



SPEC® OMPG2012 Result

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SGI

SPECompG_peak2012 = 6.75

SGI ICE X (Intel Xeon E5-2690 v2, 3.0 GHz)

SPECompG_base2012 = 6.27

OMP2012 license:4

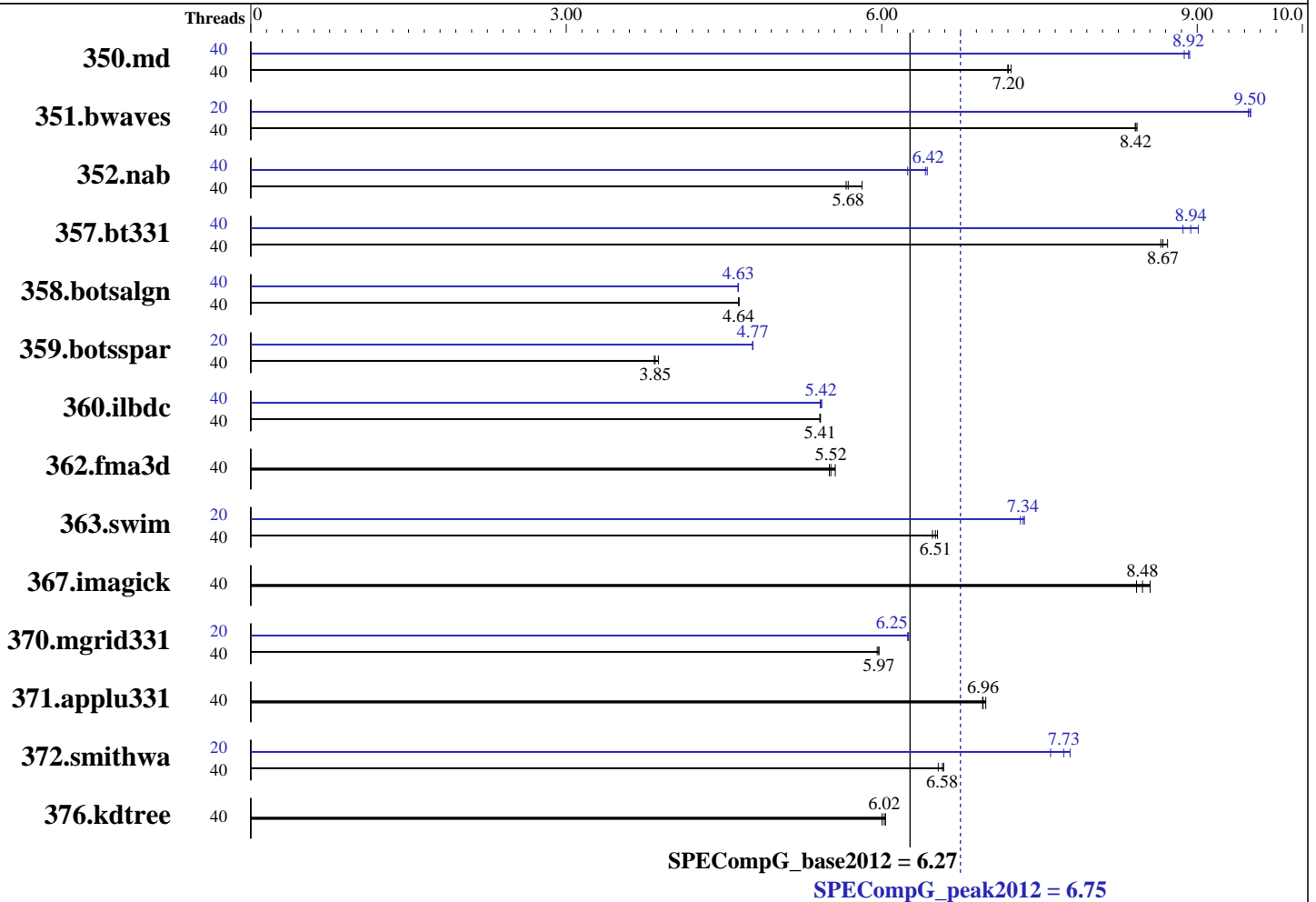
Test sponsor: SGI

Tested by: SGI

Test date: Nov-2013

Hardware Availability: Sep-2013

Software Availability: Oct-2013



Hardware

CPU Name: Intel Xeon E5-2690 v2
 CPU Characteristics: Ten Core, 3.0 GHz, 8.0 GT/s QPI
 Intel Turbo Boost Technology up to 3.60 GHz
 Hyper-Threading Technology enabled
 CPU MHz: 3000
 CPU MHz Maximum: 3600
 FPU: Integrated
 CPU(s) enabled: 20 cores, 2 chips, 10 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: 25 MB I+D on chip per chip
 Other Cache: None
 Memory: 64 GB (8 x 8 GB 2Rx4 PC3-14900R-13, ECC)
 Disk Subsystem: 64.8 TB RAID 6
 72 x 900 GB SAS (Western Digital, 10K RPM)

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Software

Operating System: SUSE Linux Enterprise Server 11 SP2,
 Kernel 3.0.80-0.7-default
 Compiler: C/C++/Fortran: Version 14.0.1.106 of Intel
 Composer XE 2013 for Linux, Build 20131008
 Auto Parallel: No
 File System: NFSv3 IPoIB
 System State: Run level 3 (Multi-user)
 Base Pointers: 64-bit
 Peak Pointers: 64-bit
 Other Software: SGI Tempo Compute Node 2.7.3, Build
 708rp14.sles11sp2-1305311204



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Other Hardware: --
Base Threads Run: 40
Minimum Peak Threads: 20
Maximum Peak Threads: 40

Results Table

Benchmark	Base							Peak						
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
350.md	40	640	7.23	643	7.20	643	7.20	40	519	8.93	519	8.92	522	8.88
351.bwaves	40	539	8.41	538	8.42	538	8.43	20	478	9.49	477	9.50	476	9.51
352.nab	40	669	5.81	687	5.66	685	5.68	40	606	6.42	605	6.43	623	6.25
357.bt331	40	546	8.67	548	8.65	544	8.72	40	535	8.87	530	8.94	526	9.01
358.botsalgn	40	937	4.64	938	4.64	938	4.64	40	939	4.63	938	4.64	939	4.63
359.botsspar	40	1354	3.88	1365	3.85	1368	3.84	20	1100	4.77	1100	4.77	1100	4.77
360.ilbdc	40	658	5.41	657	5.42	657	5.41	40	656	5.43	657	5.41	656	5.42
362.fma3d	40	689	5.52	691	5.50	684	5.56	40	689	5.52	691	5.50	684	5.56
363.swim	40	694	6.53	696	6.51	699	6.48	20	617	7.34	616	7.36	619	7.32
367.imagick	40	835	8.42	829	8.48	822	8.55	40	835	8.42	829	8.48	822	8.55
370.mgrid331	40	740	5.97	742	5.96	740	5.97	20	707	6.26	707	6.25	707	6.25
371.applu331	40	870	6.96	867	6.99	871	6.96	40	870	6.96	867	6.99	871	6.96
372.smithwa	40	820	6.54	815	6.58	813	6.59	20	693	7.73	705	7.61	688	7.79
376.kdtree	40	747	6.02	745	6.04	750	6.00	40	747	6.02	745	6.04	750	6.00

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

Operating System Notes

BIOS settings notes:

Intel Turbo Boost Technology (Turbo) : Enabled

Transparent Hugepage : disabled

Transparent Hugepage is disabled by

echo never > /sys/kernel/mm/transparent_hugepage/enabled

Software Environment:

export KMP_LIBRARY=turnaround

export KMP_STACKSIZE=256M

export KMP_BLOCKTIME=infinite

export OMP_DYNAMIC=FALSE

export OMP_NESTED=FALSE

ulimit -s unlimited



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Platform Notes

Sysinfo program /store/hfeng/omp2012/Docs/sysinfo
\$Rev: 395 \$ \$Date:: 2012-07-25 # \$ 8f8c0fe9e19c658963a1e67685e50647
running on rli2n14 Tue Nov 19 14:04:03 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 E5-2690 v2 @ 3.00GHz
 2 "physical id"s (chips)
 40 "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 : 10
siblings   : 20
physical 0: cores 0 1 2 3 4 8 9 10 11 12
physical 1: cores 0 1 2 3 4 8 9 10 11 12
cache size : 25600 KB
```

From /proc/meminfo

```
MemTotal:      65979536 kB
HugePages_Total: 0
Hugepagesize:  2048 kB
```

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

```
SuSE-release:
SUSE Linux Enterprise Server 11 (x86_64)
VERSION = 11
PATCHLEVEL = 2
sgi-compute-node-release: SGI Tempo Compute Node 2.7.3, Build
708rp14.sles11sp2-1305311204
```

uname -a:

```
Linux rli2n14 3.0.80-0.7-default #1 SMP Tue Jun 25 18:32:49 UTC 2013
(25740f8) x86_64 x86_64 x86_64 GNU/Linux
```

run-level 3 Nov 15 22:04 last=S

SPEC is set to: /store/hfeng/omp2012

```
Filesystem      Type  Size  Used Avail Use% Mounted on
10.149.133.200:/mnt/data nfs    45T   9.3T   35T   21% /nas
```

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

(End of data from sysinfo program)



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General Notes

```

=====
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

```

```

=====
351.bwaves:peak:
  ENV_KMP_AFFINITY=compact,1

```

```

=====
359.botsspar:peak:
  ENV_KMP_AFFINITY=compact,1

```

```

=====
362.fma3d
  basepeak=1

```

```

=====
363.swim:peak:
  ENV_KMP_AFFINITY=compact,1

```

```

=====
367.imagick
  basepeak=1

```

```

=====
371.applu331:peak:
  basepeak=1

```

```

=====
372.smithwa:peak:
  ENV_KMP_AFFINITY=compact,1

```

```

=====
376.kdtree:peak:
  basepeak=1

```

Base Compiler Invocation

```

C benchmarks:
  icc

```

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Base Compiler Invocation (Continued)

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

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

Fortran benchmarks:
-O2 -openmp -ipo -xAVX

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



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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: basepeak = yes

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

C++ benchmarks:

376.kdtree: basepeak = yes

Fortran benchmarks:

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

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

357.bt331: Same as 351.bwaves

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

362.fma3d: basepeak = yes

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

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

371.aplu331: basepeak = yes

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

<http://www.spec.org/omp2012/flags/Intel-ic13.0-linux64.20130320.html>

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

<http://www.spec.org/omp2012/flags/Intel-ic13.0-linux64.20130320.xml>



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

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