5-2680 v4 @ 2.40 GHz)

SPECompG\_peak2012 = 9.09

SPECompG\_base2012 = 8.76

OMP2012 license:37A

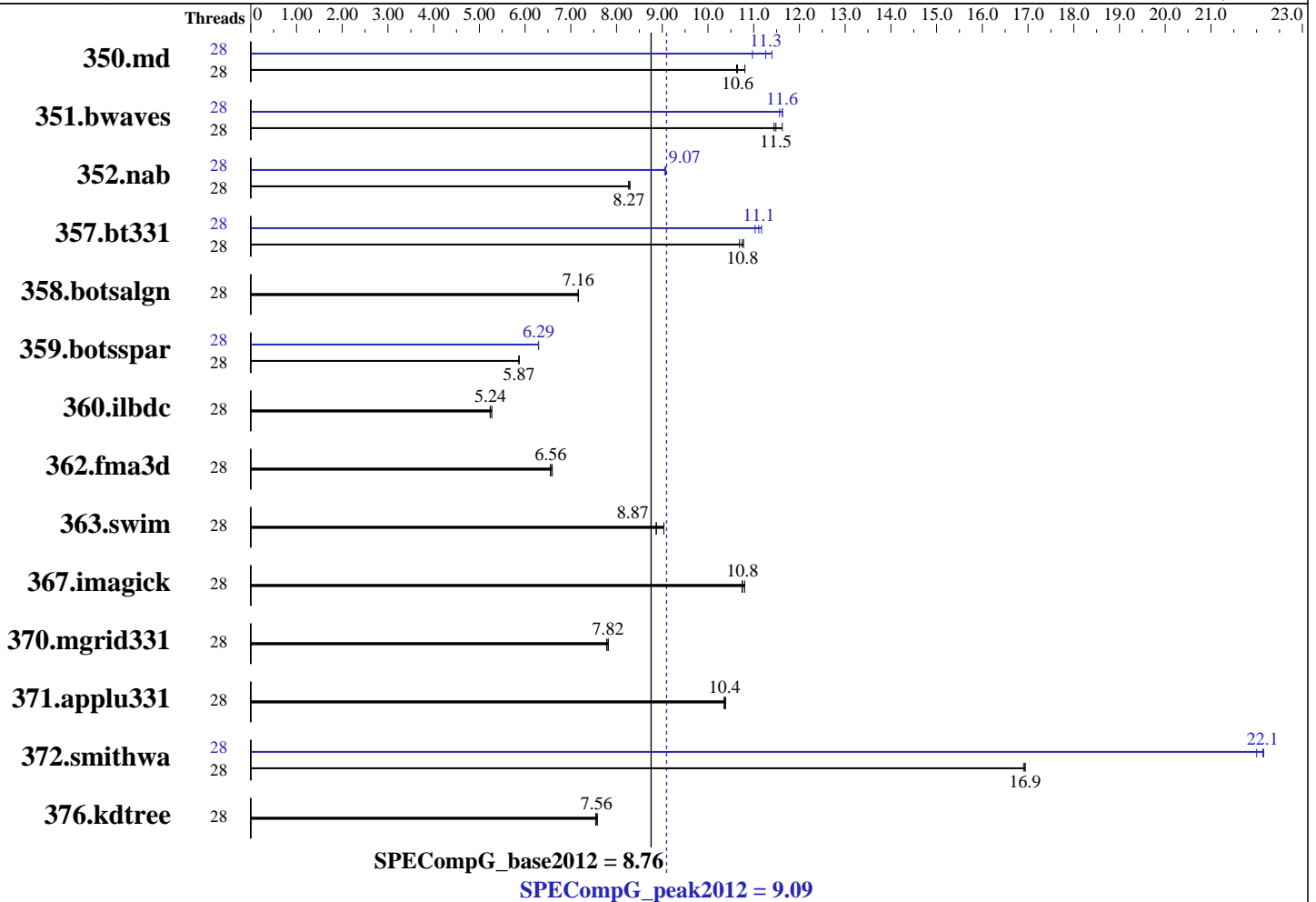
Test sponsor: Technische Universitaet Dresden

Tested by: Technische Universitaet Dresden

Test date: Sep-2017

Hardware Availability: Jan-2016

Software Availability: May-2017



### Hardware

CPU Name: Intel Xeon E5-2680 v4  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.3 GHz  
 CPU MHz: 2400  
 CPU MHz Maximum: 3300  
 FPU: Integrated  
 CPU(s) enabled: 28 cores, 2 chips, 14 cores/chip  
 CPU(s) orderable: 1,2 chips  
 Primary Cache: 32 KB I + 32 KB D on chip per core  
 Secondary Cache: 256 KB I+D on chip per core  
 L3 Cache: 35 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 64 GB (8 x 8 GB 2Rx8 PC4-2400T-R)  
 Disk Subsystem: 256 GB Micron SSD 1100  
 Other Hardware: None  
 Base Threads Run: 28  
 Minimum Peak Threads: 28

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### Software

Operating System: Red Hat Enterprise Linux Server release 6.9 (Santiago)  
 Kernel 2.6.32-696.3.1.el6.Bull.118.x86\_64  
 Compiler: C/C++/Fortran: Version 17.0.4.196 of Intel Composer Build 20170411  
 Auto Parallel: No  
 File System: ext3  
 System State: Default  
 Base Pointers: 64-bit  
 Peak Pointers: 64-bit  
 Other Software: None



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Maximum Peak Threads: 28

## Results Table

Benchmark	Base							Peak						
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
350.md	28	436	10.6	<b><u>435</u></b>	<b><u>10.6</u></b>	428	10.8	28	406	11.4	422	11.0	<b><u>411</u></b>	<b><u>11.3</u></b>
351.bwaves	28	<b><u>394</u></b>	<b><u>11.5</u></b>	396	11.4	390	11.6	28	390	11.6	<b><u>390</u></b>	<b><u>11.6</u></b>	392	11.6
352.nab	28	471	8.26	<b><u>470</u></b>	<b><u>8.27</u></b>	469	8.30	28	429	9.08	430	9.05	<b><u>429</u></b>	<b><u>9.07</u></b>
357.bt331	28	440	10.8	443	10.7	<b><u>441</u></b>	<b><u>10.8</u></b>	28	424	11.2	<b><u>427</u></b>	<b><u>11.1</u></b>	430	11.0
358.botsalgn	28	607	7.16	<b><u>607</u></b>	<b><u>7.16</u></b>	607	7.16	28	607	7.16	<b><u>607</u></b>	<b><u>7.16</u></b>	607	7.16
359.botsspar	28	894	5.87	895	5.87	<b><u>895</u></b>	<b><u>5.87</u></b>	28	<b><u>834</u></b>	<b><u>6.29</u></b>	834	6.30	834	6.29
360.ilbdc	28	675	5.27	<b><u>679</u></b>	<b><u>5.24</u></b>	680	5.24	28	675	5.27	<b><u>679</u></b>	<b><u>5.24</u></b>	680	5.24
362.fma3d	28	576	6.60	580	6.55	<b><u>579</u></b>	<b><u>6.56</u></b>	28	576	6.60	580	6.55	<b><u>579</u></b>	<b><u>6.56</u></b>
363.swim	28	511	8.87	<b><u>511</u></b>	<b><u>8.87</u></b>	501	9.03	28	511	8.87	<b><u>511</u></b>	<b><u>8.87</u></b>	501	9.03
367.imagick	28	<b><u>654</u></b>	<b><u>10.8</u></b>	651	10.8	654	10.7	28	<b><u>654</u></b>	<b><u>10.8</u></b>	651	10.8	654	10.7
370.mgrid331	28	565	7.82	568	7.78	<b><u>566</u></b>	<b><u>7.82</u></b>	28	565	7.82	568	7.78	<b><u>566</u></b>	<b><u>7.82</u></b>
371.applu331	28	585	10.4	583	10.4	<b><u>585</u></b>	<b><u>10.4</u></b>	28	585	10.4	583	10.4	<b><u>585</u></b>	<b><u>10.4</u></b>
372.smithwa	28	317	16.9	<b><u>317</u></b>	<b><u>16.9</u></b>	316	16.9	28	242	22.2	244	22.0	<b><u>242</u></b>	<b><u>22.1</u></b>
376.kdtree	28	593	7.58	<b><u>595</u></b>	<b><u>7.56</u></b>	596	7.54	28	593	7.58	<b><u>595</u></b>	<b><u>7.56</u></b>	596	7.54

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

## Platform Notes

Sysinfo program /tmp/spec/1.1/Docs/sysinfo  
Revision 563 of 2016-06-10 (097295389cf6073d8c3b03fa376740a5)  
running on taurusi4264 Tue Sep 5 11:27:41 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) CPU E5-2680 v4 @ 2.40GHz
 2 "physical id"s (chips)
 28 "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 : 14
siblings : 14
physical 0: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14
physical 1: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14
cache size : 35840 KB
```

```
From /proc/meminfo
MemTotal: 65588120 kB
```

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## Platform Notes (Continued)

HugePages\_Total: 0  
Hugepagesize: 2048 kB

```
/usr/bin/lsb_release -d
Red Hat Enterprise Linux Server release 6.9 (Santiago)
```

```
From /etc/*release* /etc/*version*
redhat-release: Red Hat Enterprise Linux Server release 6.9 (Santiago)
system-release: Red Hat Enterprise Linux Server release 6.9 (Santiago)
system-release-cpe: cpe:/o:redhat:enterprise_linux:6server:ga:server
```

```
uname -a:
Linux taurusi4264 2.6.32-696.3.1.el6.Bull.118.x86_64 #1 SMP Thu Jun 15
17:05:40 CEST 2017 x86_64 x86_64 x86_64 GNU/Linux
```

```
run-level 3 Aug 1 18:29
```

```
SPEC is set to: /tmp/spec/1.1
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sda4       ext4  99G   1.7G   92G   2% /tmp
```

Cannot run dmidecode; consider saying 'chmod +s /usr/sbin/dmidecode'

(End of data from sysinfo program)

## General Notes

System settings:  
HyperThreading: disabled  
Environment variables:  
ENV\_KMP\_AFFINITY=compact,0  
ENV\_KMP\_LIBRARY=turnaround  
ENV\_KMP\_BLOCKTIME=infinite  
ENV\_KMP\_STACKSIZE=190M  
ENV\_OMP\_DYNAMIC=FALSE  
ENV\_OMP\_NESTED=FALSE

## Base Compiler Invocation

C benchmarks:  
icc

C++ benchmarks:  
icpc

Fortran benchmarks:  
ifort



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## Base Portability Flags

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

## Base Optimization Flags

C benchmarks:  
-O2 -openmp -ipo -xCORE-AVX2 -ansi-alias  
C++ benchmarks:  
-O2 -openmp -ipo -xCORE-AVX2 -ansi-alias  
Fortran benchmarks:  
-O2 -openmp -ipo -xCORE-AVX2 -align array64byte

## Peak Compiler Invocation

C benchmarks:  
icc  
C++ benchmarks:  
icpc  
Fortran benchmarks:  
ifort

## Peak Portability Flags

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

## Peak Optimization Flags

C benchmarks:  
352.nab: -O3 -openmp -ipo -xCORE-AVX2 -fno-alias  
-opt-malloc-options=1 -opt-calloc -fp-model fast=2  
-no-prec-div -no-prec-sqrt -ansi-alias

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## Peak Optimization Flags (Continued)

358.botsalgn: basepeak = yes

359.botsspar: -O3 -openmp -ipo -xCORE-AVX2 -fno-alias -ansi-alias

367.imagick: basepeak = yes

372.smithwa: -O2 -openmp -ipo -xCORE-AVX2 -fno-alias  
-opt-streaming-stores always -opt-malloc-options=1  
-ansi-alias

C++ benchmarks:

376.kdtree: basepeak = yes

Fortran benchmarks:

350.md: -O2 -openmp -ipo -xCORE-AVX2 -fno-alias  
-opt-malloc-options=1 -fp-model fast=2 -no-prec-div  
-no-prec-sqrt -align array64byte

351.bwaves: -O3 -openmp -ipo -xCORE-AVX2 -fno-alias -fp-model fast=2  
-no-prec-div -no-prec-sqrt -align array64byte

357.bt331: Same as 351.bwaves

360.ilbdc: basepeak = yes

362.fma3d: basepeak = yes

363.swim: basepeak = yes

370.mgrid331: basepeak = yes

371.applu331: basepeak = yes

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

<http://www.spec.org/omp2012/flags/icc2018-openmp.html>

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

<http://www.spec.org/omp2012/flags/icc2018-openmp.xml>



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For questions about this result, please contact the tester.  
For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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