



# SPEC® OMPG2012 Result

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## Intel

### SPECompG\_peak2012 = 6.29

### Intel R2208GZ4GC (Intel Xeon E5-2697 v2)

### SPECompG\_base2012 = 5.81

OMP2012 license:13

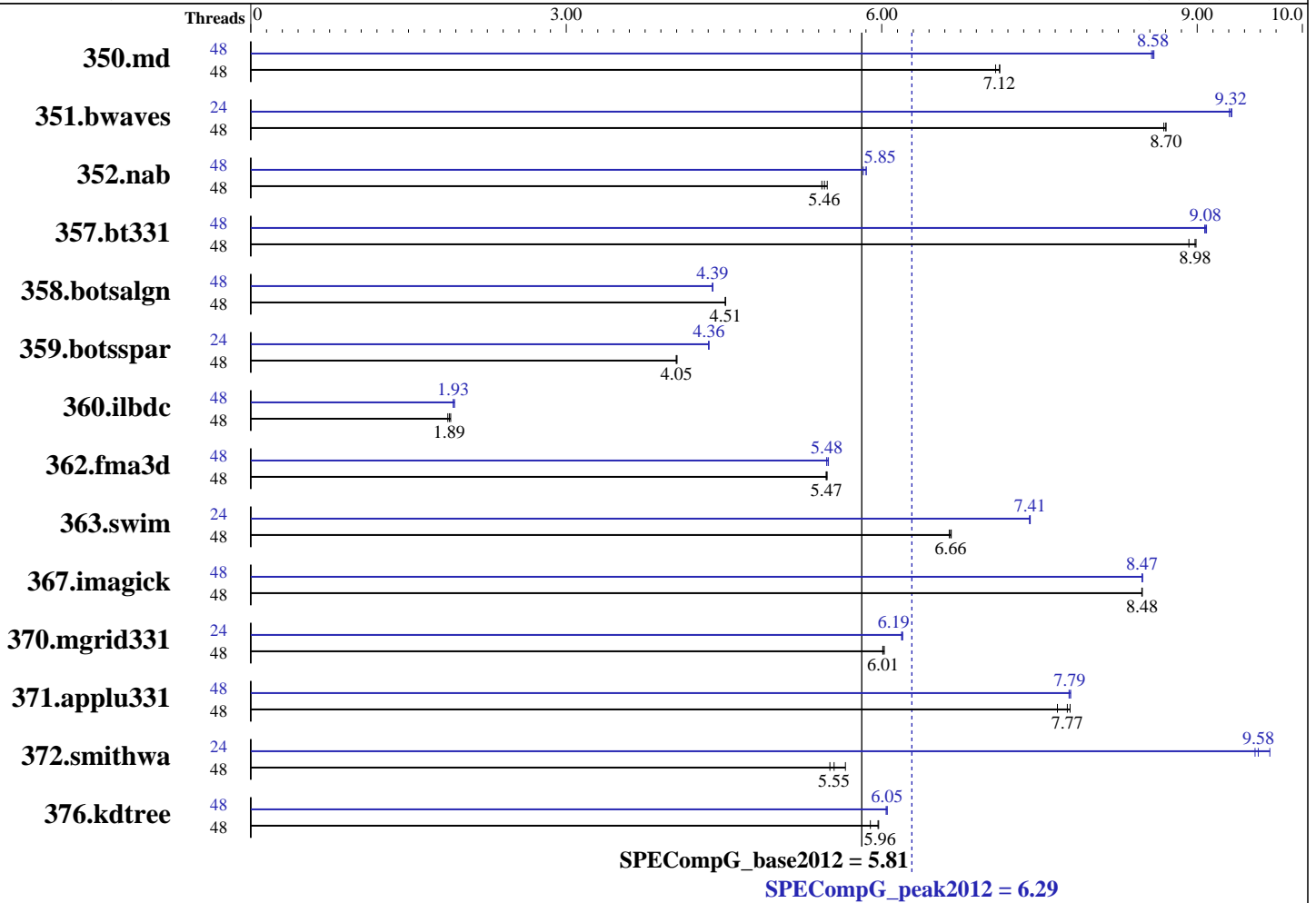
Test sponsor: Intel

Tested by: Intel

Test date: Aug-2013

Hardware Availability: Sep-2013

Software Availability: Jun-2013



### Hardware

CPU Name: E5-2697 v2  
 CPU Characteristics: Turbo Disabled  
 CPU MHz: 2700  
 CPU MHz Maximum: 3500  
 FPU: Integrated  
 CPU(s) enabled: 24 cores, 2 chips, 12 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: 256 KB I+D on chip per core  
 L3 Cache: 30 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 64 GB (8 x 8 GB 2Rx4 PC3-14900R-13, ECC)  
 Disk Subsystem: Panasas ActiveStor 3050 Fileserver 64 disks, 250GB/disk, 16TB total, 4 Shelves connected via 1Gbps Ethernet  
 Other Hardware: --

Continued on next page

### Software

Operating System: Red Hat Enterprise Linux Server release 6.4  
 Compiler: C/C++/Fortran: Version 13.1.3 of Intel Composer XE for Linux Build 20130607  
 Auto Parallel: No  
 File System: Linux ext3  
 System State: Default  
 Base Pointers: 64-bit  
 Peak Pointers: 64-bit  
 Other Software: None



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Base Threads Run: 48

Minimum Peak Threads: 24

Maximum Peak Threads: 48

## Results Table

Benchmark	Base								Peak							
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio		
350.md	48	<b>650</b>	<b>7.12</b>	650	7.12	654	7.08	48	<b>540</b>	<b>8.58</b>	540	8.57	539	8.59		
351.bwaves	48	<b>521</b>	<b>8.70</b>	522	8.68	521	8.70	24	487	9.31	<b>486</b>	<b>9.32</b>	486	9.33		
352.nab	48	710	5.48	716	5.43	<b>713</b>	<b>5.46</b>	48	665	5.85	668	5.83	<b>665</b>	<b>5.85</b>		
357.bt331	48	<b>528</b>	<b>8.98</b>	527	8.99	531	8.92	48	522	9.09	523	9.07	<b>522</b>	<b>9.08</b>		
358.botsalgn	48	<b>964</b>	<b>4.51</b>	964	4.51	964	4.51	48	991	4.39	<b>990</b>	<b>4.39</b>	990	4.39		
359.botsspar	48	1295	4.05	1297	4.05	<b>1297</b>	<b>4.05</b>	24	1205	4.36	<b>1205</b>	<b>4.36</b>	1206	4.35		
360.ilbdc	48	<b>1885</b>	<b>1.89</b>	1872	1.90	1900	1.87	48	<b>1848</b>	<b>1.93</b>	1837	1.94	1848	1.93		
362.fma3d	48	693	5.48	694	5.47	<b>694</b>	<b>5.47</b>	48	<b>694</b>	<b>5.48</b>	694	5.48	692	5.49		
363.swim	48	682	6.64	<b>681</b>	<b>6.66</b>	680	6.66	24	611	7.41	<b>611</b>	<b>7.41</b>	612	7.41		
367.imagick	48	829	8.48	<b>829</b>	<b>8.48</b>	830	8.47	48	<b>830</b>	<b>8.47</b>	830	8.47	829	8.48		
370.mgrid331	48	<b>735</b>	<b>6.01</b>	735	6.01	734	6.02	24	<b>714</b>	<b>6.19</b>	713	6.20	714	6.19		
371.applu331	48	<b>780</b>	<b>7.77</b>	790	7.67	778	7.79	48	<b>778</b>	<b>7.79</b>	779	7.78	777	7.80		
372.smithwa	48	973	5.51	<b>966</b>	<b>5.55</b>	948	5.65	24	<b>559</b>	<b>9.58</b>	561	9.55	553	9.69		
376.kdtree	48	764	5.89	754	5.97	<b>754</b>	<b>5.96</b>	48	745	6.04	744	6.05	<b>744</b>	<b>6.05</b>		

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

## Platform Notes

```

Sysinfo program /panfs/panfs3/users1/aknyazel/OMP2012/Docs/sysinfo
$Rev: 395 $ $Date:: 2012-07-25 $# 8f8c0fe9e19c658963a1e67685e50647
running on esg006 Mon Aug 19 00:52:53 2013

```

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 E5-2697 v2 @ 2.70GHz
 2 "physical id"s (chips)
 48 "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 : 12
siblings  : 24
physical 0: cores 0 1 2 3 4 5 8 9 10 11 12 13
physical 1: cores 0 1 2 3 4 5 8 9 10 11 12 13
cache size : 30720 KB

```

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## Platform Notes (Continued)

From /proc/meminfo

MemTotal: 65865132 kB  
HugePages\_Total: 0  
Hugepagesize: 2048 kB

/usr/bin/lsb\_release -d

Red Hat Enterprise Linux Server release 6.4 (Santiago)

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

redhat-release: Red Hat Enterprise Linux Server release 6.4 (Santiago)  
system-release: Red Hat Enterprise Linux Server release 6.4 (Santiago)  
system-release-cpe: cpe:/o:redhat:enterprise\_linux:6server:ga:server

uname -a:

Linux esg006 2.6.32-358.6.2.el6.x86\_64.crt1 #4 SMP Fri May 17 15:33:33 MDT  
2013 x86\_64 x86\_64 x86\_64 GNU/Linux

run-level 3 Aug 16 15:51

SPEC is set to: /panfs/panfs3/users1/aknyazel/OMP2012

Filesystem Type Size Used Avail Use% Mounted on  
panfs://36.101.211.1/users1  
panfs 76T 11T 66T 14% /panfs/panfs3/users1

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

(End of data from sysinfo program)

## General Notes

=====  
BIOS settings notes:

Intel Turbo Boost Technology (Turbo) : Disabled

=====  
General OMP Library Settings

ENV\_KMP\_LIBRARY=turnaround  
ENV\_KMP\_STACKSIZE=190M  
ENV\_KMP\_BLOCKTIME=infinite  
ENV\_OMP\_DYNAMIC=FALSE  
ENV\_OMP\_NESTED=FALSE

=====  
General base OMP Library Settings

ENV\_KMP\_AFFINITY=compact,0

=====  
General peak OMP Library Settings

ENV\_KMP\_AFFINITY=compact,0  
=====

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## General Notes (Continued)

Per benchmark peak OMP Library Settings

=====

351.bwaves:peak:

ENV\_KMP\_AFFINITY=compact,1

ENV\_OMP\_SCHEDULE=static,1

=====

362.fma3d:peak:

ENV\_KMP\_AFFINITY=compact,1

ENV\_OMP\_SCHEDULE=guided

=====

ENV\_OMP\_SCHEDULE=static,1

=====

363.swim:peak:

ENV\_KMP\_AFFINITY=compact,1

=====

372.smithwa:peak:

ENV\_KMP\_AFFINITY=compact,1

## Base Compiler Invocation

C benchmarks:

icc

C++ benchmarks:

icpc

Fortran benchmarks:

ifort

## Base Portability Flags

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

## Base Optimization Flags

C benchmarks:

-O2 -openmp -ipo -xAVX -ansi-alias

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## Base Optimization Flags (Continued)

C++ benchmarks:

-O2 -openmp -ipo -xAVX -ansi-alias

Fortran benchmarks:

-O2 -openmp -ipo -xAVX -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 -xAVX -fno-alias -opt-malloc-options=1  
-opt-calloc -fp-model fast=2 -no-prec-div -no-prec-sqrt  
-ansi-alias

358.botsalgn: -O3 -openmp -ipo -xSSE4.2 -fno-alias -ansi-alias

359.botsspar: -O3 -openmp -ipo -xAVX -fno-alias -ansi-alias

367.imagick: -O2 -openmp -ipo -xAVX -ansi-alias

372.smithwa: -O2 -openmp -ipo -xSSE4.2 -fno-alias  
-opt-streaming-stores always -opt-malloc-options=1  
-ansi-alias

C++ benchmarks:

-O3 -openmp -ipo -xAVX -fno-alias -ansi-alias

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## Peak Optimization Flags (Continued)

Fortran benchmarks:

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

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

357.bt331: Same as 351.bwaves

360.ilbdc: -O3 -openmp -ipo -xAVX -opt-malloc-options=1  
-align array64byte

362.fma3d: -O3 -openmp -ipo -xAVX -fno-alias -align array64byte

363.swim: -O3 -openmp -ipo -xSSE4.2 -fno-alias  
-opt-streaming-stores always -opt-malloc-options=3  
-align array64byte

370.mgrid331: -O2 -openmp -ipo -xSSE4.2 -fno-alias  
-opt-malloc-options=3 -align array64byte

371.aplu331: -O2 -openmp -ipo -xAVX -align array64byte

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

<http://www.spec.org/omp2012/flags/Intel-ic13.0-linux64.20130910.html>

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

<http://www.spec.org/omp2012/flags/Intel-ic13.0-linux64.20130910.xml>

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For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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