SPEC® OMPG2012 Result

Copyright 2012-2014 Standard Performance Evaluation Corporation

Intel

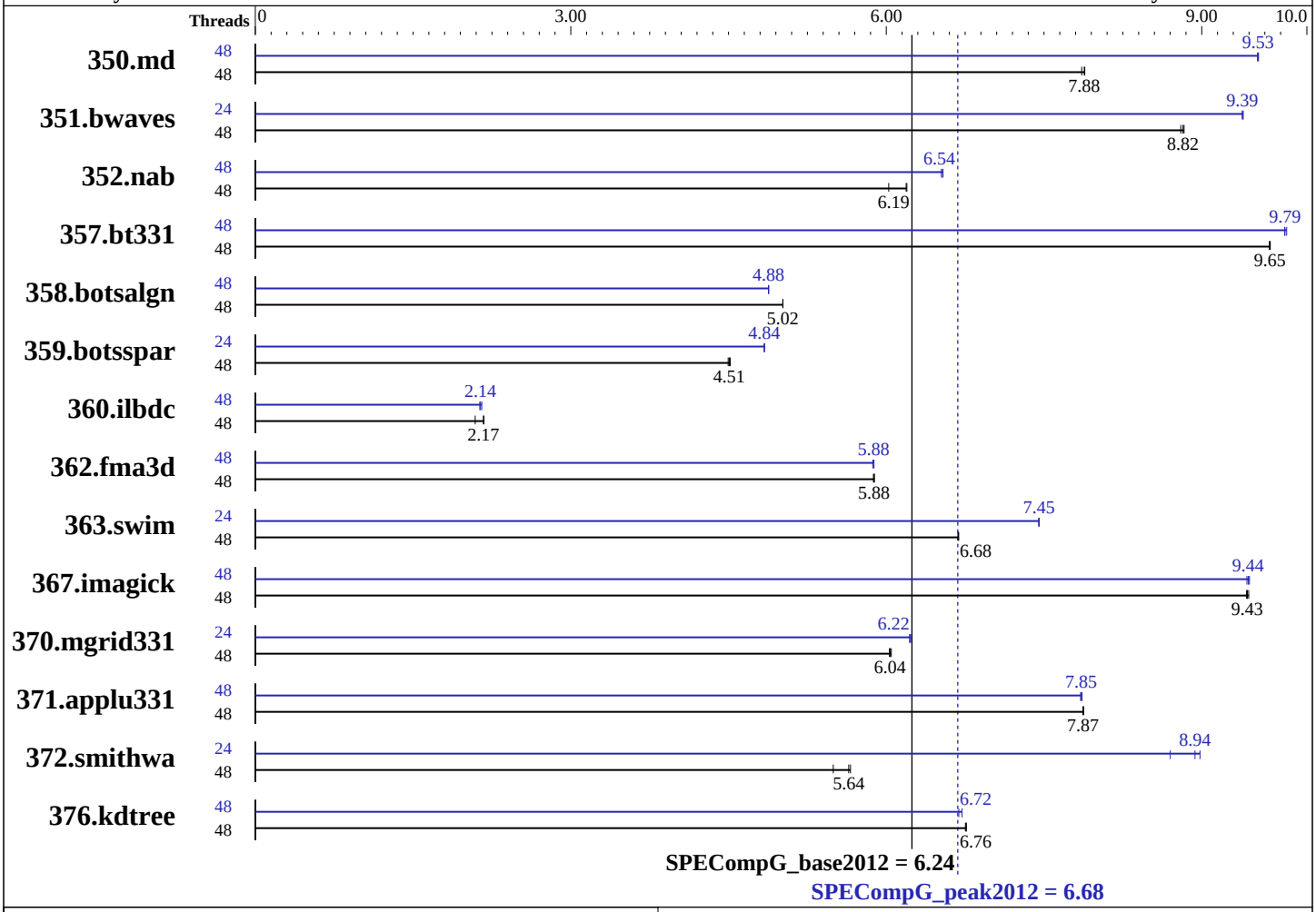
Intel R2208GZ4GC (Intel Xeon E5-2697 v2)

SPECompG_peak2012 = 6.68

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:	--

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

SPEC OMPG2012 Result

Copyright 2012-2014 Standard Performance Evaluation Corporation

Intel

Intel R2208GZ4GC (Intel Xeon E5-2697 v2)

SPECompG_peak2012 = 6.68

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

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	**587**	**7.88**	589	7.86	48	**486**	**9.53**	485	9.54	486	9.53
351.bwaves	48	515	8.80	**514**	**8.82**	513	8.83	24	482	9.39	**483**	**9.39**	483	9.39
352.nab	48	**629**	**6.19**	646	6.02	628	6.20	48	**595**	**6.54**	595	6.54	596	6.52
357.bt331	48	492	9.64	**491**	**9.65**	491	9.65	48	**484**	**9.79**	483	9.81	484	9.79
358.botsalgn	48	**867**	**5.02**	867	5.02	867	5.02	48	891	4.88	**891**	**4.88**	891	4.88
359.botsspar	48	1162	4.52	**1165**	**4.51**	1168	4.50	24	1085	4.84	**1084**	**4.84**	1084	4.84
360.ilbdc	48	**1642**	**2.17**	1703	2.09	1638	2.17	48	1668	2.13	**1662**	**2.14**	1653	2.15
362.fma3d	48	645	5.89	646	5.88	**646**	**5.88**	48	**646**	**5.88**	646	5.88	647	5.87
363.swim	48	677	6.69	**678**	**6.68**	678	6.68	24	608	7.45	**608**	**7.45**	608	7.45
367.imagick	48	744	9.45	**745**	**9.43**	746	9.43	48	744	9.45	746	9.43	**745**	**9.44**
370.mgrid331	48	731	6.05	**732**	**6.04**	733	6.03	24	709	6.23	**710**	**6.22**	710	6.22
371.applu331	48	**770**	**7.87**	770	7.87	769	7.88	48	772	7.85	**772**	**7.85**	771	7.86
372.smithwa	48	**950**	**5.64**	975	5.50	947	5.66	24	616	8.70	597	8.98	**600**	**8.94**
376.kdtree	48	666	6.75	**666**	**6.76**	666	6.76	48	**670**	**6.72**	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/aknyaze1/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
```

Continued on next page

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/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)  : 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

================================================================================
```

Continued on next page

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

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
```

Continued on next page

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`

SPEC is a registered trademark of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

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

Tested with SPEC OMP2012 v1.0.
Report generated on Tue Jul 22 13:37:03 2014 by SPEC OMP2012 PS/PDF formatter v541.
Originally published on 10 September 2013.