Oracle Corporation
SPARC T7-4

SPECompG_peak2012 = 27.9
SPECompG_base2012 = 26.4

OMPG license: 10
Test date: Sep-2015
Test sponsor: Oracle Corporation
Hardware Availability: Nov-2015
Tested by: Oracle Corporation
Software Availability: Oct-2015

Threads

350.md
256 268 30.2
256 29.5

351.bwaves
256 256 12.8
256 29.6

352.nab
256 256 12.8
256 33.9

357.bt331
256 256 26.3

358.botsalgn
256 256 26.2

359.botsspar
256 256 16.3
256 31.4

360.ilbdc
384 256 28.9

362.fma3d
256 256 19.6

363.swim
128 256 32.3

367.imagick
256 256 31.1
256 32.8

370.mgrid331
256 256 27.0

371.applu331
256 256 27.0

372.smithwa
256 256 38.6

376.kdtree
896 256 15.3

SPECompG_base2012 = 26.4
SPECompG_peak2012 = 27.9

Hardware
CPU Name: SPARC M7
CPU Characteristics: 4133
CPU MHz: 4133
CPU(s) enabled: 128 cores, 4 chips, 32 cores/chip, 8 threads/core
CPU(s) orderable: 4 chips
Primary Cache: 16 KB L1 and 16 KB D on chip per core
Secondary Cache: 2 MB L1 on chip per chip (256 KB / 4 cores); 4 MB D on chip per chip (256 KB / 2 cores)
L3 Cache: 64 MB L3 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

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

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Oracle Corporation
SPARC T7-4

SPECompG_peak2012 = 27.9
SPECompG_base2012 = 26.4

OMP2012 license: 10
Test sponsor: Oracle Corporation
Tested by: Oracle Corporation
Minimum Peak Threads: 128
Maximum Peak Threads: 896

Results Table

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<thead>
<tr>
<th>Benchmark</th>
<th>Threads</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
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<th>Ratio</th>
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<td>367.imagick</td>
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<td>139</td>
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<td>376.kdtree</td>
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<td>409</td>
<td>11.0</td>
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<td>11.0</td>
<td>896</td>
<td>15.2</td>
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</tr>
</tbody>
</table>

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=(0:2):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.ilbdc
OMP_PLACES=(0:6):128:8
for 350.md
OMP_PLACES=(0:7):128:8

Continued on next page
Oracle Corporation
SPARC T7-4

SPECompG_peak2012 = 27.9
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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 Management menu
Sysinfo program /omp2012/Docs/sysinfo
$Rev: 395 $ $Date:: 2012-07-25 #$ 8f8c0fe9e19c658963a2e67685e50647
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
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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
SPEC OMPG2012 Result

Oracle Corporation
SPARC T7-4

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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.botspar: 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.ibxdc: 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
Oracle Corporation
SPARC T7-4

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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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