



SPEC® OMPG2012 Result

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SGI

SGI Rackable C2112-4RP4 (Intel Xeon E5-2697 v2, 2.70GHz)

SPECompG_peak2012 = 7.24

SPECompG_base2012 = 6.63

OMP2012 license:4

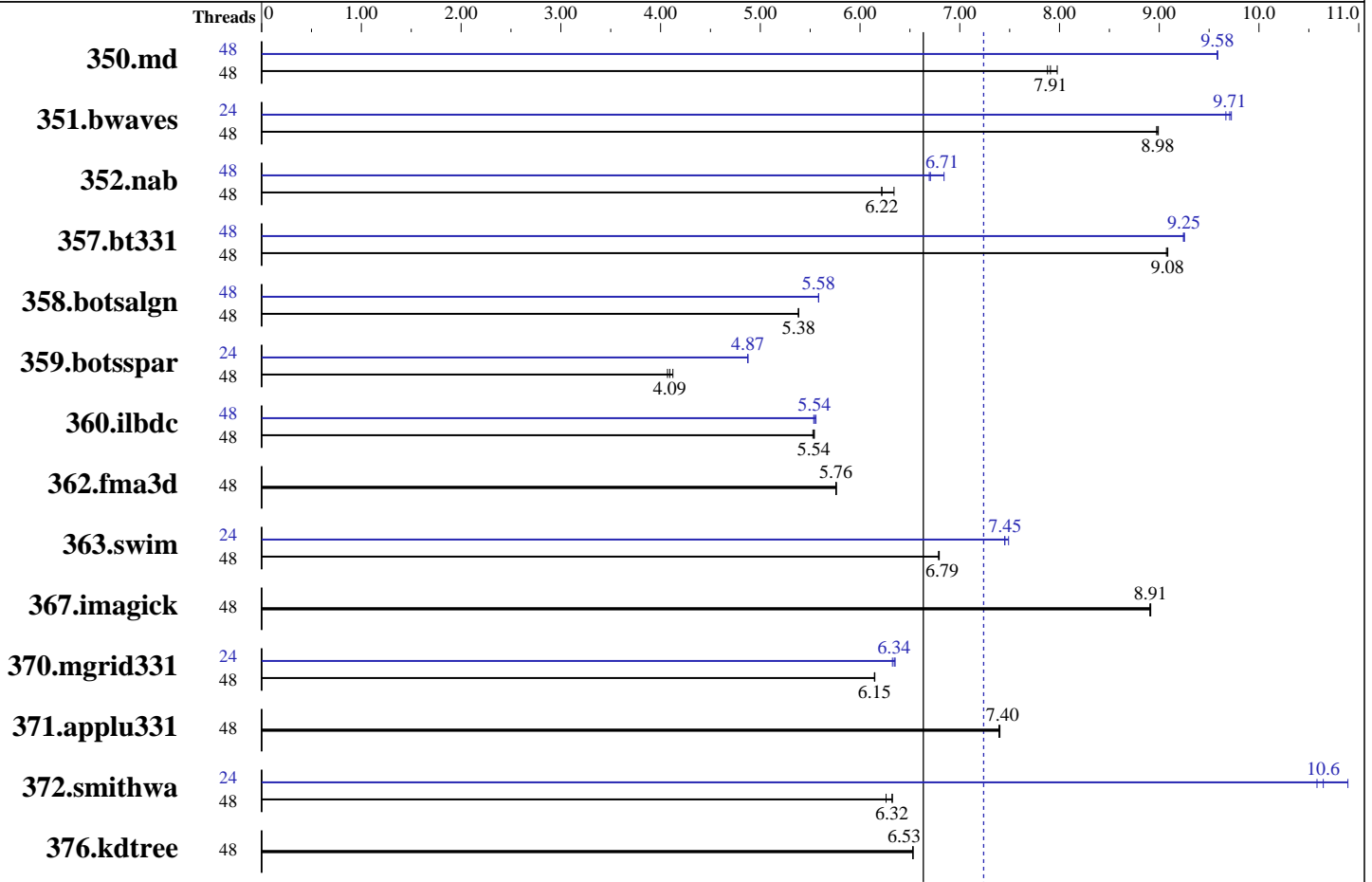
Test sponsor: SGI

Tested by: SGI

Test date: Aug-2013

Hardware Availability: Sep-2013

Software Availability: Jun-2013



SPECompG_base2012 = 6.63

SPECompG_peak2012 = 7.24

Hardware

CPU Name: Intel Xeon E5-2697 v2
 CPU Characteristics: Intel Turbo Boost Technology up to 3.5 GHz
 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: 128 GB (8 x 16 GB 2Rx4 PC3-14900R-13, ECC)
 Disk Subsystem: 57.6 TB RAID6
 64 x 900 GB SAS (Western Digital WD9001BKHG 10K)
 Other Hardware: --
 Base Threads Run: 48

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Software

Operating System: SUSE Linux Enterprise Server 11 SP2, Kernel 3.0.74-0.6.6-default
 Compiler: C/C++/Fortran: Version 13.1.2.183 of Intel Composer XE for Linux Build 20130514
 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 Accelerate 1.6, Build 708r14.sles11sp2-1304102205



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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	588	7.88	585	7.91	580	7.98	48	483	9.58	483	9.58	483	9.59
351.bwaves	48	505	8.97	504	8.98	504	8.99	24	469	9.67	466	9.72	467	9.71
352.nab	48	626	6.22	614	6.34	626	6.22	48	580	6.71	581	6.69	568	6.84
357.bt331	48	522	9.09	522	9.08	522	9.07	48	512	9.25	512	9.25	513	9.24
358.botsalgn	48	808	5.38	808	5.38	808	5.38	48	779	5.59	779	5.58	779	5.58
359.botsspar	48	1273	4.12	1283	4.09	1290	4.07	24	1077	4.88	1077	4.87	1077	4.87
360.ilbdc	48	644	5.53	642	5.54	643	5.54	48	640	5.56	643	5.54	642	5.54
362.fma3d	48	660	5.76	659	5.76	660	5.76	48	660	5.76	659	5.76	660	5.76
363.swim	48	667	6.79	667	6.79	667	6.79	24	605	7.49	608	7.45	608	7.45
367.imagick	48	789	8.91	789	8.91	789	8.91	48	789	8.91	789	8.91	789	8.91
370.mgrid331	48	719	6.15	719	6.15	719	6.15	24	696	6.35	699	6.32	697	6.34
371.applu331	48	819	7.40	820	7.39	819	7.40	48	819	7.40	820	7.39	819	7.40
372.smithwa	48	856	6.26	848	6.32	847	6.32	24	507	10.6	504	10.6	492	10.9
376.kdtree	48	689	6.53	689	6.53	689	6.53	48	689	6.53	689	6.53	689	6.53

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

Platform Notes

Sysinfo program /store/hfeng/ompg2012-1.0/Docs/sysinfo

\$Rev: 395 \$ \$Date:: 2012-07-25 \$# 8f8c0fe9e19c658963a1e67685e50647

running on n001 Thu Aug 8 15:31:17 2013

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Platform Notes (Continued)

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:      132068080 kB
HugePages_Total: 0
Hugepagesize:  2048 kB

```

```

/usr/bin/lsb_release -d
SUSE Linux Enterprise Server 11 (x86_64)

```

```

From /etc/*release* /etc/*version*
SuSE-release:
  SUSE Linux Enterprise Server 11 (x86_64)
  VERSION = 11
  PATCHLEVEL = 2
sgi-accelerate-release: SGI Accelerate 1.6, Build 708r14.sles11sp2-1304102205
sgi-foundation-release: SGI Foundation Software 2.8, Build
708r14.sles11sp2-1304102205
sgi-mpi-release: SGI MPI 1.6, Build 708r14.sles11sp2-1304102205
sgi-upc-release: SGI UPC 1.6, Build 708r14.sles11sp2-1304102205

```

```

uname -a:
Linux n001 3.0.74-0.6.6-default #1 SMP Thu Apr 25 12:25:38 UTC 2013 (395d734)
x86_64 x86_64 x86_64 GNU/Linux

```

run-level 3 Aug 7 02:22 last=S

```

SPEC is set to: /store/hfeng/omp2012-1.0
Filesystem      Type  Size  Used Avail Use% Mounted on
10.149.5.200:/mnt/data nfs   45T   6.3T   38T   15% /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

threads=24

=====
359.botsspar:peak:

ENV_KMP_AFFINITY=compact,1

threads=24

=====
362.fma3d

basepeak=1

=====
363.swim:peak:

ENV_KMP_AFFINITY=compact,1

threads=24

=====
367.imagick

basepeak=1

=====
370.mgrid331:peak:

ENV_KMP_AFFINITY=compact,1

threads=24

=====
371.applu331:peak:

basepeak=1

=====
372.smithwa:peak:

ENV_KMP_AFFINITY=compact,1

threads=24

=====
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.applu331: basepeak = yes

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

<http://www.spec.org/omp2012/flags/SGI-ic13-linux64.html>

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

<http://www.spec.org/omp2012/flags/SGI-ic13-linux64.xml>



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For other inquiries, please contact webmaster@spec.org.

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