### Gromacs - Bug #1546

#### Legacy tools tests failed on armv7a with SIGBUS

**07/02/2014 11:03 AM - Alexey Shvetsov**

<table>
<thead>
<tr>
<th>Status:</th>
<th>Closed</th>
</tr>
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<tbody>
<tr>
<td>Priority:</td>
<td>Normal</td>
</tr>
<tr>
<td>Assignee:</td>
<td>Magnus Lundborg</td>
</tr>
<tr>
<td>Category:</td>
<td>core library</td>
</tr>
<tr>
<td>Target version:</td>
<td>5.1</td>
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</tbody>
</table>

**Affected version:** git master

#### Description

Backtrace for latest master branch code

```
Will write tng: Trajectory file (tng format)
Select group for output
Group 0 (   System) has  6 elements
Group 1 (FirstWaterMolecule) has  3 elements
Group 2 (SecondWaterMolecule) has  3 elements
Select a group: Selected 2: 'SecondWaterMolecule'
Reading frame 1 time 0.000 -> frame 1 time 0.000
Program received signal SIGBUS, Bus error.
```

```
0xb682b6e0 in quantize_float (x=0x24, x@entry=0x87543, natoms=natoms@entry=3, nframes=nframes@entry=1, precision=0.000999999931, quant=0x1, quant@entry=0x8efa0)
at /home/alexxy/Develop/gromacs/src/external/tng_io/src/compression/tng_compress.c:91
 91 quant[(frame*natoms*3+i*3+j)=(int)floor((x[(frame*natoms*3+i*3+j)/precision]+0.5));
(gdb)
(gdb) bt
#0 0xb682b6e0 in quantize_float (x=0x24, x@entry=0x87543, natoms=natoms@entry=3, nframes=nframes@entry=1, precision=0.000999999931, quant=0x1, quant@entry=0x8efa0)
at /home/alexxy/Develop/gromacs/src/external/tng_io/src/compression/tng_compress.c:91
#1 0xb682c7c0 in tng_compress_pos_float (pos=pos@entry=0x87543, natoms=3, nframes=nframes@entry=1, desired_precision=desired_precision@entry=0.00100000005, speed=speed@entry=0, algo=0x8b6f8, nitems=0xbeffc5bc) at /home/alexxy/Develop/gromacs/src/external/tng_io/src/compression/tng_compress.c:1248
#2 0xb682c874 in tng_compress_pos_float_find_algo (pos=pos@entry=0x87543, natoms=<optimized out>, nframes=nframes@entry=1, desired_precision=desired_precision@entry=0.00100000005, speed=speed@entry=0, algo=0x8b6f8, nitems=0xbeffc5bc, nitems@entry=0xbeffc5b4) at /home/alexxy/Develop/gromacs/src/external/tng_io/src/compression/tng_compress.c:1279
#3 0xb6847cd4 in tng_compress (start_pos=<optimized out>, type=2 "002", n_particles=1, n_frames=2468575403623720, block=0x88f00, tng_data=0x88f00)
at /home/alexxy/Develop/gromacs/src/external/tng_io/src/lib/tng_io.c:4837
#4 0xb685661c in tng_frame_set_write (tng_data=0x8c528, hash_mode=<optimized out>) at /home/alexxy/Develop/gromacs/src/external/tng_io/src/lib/tng_io.c:6311
#5 0xb685561c in tng_frame_set_write (tng_data=0x8c528, hash_mode=<optimized out>) at /home/alexxy/Develop/gromacs/src/external/tng_io/src/lib/tng_io.c:13107
#6 0xb686190c in tng_util_generic_write (tng_data=tng_data@entry=0x8c528, frame_nr=<optimized out>, values=values@entry=0x8b5f0, n_values_per_frame=n_values_per_frame@entry=3, block_id=block_id@entry=268435457, block_name=0xb6f0c810 "POSITIONS", block_name@entry=0x10000001 <error: Cannot access memory at address 0x10000001>, particle_dependency=1 "001", particle_dependency@entry=0 "000", compression=2 "002", compression@entry=16 "020") at /home/alexxy/Develop/gromacs/src/external/tng_io/src/lib/tng_io.c:18151
#7 0xb6862614 in tng_util_generic_with_time_write (tng_data=0x8c528, frame_nr=<optimized out>, time=0, values=0x8bf50, n_values_per_frame=3, block_id=268435457, block_name=0xb6f0c810 "POSITIONS", particle_dependency=1 "001", compression=2 "002") at /home/alexxy/Develop/gromacs/src/external/tng_io/src/lib/tng_io.c:18662
#8 0xb6b44204 in gmx_fwrite_tng (tng=0x8c528, bUseLossyCompression=<optimized out>, step=1, elapsedPicoSeconds=<optimized out>, lambda=2.80259693e-45, box=0x88f00 <__stack_chk_guard@GLIBC_2.4>, nAtoms=3, x=0x8bf50, v=0x8bf50, f=0x0) at /home/alexxy/Develop/gromacs/src/gromacs/fileio/tngio.cpp:796
#9 0xb6b3c6f8 in gmx_write_tng_from_trxframe (output=<optimized out>, frame@entry=0xbeffcb90, natoms=3,
```

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GetMutableTestCase(test_index)->Run();
(gdb) up
#22 0x000667fc in HandleSehExceptionsInMethodIfSupported<testing::internal::UnitTestImpl, bool> (location=<optimized out>,
    method=<optimized out>, object=<optimized out>)
at /home/alexxy/Develop/gromacs/src/external/gmock-1.7.0/gtest/src/gtest.cc:2078
2078    return (object->*method)();
(gdb) up
#23 HandleExceptionsInMethodIfSupported<testing::internal::UnitTestImpl, bool> (location=0x76318 "auxiliary test code
    (environments or event listeners)",
    method=(bool (testing::internal::UnitTestImpl::*)(testing::internal::UnitTestImpl * const)) 0x661bc
<testing::internal::UnitTestImpl::RunAllTests()>, object=0x86ca8)
at /home/alexxy/Develop/gromacs/src/external/gmock-1.7.0/gtest/src/gtest.cc:2114
2114    return HandleSehExceptionsInMethodIfSupported(object, method, location);
(gdb) up
#24 testing::UnitTest::Run (this=<optimized out>) at /home/alexxy/Develop/gromacs/src/external/gmock-1.7.0/gtest/src/gtest.cc:3929
3929    "auxiliary test code (environments or event listeners)" ? 0 : 1;
(gdb) up
#25 0x00028428 in RUN_ALL_TESTS () at /home/alexxy/Develop/gromacs/src/external/gmock-1.7.0/gtest/include/gtest/gtest.h:2288
2288    return ::testing::UnitTest::GetInstance()->Run();
(gdb) up
#26 main (argc=164904, argv=0xbeffef04) at /home/alexxy/Develop/gromacs/src/testutils/unittest_main.cpp:63
63    int errcode = RUN_ALL_TESTS();
(gdb) up
Initial frame selected; you cannot go up.

Related issues:
- Related to Gromacs - Bug #1559: Writing TNG files fails on Xeon Phi
  Closed 07/10/2014
- Duplicates Gromacs - Bug #1542: two unit tests fail on 32-bit ARM
  Closed 06/30/2014

Associated revisions
Revision 898166c3 - 08/21/2014 05:33 PM - Magnus Lundborg
Fixed TNG memory alignment problem and reset pointers.
This is a temporary fix to the memory alignment problems on some
platforms. In the main TNG repository the whole I/O system is
rewritten to address this problem. This fix is to avoid the
problems without making too large changes.
There are also some pointers that were not reset after memory
was freed. This is also fixed in here.
This commit does not correspond to any commit in the TNG
repository.
Fixes #1542, #1546, #1547 and #1559.
Change-Id: I90a6406ccbbc43fd57d4423c2b661019cf7763e8

History
#1 - 07/02/2014 12:00 PM - Teemu Murtola
- Duplicates Bug #1542: two unit tests fail on 32-bit ARM added

11/19/2015
#2 - 07/02/2014 01:02 PM - Magnus Lundborg
- Status changed from New to In Progress
- Assignee set to Magnus Lundborg

#3 - 07/02/2014 08:56 PM - Mark Abraham
- Description updated

#4 - 07/11/2014 10:32 AM - Magnus Lundborg
- Related to Bug #1559: Writing TNG files fails on Xeon Phi added

#5 - 07/11/2014 11:53 AM - Gerrit Code Review Bot
Gerrit received a related patchset '1' for Issue #1546.
Uploader: Magnus Lundborg (magnus.lundborg@scilifelab.se)
Change-id: i96e0704d3858264ca918603bf1d7e3b27b4db7ea
Gerrit URL: https://gerrit.gromacs.org/3799

#6 - 07/11/2014 12:38 PM - Magnus Lundborg
- Status changed from In Progress to Fix uploaded

#7 - 07/15/2014 09:12 AM - Teemu Murtola
- Category changed from testing to core library
- Target version changed from 5.x to 5.1

#8 - 08/25/2014 06:15 AM - Roland Schulz
- Status changed from Fix uploaded to Closed