



# SPEC® OMPG2012 Result

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## Intel

### SPECompG\_peak2012 = 7.25

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

### SPECompG\_base2012 = 6.65

OMP2012 license:13

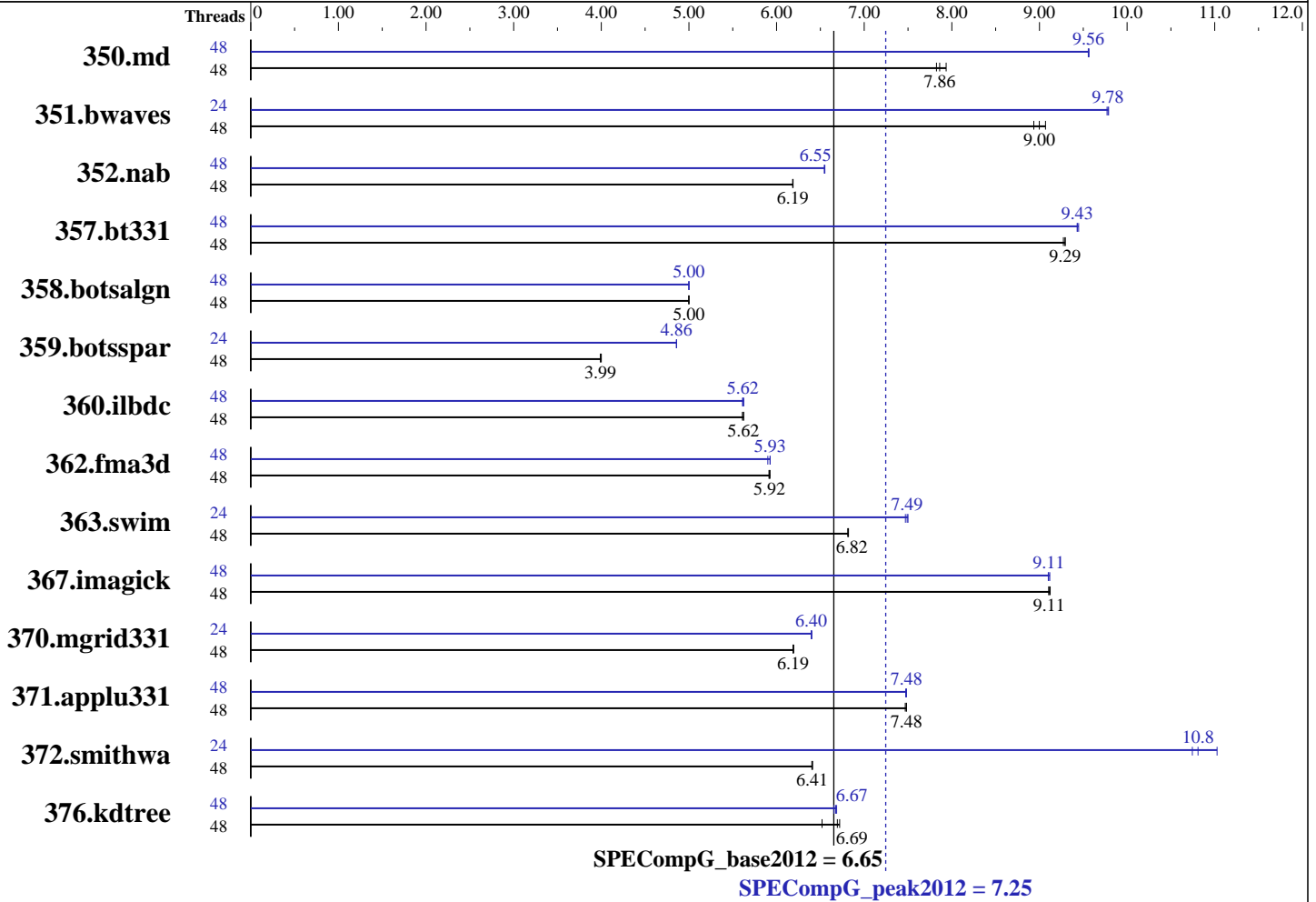
Test sponsor: Intel

Tested by: Intel

Test date: Sep-2013

Hardware Availability: Sep-2013

Software Availability: Jun-2013



### Hardware

CPU Name: E5-2697 v2  
 CPU Characteristics: 2700  
 CPU MHz: 3500  
 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: NFS connected via 1Gbps Ethernet  
 Other Hardware: --  
 Base Threads Run: 48  
 Minimum Peak Threads: 24

### 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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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>589</b>	<b>7.86</b>	583	7.93	592	7.82	48	484	9.56	484	9.56	<b>484</b>	<b>9.56</b>
351.bwaves	48	499	9.07	<b>503</b>	<b>9.00</b>	507	8.94	24	464	9.77	463	9.79	<b>463</b>	<b>9.78</b>
352.nab	48	629	6.18	629	6.19	<b>629</b>	<b>6.19</b>	48	594	6.54	594	6.55	<b>594</b>	<b>6.55</b>
357.bt331	48	511	9.27	510	9.29	<b>510</b>	<b>9.29</b>	48	502	9.45	<b>503</b>	<b>9.43</b>	503	9.43
358.botsalgn	48	870	5.00	<b>870</b>	<b>5.00</b>	870	5.00	48	870	5.00	870	5.00	<b>870</b>	<b>5.00</b>
359.botsspar	48	1312	4.00	1316	3.99	<b>1315</b>	<b>3.99</b>	24	1081	4.86	<b>1081</b>	<b>4.86</b>	1081	4.86
360.ilbdc	48	635	5.61	<b>633</b>	<b>5.62</b>	633	5.62	48	634	5.61	<b>634</b>	<b>5.62</b>	633	5.63
362.fma3d	48	643	5.91	641	5.93	<b>642</b>	<b>5.92</b>	48	644	5.90	<b>641</b>	<b>5.93</b>	641	5.93
363.swim	48	<b>665</b>	<b>6.82</b>	664	6.82	665	6.81	24	<b>605</b>	<b>7.49</b>	604	7.50	606	7.47
367.imagick	48	<b>772</b>	<b>9.11</b>	771	9.12	772	9.11	48	<b>772</b>	<b>9.11</b>	771	9.12	772	9.10
370.mgrid331	48	714	6.19	<b>714</b>	<b>6.19</b>	713	6.20	24	690	6.40	691	6.40	<b>691</b>	<b>6.40</b>
371.applu331	48	810	7.48	<b>810</b>	<b>7.48</b>	811	7.47	48	<b>810</b>	<b>7.48</b>	810	7.48	811	7.47
372.smithwa	48	837	6.40	836	6.41	<b>837</b>	<b>6.41</b>	24	<b>496</b>	<b>10.8</b>	499	10.7	486	11.0
376.kdtree	48	690	6.52	<b>672</b>	<b>6.69</b>	670	6.72	48	<b>674</b>	<b>6.67</b>	676	6.66	673	6.69

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

## Platform Notes

```

Sysinfo program /nfs/pdx/home/aknyazel/OMP2012/Docs/sysinfo
$Rev: 395 $ $Date:: 2012-07-25 #$ 8f8c0fe9e19c658963ale67685e50647
running on cthor-ivt1 Wed Sep 18 03:44:01 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

```

```

From /proc/meminfo
MemTotal:      65920688 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 6.4 (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 cthor-ivt1 2.6.32-358.el6.x86_64 #1 SMP Tue Jan 29 11:47:41 EST 2013
x86_64 x86_64 x86_64 GNU/Linux
```

```
run-level 3 Sep 15 19:26
```

```
SPEC is set to: /nfs/pdx/home/aknyazel/OMP2012
Filesystem      Type      Size  Used Avail Use% Mounted on
cthor-fs1.jf.intel.com:/home/aknyazel
                nfs       4.8T  2.7T  2.1T  58% /nfs/pdx/home/aknyazel
```

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

(End of data from sysinfo program)

## General Notes

=====  
System settings notes:

Intel Turbo Boost Technology (Turbo) : Enabled  
Transparent Huge Pages Disabled via "echo never > /sys/kernel/mm/redhat\_transparent\_hugepage/enabled"

=====  
General OMP Library Settings

ENV\_KMP\_LIBRARY=turnaround  
ENV\_KMP\_STACKSIZE=256M  
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

=====  
Per benchmark peak OMP Library Settings

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## General Notes (Continued)

Submitted\_by: "Knyazev, Alexander" <Alexander.Knyazev@intel.com>

Submitted: Fri Sep 20 12:19:18 EDT 2013

Submission: omp2012-20130920-00039.sub

=====

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

=====

362.fma3d:peak:

ENV\_OMP\_SCHEDULE=static,1

=====

363.swim:peak:

ENV\_KMP\_AFFINITY=compact,1

=====

370.mgrid331:peak:

ENV\_KMP\_AFFINITY=compact,1

=====

372.smithwa:peak:

ENV\_OMP\_SCHEDULE=static,1

ENV\_KMP\_AFFINITY=compact,1

## Base Compiler Invocation

C benchmarks:

icc

C++ benchmarks:

icpc

Fortran benchmarks:

ifort

## Base Portability Flags

350.md: -FR

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## Base Portability Flags (Continued)

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

## Base Optimization Flags

C benchmarks:  
-O2 -openmp -ipo -xAVX -ansi-alias  
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: -mmodel=medium  
363.swim: -mmodel=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

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## Peak Optimization Flags (Continued)

358.botsalgn: -O2 -openmp -ipo -xAVX -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

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: -O2 -openmp -ipo -xAVX -fno-alias -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.applu331: -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-linux64.20131002.html>

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

<http://www.spec.org/omp2012/flags/Intel-ic13.0-linux64.20131002.xml>



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

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