SPEC® OMPG2012 Result

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Cray
(Test Sponsor: Indiana University)

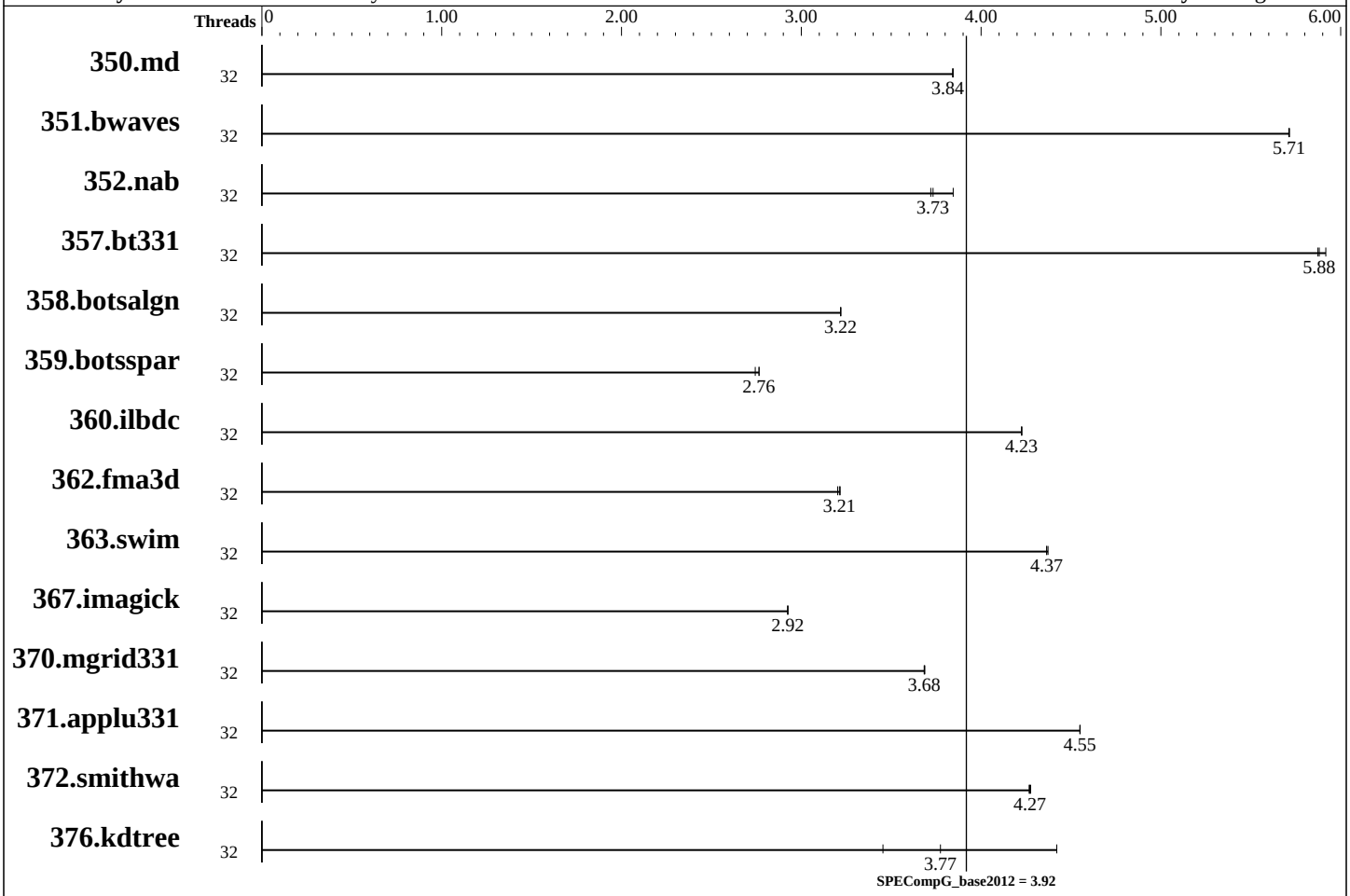
Cray XE6

SPECompG_peak2012 = Not Run

SPECompG_base2012 = 3.92

OMP2012 license: 3440A
Test sponsor: Indiana University
Tested by: Indiana University

Test date: Feb-2014
Hardware Availability: Apr-2013
Software Availability: Aug-2013



Hardware

CPU Name:	AMD Opteron 6380
CPU Characteristics:	AMD Turbo CORE Technology up to 3.4GHz, Turbo CORE off
CPU MHz:	2500
CPU MHz Maximum:	3400
FPU:	Integrated
CPU(s) enabled:	32 cores, 2 chips, 16 cores/chip
CPU(s) orderable:	1-2 chips
Primary Cache:	512 KB I on chip per chip, 64 KB I shared / 2 cores; 16 KB D on chip per core
Secondary Cache:	16 MB I+D on chip per chip, 2 MB shared / 2 cores
L3 Cache:	16 MB I+D on chip per chip, 8 MB shared / 8 cores
Other Cache:	None
Memory:	64 GB (8 x 8 GB 2Rx4 PC3L-12800R-11, ECC)
Disk Subsystem:	None
Other Hardware:	None

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Software

Operating System:	SUSE Linux Enterprise Server 11 (x86_64), Cray Linux Environment 4.1 Kernel 2.6.32.59-0.7.1_1.0401.6845-cray_gem_c 2.6.32.59-0.7.1_1.0401.6845-cray_gem_c
Compiler:	C/C++/Fortran: Version 13.7-0 of PGI compilers 64-bit target on x86-64 Linux
Auto Parallel:	No
File System:	NFSv3 (IBM N5500 NAS) over Gb ethernet
System State:	Multi-user, run level 3
Base Pointers:	64-bit
Peak Pointers:	Not Applicable
Other Software:	None

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Base Threads Run: 32
Minimum Peak Threads: --
Maximum Peak Threads: --

Results Table

Benchmark	Base							Peak						
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
350.md	32	**1205**	**3.84**	1205	3.84	1205	3.84							
351.bwaves	32	793	5.71	793	5.72	**793**	**5.71**							
352.nab	32	1012	3.84	1046	3.72	**1042**	**3.73**							
357.bt331	32	**806**	**5.88**	807	5.87	801	5.92							
358.botsalgn	32	**1351**	**3.22**	1351	3.22	1351	3.22							
359.botsspar	32	1913	2.74	1899	2.77	**1899**	**2.76**							
360.ilbdc	32	**843**	**4.23**	842	4.23	843	4.23							
362.fma3d	32	1187	3.20	**1183**	**3.21**	1181	3.22							
363.swim	32	1036	4.37	1038	4.36	**1038**	**4.37**							
367.imagick	32	2404	2.92	2403	2.93	**2403**	**2.92**							
370.mgrid331	32	1199	3.69	1200	3.68	**1200**	**3.68**							
371.applu331	32	1332	4.55	**1332**	**4.55**	1332	4.55							
372.smithwa	32	**1255**	**4.27**	1254	4.28	1256	4.27							
376.kdtree	32	**1192**	**3.77**	1303	3.45	1018	4.42							

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

Platform Notes

```
Sysinfo program /N/soft/mason/omp2012-1.0/omp2012_br2/Docs/sysinfo
$Rev: 395 $ $Date:: 2012-07-25 #$ 8f8c0fe9e19c658963a1e67685e50647
running on nid00929 Wed Feb 12 22:07:08 2014

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 : AMD Opteron(tm) Processor 6380
      2 "physical id"s (chips)
      32 "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 : 16
      siblings  : 16
      physical 0: cores 0 1 2 3 4 5 6 7
      physical 1: cores 0 1 2 3 4 5 6 7
   cache size : 2048 KB
```

Continued on next page

Platform Notes (Continued)

```
From /proc/meminfo
   MemTotal:       66178284 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 = 1
   mazama-release:
      Mazama Wed Aug 28 02:06:30 CDT 2013 on hssbld0 by bwdev
      lsb-cray-mazama-7.1.0

uname -a:
   Linux nid00929 2.6.32.59-0.7.1_1.0401.6845-cray_gem_c #1 SMP Thu Nov 15
   00:24:59 UTC 2012 x86_64 x86_64 x86_64 GNU/Linux


SPEC is set to: /N/soft/mason/omp2012-1.0/omp2012_br2
   Filesystem     Type  Size  Used Avail Use% Mounted on
   /N/soft        dvs   1.7T  1.6T   41G  98% /N/soft

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

(End of data from sysinfo program)
```

General Notes

```
Environment:
    ENV_OMP_NESTED=FALSE
    OMP_NESTED=FALSE
    OMP_DYNAMIC=FALSE
    OMP_NUM_THREADS=32
    threads = 32
```

Base Compiler Invocation

C benchmarks:
pgcc

C++ benchmarks:
pgCC

Fortran benchmarks:
pgfortran

Base Portability Flags

350.md: `-Mfree`
357.bt331: `-mcmodel=medium`
363.swim: `-mcmodel=medium`

Base Optimization Flags

C benchmarks:
`-fast -mp -Mipa=fast -Mipa=inline -Msmartalloc=huge -Mfprelaxed`

C++ benchmarks:
`-fast -mp -Mipa=fast -Mipa=inline -Msmartalloc=huge -Mfprelaxed`

Fortran benchmarks:

350.md: `-fast -mp -Mipa=fast -Mipa=inline -Msmartalloc=huge -Mfprelaxed`

351.bwaves: `Same as 350.md`

357.bt331: `-fast -mp -Mipa=fast -Mipa=inline -Msmartalloc=huge -Mfprelaxed -Bdynamic(*)`

360.ilbdc: `Same as 350.md`

362.fma3d: `Same as 350.md`

363.swim: `Same as 357.bt331`

370.mgrid331: `Same as 350.md`

371.applu331: `Same as 350.md`

(*) Indicates an optimization flag that was found in a portability variable.

The flags file that was used to format this result can be browsed at
`http://www.spec.org/omp2012/flags/pgi2013_linux_flags.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/omp2012/flags/pgi2013_linux_flags.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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