SPEC® OMPG2012 Result

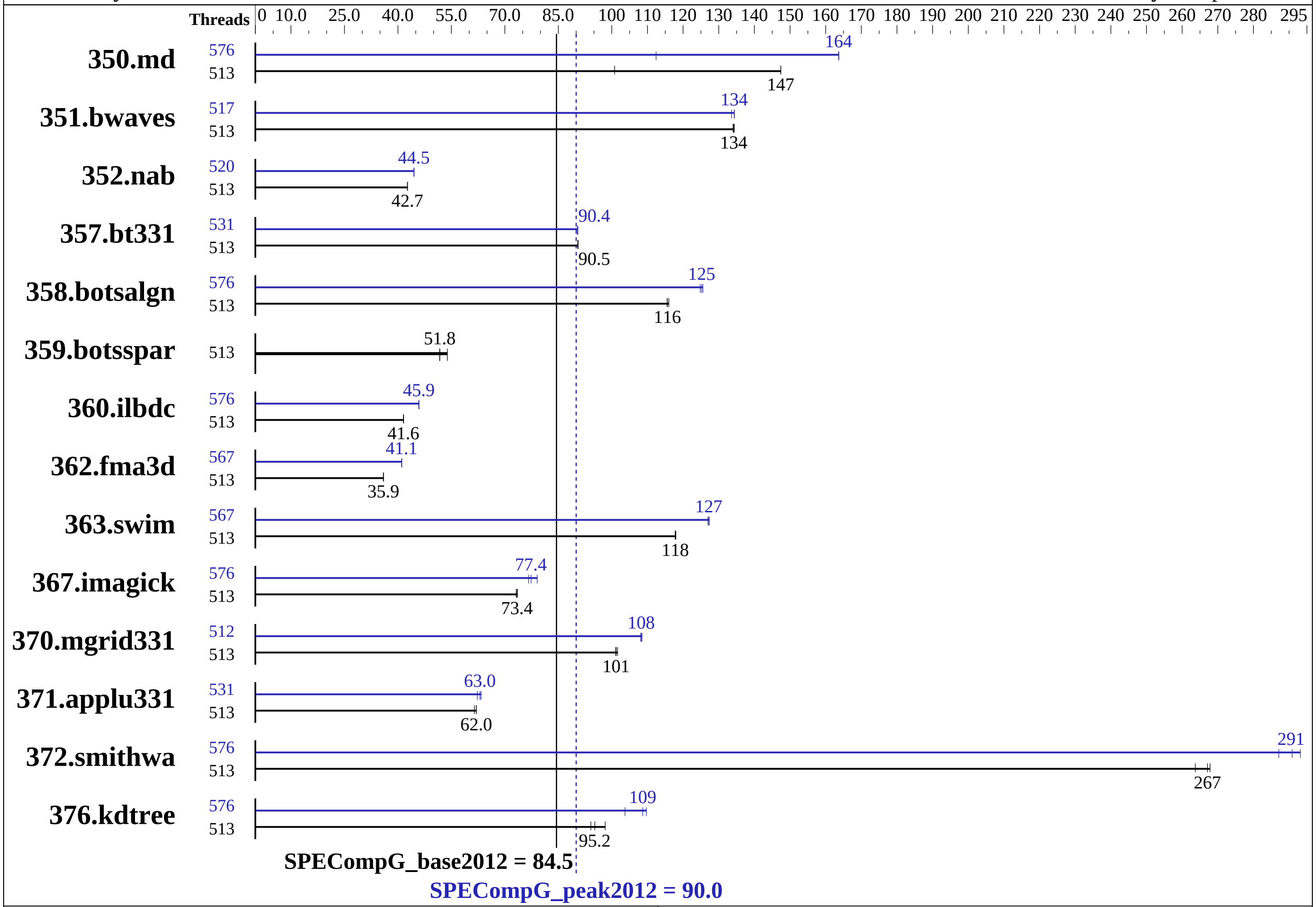
SGI

SGI UV 300 (Intel Xeon E7-8867 v4, 2.40 GHz)

SPECompG_peak2012 = 90.0

SPECompG_base2012 = 84.5

OMP2012 license:	14	**Test date:**	Jun-2016
Test sponsor:	SGI	**Hardware Availability:**	Jun-2016
Tested by:	SGI	**Software Availability:**	Apr-2016



Hardware

CPU Name:	Intel Xeon E7-8867 v4
CPU Characteristics:	Intel Turbo Boost Technology up to 3.30 GHz
CPU MHz:	2400
CPU MHz Maximum:	3300
FPU:	Integrated
CPU(s) enabled:	576 cores, 32 chips, 18 cores/chip
CPU(s) orderable:	4-32 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:	45 MB I+D on chip per chip
Other Cache:	None
Memory:	8 TB (512 x 16 GB 2Rx4 PC4-2133P-R, running at 1600 MHz)
Disk Subsystem:	1 x 400 GB SSD (Intel SSD 3500 Series, SATA II)
Other Hardware:	None

Continued on next page

Software

Operating System:	SUSE Linux Enterprise Server 12 (x86_64) SP1 Kernel 3.12.57-60.35-default
Compiler:	C/C++/Fortran: Version 16.0.3.210 of Intel Composer XE for Linux, Build 20160415
Auto Parallel:	No
File System:	ext3
System State:	Multi-user, run level 3
Base Pointers:	64-bit
Peak Pointers:	Not Applicable
Other Software:	SGI Accelerate 1.12 (Build 714r28.sles12sp1-1604201900), SGI Foundation Software 2.14 (Build 714r28.sles12sp1-1604201900)

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Base Threads Run: 513
Minimum Peak Threads: 512
Maximum Peak Threads: 576

Results Table

Benchmark	Base							Peak						
	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Threads	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
350.md	513	31.4	147	**31.4**	**147**	45.9	101	576	28.3	164	41.2	112	**28.3**	**164**
351.bwaves	513	**33.8**	**134**	33.7	134	33.8	134	517	**33.7**	**134**	33.7	134	33.9	134
352.nab	513	91.1	42.7	**91.2**	**42.7**	91.2	42.7	520	**87.4**	**44.5**	87.5	44.5	87.4	44.5
357.bt331	513	**52.4**	**90.5**	52.3	90.6	52.4	90.4	531	**52.4**	**90.4**	52.4	90.5	52.5	90.4
358.botsalgn	513	37.7	116	**37.6**	**116**	37.5	116	576	34.6	126	**34.7**	**125**	34.9	125
359.botsspar	513	**101**	**51.8**	102	51.7	97.5	53.9	513	**101**	**51.8**	102	51.7	97.5	53.9
360.ilbdc	513	85.7	41.5	**85.7**	**41.6**	85.5	41.6	576	**77.6**	**45.9**	77.7	45.8	77.6	45.9
362.fma3d	513	**106**	**35.9**	106	36.0	106	35.9	567	92.5	41.1	92.6	41.0	**92.5**	**41.1**
363.swim	513	38.5	118	**38.4**	**118**	38.4	118	567	**35.6**	**127**	35.7	127	35.6	127
367.imagick	513	95.6	73.5	**95.7**	**73.4**	96.1	73.2	576	88.9	79.1	91.7	76.7	**90.9**	**77.4**
370.mgrid331	513	**43.7**	**101**	43.7	101	43.5	102	512	**40.8**	**108**	40.9	108	40.7	108
371.applu331	513	98.6	61.5	97.7	62.0	**97.7**	**62.0**	531	**96.1**	**63.0**	97.3	62.3	95.7	63.3
372.smithwa	513	20.3	264	20.0	268	**20.1**	**267**	576	**18.4**	**291**	18.3	293	18.7	287
376.kdtree	513	47.8	94.1	**47.3**	**95.2**	45.8	98.2	576	41.0	110	**41.4**	**109**	43.4	104

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 Hugepages :
    Transparent Hugepages are 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
ulimit -s unlimited
```

Platform Notes

```
Intel Hyperthreading set to Disabled
```

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 -xCORE-AVX2 -ipo1 -openmp -ansi-alias -mcmodel=medium -shared-intel`

C++ benchmarks:
`-O3 -xCORE-AVX2 -ipo1 -openmp -ansi-alias -mcmodel=medium -shared-intel`

Fortran benchmarks:
`-O3 -xCORE-AVX2 -ipo1 -openmp -mcmodel=medium -shared-intel -align array64byte`

Peak Compiler Invocation

C benchmarks:
`icc`

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Peak Compiler Invocation (Continued)

C++ benchmarks:
`icpc`

Fortran benchmarks:
`ifort`

Peak Portability Flags

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

Peak Optimization Flags

C benchmarks:

352.nab: `-O3 -xCORE-AVX2 -ipo1 -openmp -ansi-alias -mcmodel=medium -shared-intel`

358.botsalgn: `Same as 352.nab`

359.botsspar: `basepeak = yes`

367.imagick: `Same as 352.nab`

372.smithwa: `Same as 352.nab`

C++ benchmarks:
`-O3 -xCORE-AVX2 -ipo1 -openmp -ansi-alias -mcmodel=medium -shared-intel`

Fortran benchmarks:
`-O3 -xCORE-AVX2 -ipo1 -openmp -mcmodel=medium -shared-intel -align array64byte`

The flags files that were used to format this result can be browsed at
http://www.spec.org/omp2012/flags/SGI-OMP2012-ic16.20160706.html
http://www.spec.org/omp2012/flags/SGI-UV300-RevB.20160706.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/omp2012/flags/SGI-OMP2012-ic16.20160706.xml
http://www.spec.org/omp2012/flags/SGI-UV300-RevB.20160706.xml

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

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