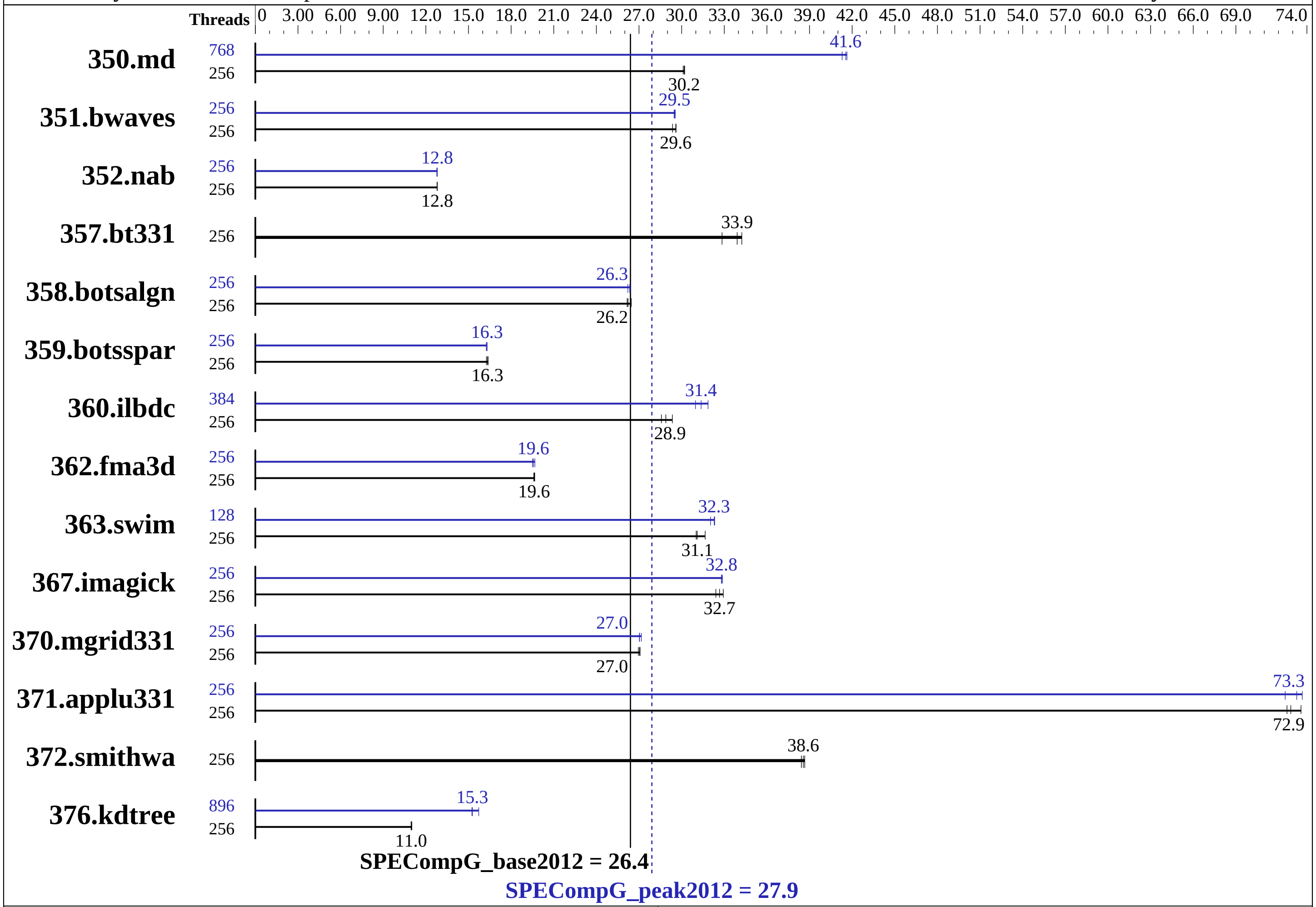
Oracle Corporation
SPARC T7-4

SPECompG_peak2012 = 27.9

SPECompG_base2012 = 26.4

OMP2012 license: 10
Test sponsor: Oracle Corporation
Tested by: Oracle Corporation

Test date: Sep-2015
Hardware Availability: Nov-2015
Software Availability: Oct-2015



Hardware

CPU Name:	SPARC M7
CPU Characteristics:	
CPU MHz:	4133
CPU MHz Maximum:	4133
FPU:	Integrated
CPU(s) enabled:	128 cores, 4 chips, 32 cores/chip, 8 threads/core
CPU(s) orderable:	4 chips
Primary Cache:	16 KB I + 16 KB D on chip per core
Secondary Cache:	2 MB I on chip per chip (256 KB / 4 cores); 4 MB D on chip per chip (256 KB / 2 cores)
L3 Cache:	64 MB I+D on chip per chip (8 MB / 4 cores)
Other Cache:	None
Memory:	2 TB (64 x 32 GB 4Rx4 PC4-2133P-L)
Disk Subsystem:	1.2 TB 4 x 600 GB SAS2 10000 RPM (mirrored)
Other Hardware:	None
Base Threads Run:	256

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Software

Operating System:	Oracle Solaris 11.3
Compiler:	C/C++/Fortran: Version 12.4 of Oracle Solaris Studio, 4/15 Patch Set
Auto Parallel:	No
File System:	zfs
System State:	Default
Base Pointers:	64-bit
Peak Pointers:	64-bit
Other Software:	None

SPEC OMPG2012 Result

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Test date: Sep-2015

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Software Availability: Oct-2015

Minimum Peak Threads: 128
Maximum Peak Threads: 896

Results Table

	Base							Peak						
Benchmark	**Threads**	**Seconds**	**Ratio**	**Seconds**	**Ratio**	**Seconds**	**Ratio**	**Threads**	**Seconds**	**Ratio**	**Seconds**	**Ratio**	**Seconds**	**Ratio**
350.md	256	154	30.1	153	30.2	**153**	**30.2**	768	111	41.6	112	41.3	**111**	**41.6**
351.bwaves	256	153	29.6	**153**	**29.6**	154	29.4	256	**154**	**29.5**	153	29.6	154	29.5
352.nab	256	**304**	**12.8**	304	12.8	304	12.8	256	305	12.8	**304**	**12.8**	304	12.8
357.bt331	256	138	34.2	**140**	**33.9**	144	32.8	256	138	34.2	**140**	**33.9**	144	32.8
358.botsalgn	256	164	26.5	166	26.2	**166**	**26.2**	256	**165**	**26.3**	166	26.2	165	26.4
359.botsspar	256	320	16.4	**321**	**16.3**	323	16.3	256	322	16.3	323	16.3	**322**	**16.3**
360.ilbdc	256	125	28.6	**123**	**28.9**	121	29.3	384	115	31.0	**113**	**31.4**	112	31.9
362.fma3d	256	194	19.6	**194**	**19.6**	193	19.7	256	193	19.7	**194**	**19.6**	195	19.5
363.swim	256	146	31.0	143	31.7	**146**	**31.1**	128	141	32.0	140	32.3	**140**	**32.3**
367.imagick	256	213	32.9	**215**	**32.7**	217	32.4	256	**214**	**32.8**	214	32.8	214	32.9
370.mgrid331	256	**163**	**27.0**	164	27.0	163	27.1	256	164	27.0	163	27.2	**163**	**27.0**
371.applu331	256	**83.2**	**72.9**	83.5	72.6	82.4	73.6	256	82.3	73.7	**82.7**	**73.3**	83.6	72.5
372.smithwa	256	139	38.4	139	38.7	**139**	**38.6**	256	139	38.4	139	38.7	**139**	**38.6**
376.kdtree	256	**410**	**11.0**	409	11.0	411	11.0	896	295	15.2	**295**	**15.3**	286	15.7

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

Base Tuning Notes

```
Environment variables set to bind processes:
   OMP_PROC_BIND=true
   OMP_PLACES={0:2}:128:8
```

Peak Tuning Notes

```
Environment variables set to bind processes:
   OMP_PROC_BIND=true
   OMP_PLACES={0}:128:8
      for 363.swim
   OMP_PLACES={0:2}:128:8
      for 351.bwaves, 352.nab, 357.bt331, 358.botsalgn,
      359.botsspar, 362,fma3d, 367.imagick, 370.mgrid331
      371.applu331, 372.smithwa
   OMP_PLACES={0:3}:128:8
      for 360.ilbc
   OMP_PLACES={0:6}:128:8
      for 350.md
   OMP_PLACES={0:7}:128:8
```

Continued on next page

Peak Tuning Notes (Continued)

```
        for 376.kdtree
```

Submit Notes

```
 The config file option 'submit' was used.
```

Operating System Notes

```
  ulimit -s 131072 was used to limit the space
  consumed by the stack

  /etc/system parameters
     set user_reserve_hint_pct=85
        Informs the system about how much memory is expected
        to be used by applications (as a percentage)
```

Platform Notes

```
  Power policy set to 'disabled' at ILOM Power Managment menu
  Sysinfo program /omp2012/Docs/sysinfo
  $Rev: 395 $ $Date:: 2012-07-25 #$ 8f8c0fe9e19c658963a1e67685e50647
  running on t7-4-001 Thu Sep 10 11:40:35 2015

  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 /usr/sbin/psrinfo
     SPARC-M7 (chipid 0, clock 4133 MHz)
     SPARC-M7 (chipid 1, clock 4133 MHz)
     SPARC-M7 (chipid 2, clock 4133 MHz)
     SPARC-M7 (chipid 3, clock 4133 MHz)
     4 chips
     1024 threads
     4133 MHz

  From kstat:      128 cores

  From prtconf: 1963264 Megabytes

  /etc/release:
       Oracle Solaris 11.3 SPARC
  uname -a:
     SunOS t7-4-001 5.11 11.3 sun4v sparc sun4v

  disk: df -h  $SPEC
  Filesystem             Size   Used  Available Capacity  Mounted on
  spec/omp2012           1.1T   6.3G        1.1T      1%    /omp2012
```

Continued on next page

Platform Notes (Continued)

```
(End of data from sysinfo program)
```

Base Compiler Invocation

C benchmarks:
`cc`

C++ benchmarks:
`CC`

Fortran benchmarks:
`f95`

Base Portability Flags

350.md: `-free`

Base Optimization Flags

C benchmarks:
`-g -fast -xipo=2 -m64 -xopenmp -xpagesize=4M -xalias_level=std -xprefetch_level=2 -lumem`

C++ benchmarks:
`-g -fast -xipo=2 -m64 -xopenmp -xpagesize=4M -lumem`

Fortran benchmarks:
`-g -fast -xipo=2 -m64 -xopenmp -xpagesize=4M -lumem`

Peak Compiler Invocation

C benchmarks:
`cc`

C++ benchmarks:
`CC`

Fortran benchmarks:
`f95`

Peak Portability Flags

350.md: `-free`

Peak Optimization Flags

C benchmarks:

352.nab: `-g -fast -xipo=2 -m64 -xopenmp -xpagesize=4M -xalias_level=std -xprefetch_level=2 -lumem`

358.botsalgn: `Same as 352.nab`

359.botsspar: `Same as 352.nab`

367.imagick: `Same as 352.nab`

372.smithwa: `basepeak = yes`

C++ benchmarks:
`-g -fast -xipo=2 -m64 -xopenmp -xpagesize=4M -lumem`

Fortran benchmarks:

350.md: `-g -fast -xipo=2 -m64 -xopenmp -xpagesize=4M -lumem`

351.bwaves: `Same as 350.md`

357.bt331: `basepeak = yes`

360.ilbdc: `Same as 350.md`

362.fma3d: `Same as 350.md`

363.swim: `Same as 350.md`

370.mgrid331: `Same as 350.md`

371.applu331: `Same as 350.md`

The flags file that was used to format this result can be browsed at
http://www.spec.org/omp2012/flags/Oracle-Solaris-Studio12.4.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/omp2012/flags/Oracle-Solaris-Studio12.4.xml

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

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