



SPEC® OMPG2012 Result

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Intel

SPECompG_peak2012 = 6.68

Intel R2208GZ4GC (Intel Xeon E5-2697 v2)

SPECompG_base2012 = 6.24

OMP2012 license:13

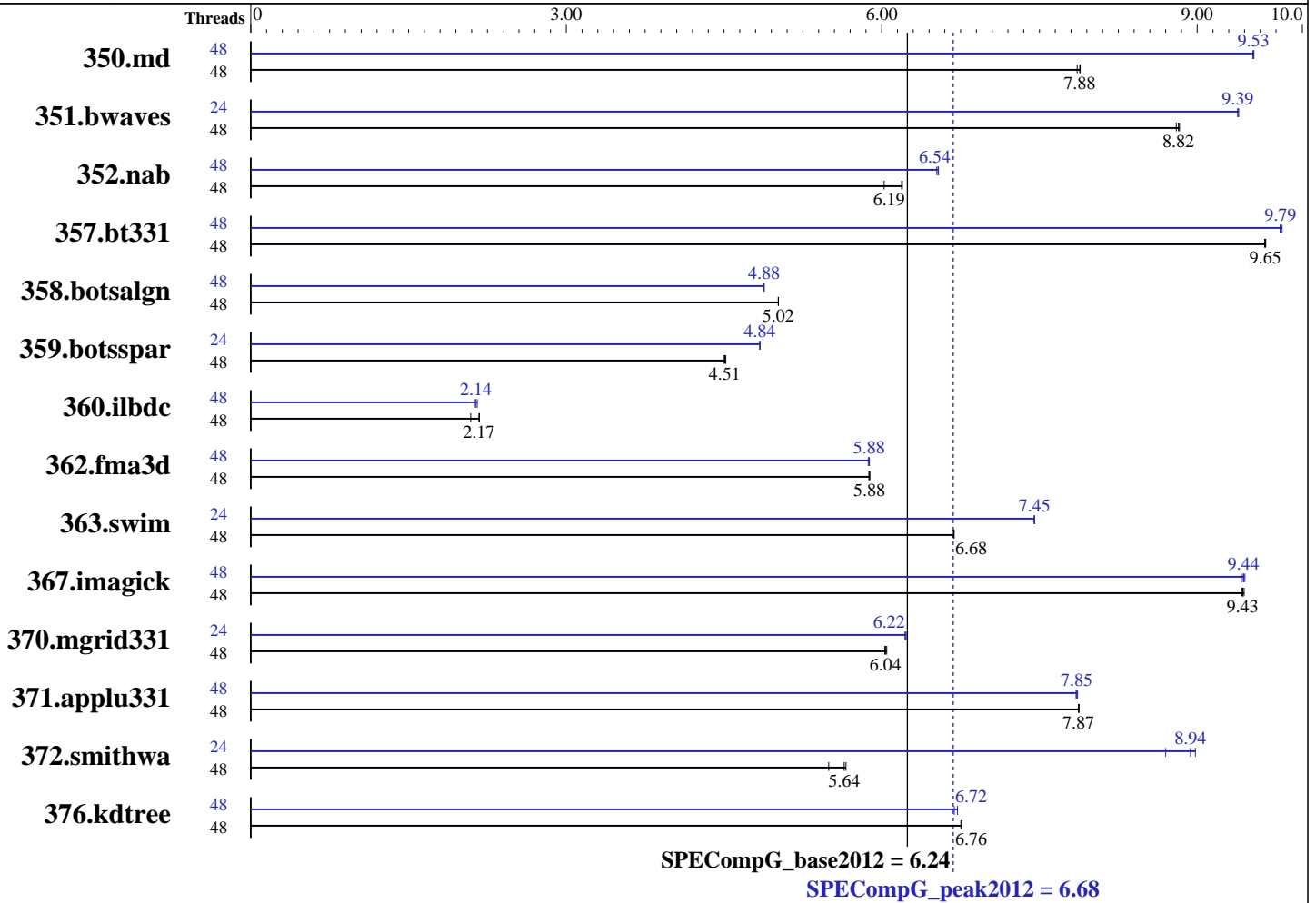
Test sponsor: Intel

Tested by: Intel

Test date: Aug-2013

Hardware Availability: Sep-2013

Software Availability: Jun-2013



Hardware

CPU Name: E5-2697 v2
 CPU Characteristics: Turbo Enabled
 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: --

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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	587	7.89	<u>587</u>	<u>7.88</u>	589	7.86	48	<u>486</u>	<u>9.53</u>	485	9.54	486	9.53
351.bwaves	48	515	8.80	<u>514</u>	<u>8.82</u>	513	8.83	24	482	9.39	<u>483</u>	<u>9.39</u>	483	9.39
352.nab	48	<u>629</u>	<u>6.19</u>	646	6.02	628	6.20	48	<u>595</u>	<u>6.54</u>	595	6.54	596	6.52
357.bt331	48	492	9.64	<u>491</u>	<u>9.65</u>	491	9.65	48	<u>484</u>	<u>9.79</u>	483	9.81	484	9.79
358.botsalgn	48	<u>867</u>	<u>5.02</u>	867	5.02	867	5.02	48	891	4.88	<u>891</u>	<u>4.88</u>	891	4.88
359.botsspar	48	1162	4.52	<u>1165</u>	<u>4.51</u>	1168	4.50	24	1085	4.84	<u>1084</u>	<u>4.84</u>	1084	4.84
360.ilbdc	48	<u>1642</u>	<u>2.17</u>	1703	2.09	1638	2.17	48	1668	2.13	<u>1662</u>	<u>2.14</u>	1653	2.15
362.fma3d	48	645	5.89	646	5.88	<u>646</u>	<u>5.88</u>	48	<u>646</u>	<u>5.88</u>	646	5.88	647	5.87
363.swim	48	677	6.69	<u>678</u>	<u>6.68</u>	678	6.68	24	608	7.45	<u>608</u>	<u>7.45</u>	608	7.45
367.imagick	48	744	9.45	<u>745</u>	<u>9.43</u>	746	9.43	48	744	9.45	746	9.43	<u>745</u>	<u>9.44</u>
370.mgrid331	48	731	6.05	<u>732</u>	<u>6.04</u>	733	6.03	24	709	6.23	<u>710</u>	<u>6.22</u>	710	6.22
371.applu331	48	<u>770</u>	<u>7.87</u>	770	7.87	769	7.88	48	772	7.85	<u>772</u>	<u>7.85</u>	771	7.86
372.smithwa	48	<u>950</u>	<u>5.64</u>	975	5.50	947	5.66	24	616	8.70	597	8.98	<u>600</u>	<u>8.94</u>
376.kdtree	48	666	6.75	<u>666</u>	<u>6.76</u>	666	6.76	48	<u>670</u>	<u>6.72</u>	670	6.72	673	6.69

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 esg007 Mon Aug 19 00:52:51 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 esg007 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) : Enabled

=====

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.

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