SPEC® OMPG2012 Result

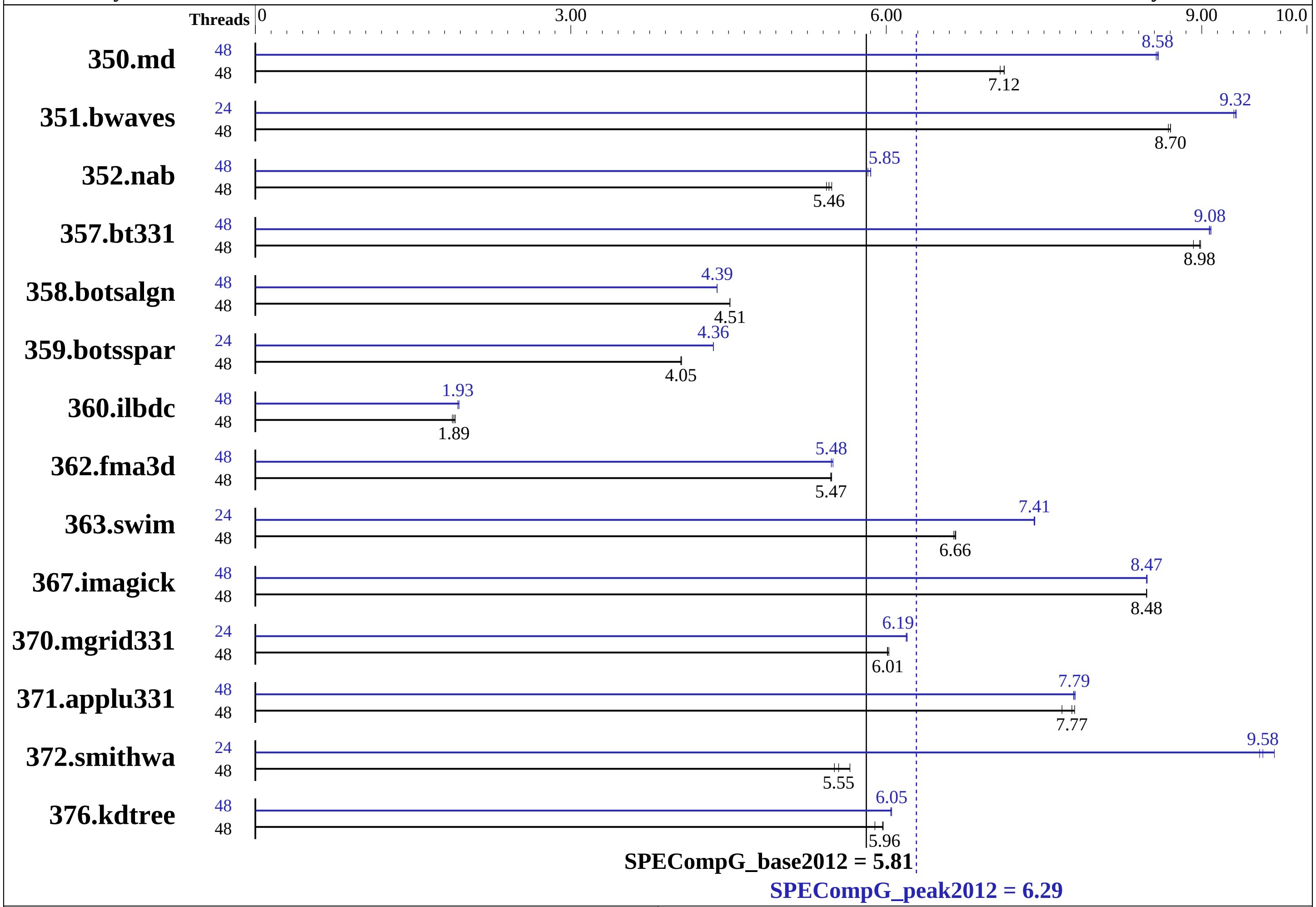
Intel

Intel R2208GZ4GC (Intel Xeon E5-2697 v2)

SPECompG_peak2012 = 6.29

SPECompG_base2012 = 5.81

OMP2012 license:	13	**Test date:**	Aug-2013
Test sponsor:	Intel	**Hardware Availability:**	Sep-2013
Tested by:	Intel	**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:	--

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

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

Platform Notes

```
Sysinfo program /panfs/panfs3/users1/aknyaze1/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/aknyaze1/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: `-mcmodel=medium`
363.swim: `-mcmodel=medium`
367.imagick: `-std=c99`

Base Optimization Flags

C benchmarks:
`-O2 -openmp -ipo -xAVX -ansi-alias`

Continued on next page

SPEC OMPG2012 Result

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: `-mcmodel=medium`
363.swim: `-mcmodel=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.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-linux64.20130910.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

For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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