SPEC® OMPG2012 Result

SGI

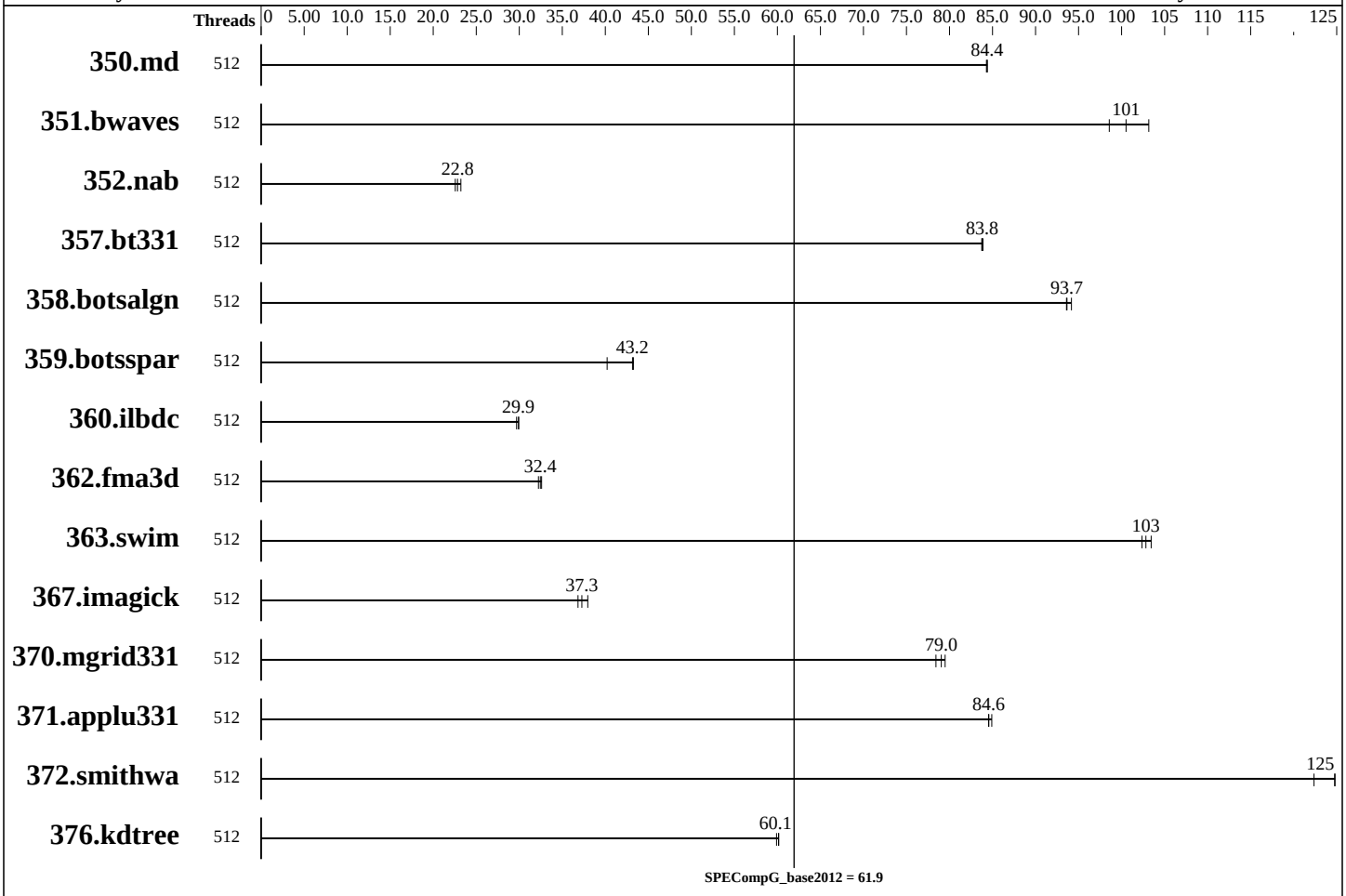
SGI UV 2000(Intel Xeon E5-4627 v2, 3.30 GHz)

SPECompG_peak2012 = Not Run

SPECompG_base2012 = 61.9

OMP2012 license: 14
Test sponsor: SGI
Tested by: SGI

Test date: Feb-2014
Hardware Availability: Mar-2014
Software Availability: Oct-2013



Hardware

CPU Name:	Intel Xeon E5-4627 v2
CPU Characteristics:	Intel Turbo Boost Technology up to 3.6 GHz
CPU MHz:	3300
CPU MHz Maximum:	3600
FPU:	Integrated
CPU(s) enabled:	512 cores, 64 chips, 8 cores/chip
CPU(s) orderable:	2-256 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:	16 MB I+D on chip per chip
Other Cache:	None
Memory:	4 TB (256 x 16 GB 2Rx4 PC3-14900R-13, ECC)
Disk Subsystem:	14.4 TB RAID 6 48 x 300 GB SAS (HITACHI - ULTRASTAR C10K600 SAS-6GBITS 10000RPM)
Other Hardware:	None

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Software

Operating System:	SUSE Linux Enterprise Server 11 (x86_64) SP3 Kernel: 3.0.93-0.8-default
Compiler:	C/C++/Fortran: Version 14.0.1.106 of Intel Composer XE for Linux, Build 20131008
Auto Parallel:	No
File System:	xfs
System State:	Run level 3 (Multi-user)
Base Pointers:	64-bit
Peak Pointers:	Not Applicable
Other Software:	SGI Performance Suite 1.7, Build 709r14.sles11sp3-1310092003

Results Table

Benchmark	Base							Peak						
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
350.md	512	**54.9**	**84.4**	54.9	84.3	54.9	84.4							
351.bwaves	512	43.9	103	46.0	98.6	**45.1**	**101**							
352.nab	512	**170**	**22.8**	168	23.2	172	22.6							
357.bt331	512	56.5	83.9	56.6	83.7	**56.6**	**83.8**							
358.botsalgn	512	46.2	94.2	46.5	93.6	**46.4**	**93.7**							
359.botsspar	512	121	43.3	**122**	**43.2**	131	40.2							
360.ilbdc	512	119	29.9	120	29.7	**119**	**29.9**							
362.fma3d	512	118	32.2	117	32.6	**117**	**32.4**							
363.swim	512	43.8	103	44.2	102	**44.1**	**103**							
367.imagick	512	191	36.8	**189**	**37.3**	185	38.0							
370.mgrid331	512	55.6	79.5	56.4	78.4	**55.9**	**79.0**							
371.applu331	512	71.4	84.9	71.7	84.5	**71.7**	**84.6**							
372.smithwa	512	**43.0**	**125**	42.9	125	43.8	122							
376.kdtree	512	75.1	59.9	**74.8**	**60.1**	74.8	60.2							

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

Submit Notes

```
The config file option 'submit' was used.
For all benchmarks threads were bound to cores using
the following submit command:
    dplace -x2 $command
This binds threads in order of creation, beginning
with the master thread on logical cpu 0, the first slave
thread on logical cpu 1, and so on.  The -x2 flag instructs
dplace to skip placement of the lightweight OpenMP monitor
thread, which is created prior to the slave threads.
```

Operating System Notes

```
Transparent Hugepage :
    Transparent Hugepage is disabled by
    echo never > /sys/kernel/mm/transparent_hugepage/enabled

Software Environment:
    export KMP_AFFINITY=disabled
    export KMP_STACKSIZE=200M
```

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Operating System Notes (Continued)

```
export KMP_SCHEDULE=static,balanced
export OMP_DYNAMIC=FALSE
limit -s unlimited
```

Platform Notes

```
Sysinfo program /store/hfeng/omp2012/1.0/Docs/sysinfo
$Rev: 395 $ $Date:: 2012-07-25 #$ 8f8c0fe9e19c658963a1e67685e50647
running on cy022-sys Tue Feb 25 12:20:43 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 : Intel(R) Xeon(R) CPU E5-4627 v2 @ 3.30GHz
      64 "physical id"s (chips)
      512 "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 : 8
      siblings  : 8
      physical 0: cores 0 1 2 3 4 5 6 7
      physical 1: cores 0 1 2 3 4 5 6 7
      physical 2: cores 0 1 2 3 4 5 6 7
      physical 3: cores 0 1 2 3 4 5 6 7
      physical 4: cores 0 1 2 3 4 5 6 7
      physical 5: cores 0 1 2 3 4 5 6 7
      physical 6: cores 0 1 2 3 4 5 6 7
      physical 7: cores 0 1 2 3 4 5 6 7
      physical 8: cores 0 1 2 3 4 5 6 7
      physical 9: cores 0 1 2 3 4 5 6 7
      physical 10: cores 0 1 2 3 4 5 6 7
      physical 11: cores 0 1 2 3 4 5 6 7
      physical 12: cores 0 1 2 3 4 5 6 7
      physical 13: cores 0 1 2 3 4 5 6 7
      physical 14: cores 0 1 2 3 4 5 6 7
      physical 15: cores 0 1 2 3 4 5 6 7
      physical 16: cores 0 1 2 3 4 5 6 7
      physical 17: cores 0 1 2 3 4 5 6 7
      physical 18: cores 0 1 2 3 4 5 6 7
      physical 19: cores 0 1 2 3 4 5 6 7
      physical 20: cores 0 1 2 3 4 5 6 7
      physical 21: cores 0 1 2 3 4 5 6 7
      physical 22: cores 0 1 2 3 4 5 6 7
      physical 23: cores 0 1 2 3 4 5 6 7
      physical 24: cores 0 1 2 3 4 5 6 7
      physical 25: cores 0 1 2 3 4 5 6 7
      physical 26: cores 0 1 2 3 4 5 6 7
```

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Platform Notes (Continued)

```
        physical 27: cores 0 1 2 3 4 5 6 7
        physical 28: cores 0 1 2 3 4 5 6 7
        physical 29: cores 0 1 2 3 4 5 6 7
        physical 30: cores 0 1 2 3 4 5 6 7
        physical 31: cores 0 1 2 3 4 5 6 7
        physical 32: cores 0 1 2 3 4 5 6 7
        physical 33: cores 0 1 2 3 4 5 6 7
        physical 34: cores 0 1 2 3 4 5 6 7
        physical 35: cores 0 1 2 3 4 5 6 7
        physical 36: cores 0 1 2 3 4 5 6 7
        physical 37: cores 0 1 2 3 4 5 6 7
        physical 38: cores 0 1 2 3 4 5 6 7
        physical 39: cores 0 1 2 3 4 5 6 7
        physical 40: cores 0 1 2 3 4 5 6 7
        physical 41: cores 0 1 2 3 4 5 6 7
        physical 42: cores 0 1 2 3 4 5 6 7
        physical 43: cores 0 1 2 3 4 5 6 7
        physical 44: cores 0 1 2 3 4 5 6 7
        physical 45: cores 0 1 2 3 4 5 6 7
        physical 46: cores 0 1 2 3 4 5 6 7
        physical 47: cores 0 1 2 3 4 5 6 7
        physical 48: cores 0 1 2 3 4 5 6 7
        physical 49: cores 0 1 2 3 4 5 6 7
        physical 50: cores 0 1 2 3 4 5 6 7
        physical 51: cores 0 1 2 3 4 5 6 7
        physical 52: cores 0 1 2 3 4 5 6 7
        physical 53: cores 0 1 2 3 4 5 6 7
        physical 54: cores 0 1 2 3 4 5 6 7
        physical 55: cores 0 1 2 3 4 5 6 7
        physical 56: cores 0 1 2 3 4 5 6 7
        physical 57: cores 0 1 2 3 4 5 6 7
        physical 58: cores 0 1 2 3 4 5 6 7
        physical 59: cores 0 1 2 3 4 5 6 7
        physical 60: cores 0 1 2 3 4 5 6 7
        physical 61: cores 0 1 2 3 4 5 6 7
        physical 62: cores 0 1 2 3 4 5 6 7
        physical 63: cores 0 1 2 3 4 5 6 7
    cache size : 16384 KB

From /proc/meminfo
    MemTotal:       4102437676 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 = 3
```

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Platform Notes (Continued)

```
    sgi-accelerate-release: SGI Accelerate 1.7, Build 709r14.sles11sp3-1310092003
    sgi-foundation-release: SGI Foundation Software 2.9, Build
    709r14.sles11sp3-1310092003
    sgi-mpi-release: SGI MPI 1.7, Build 709r14.sles11sp3-1310092003
    sgi-propack-release: SGI ProPack 708 for Linux, Build
    708r16.sles11sp2-1304162204
    sgi-release: SGI Performance Suite 1.7, Build 709r14.sles11sp3-1310092003
    sgi-upc-release: SGI UPC 1.7, Build 709r14.sles11sp3-1310092003
    sgi-xvm-release: SGI XVM 7.1, Build 709b52.sles11sp3-1312202101

uname -a:
   Linux cy022-sys 3.0.93-0.8-default #1 SMP Tue Aug 27 08:44:18 UTC 2013
   (70ed288) x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Feb 22 01:34 last=S

SPEC is set to: /store/hfeng/omp2012/1.0
   Filesystem            Type  Size  Used Avail Use% Mounted on
   /dev/lxvm/cy022-store xfs   9.9T  7.1T  2.8T  72% /store

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

(End of data from sysinfo program)
```

Base Compiler Invocation

C benchmarks:
icc

C++ benchmarks:
icpc

Fortran benchmarks:
ifort

Base Portability Flags

350.md: -free
367.imagick: -std=c99

Base Optimization Flags

C benchmarks:
-O3 -xAVX -ipo1 -openmp -ansi-alias -mcmodel=medium -shared-intel

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Base Optimization Flags (Continued)

C++ benchmarks:
```
-O3 -xAVX -ipo1 -openmp -ansi-alias -mcmodel=medium -shared-intel
```

Fortran benchmarks:
```
-O3 -xAVX -ipo1 -openmp -mcmodel=medium -shared-intel
```

The flags file that was used to format this result can be browsed at
http://www.spec.org/omp2012/flags/SGI-OMP2012-ic14.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/omp2012/flags/SGI-OMP2012-ic14.xml

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

Tested with SPEC OMP2012 v1.0.
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