

GROMACS - Bug #1546

Legacy tools tests failed on armv7a with SIGBUS

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

Status:	Closed		
Priority:	Normal		
Assignee:	Magnus Lundborg		
Category:	core library		
Target version:	5.1		
Affected version - extra info:		Difficulty:	uncategorized
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[iframe*natoms*3+i*3+j]=(int)floor((x[iframe*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, nitoms=0xbefc5bc) 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, nitoms=0xbefc5bc, nitoms@entry=0xbefc5b4) 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 tng_particle_data_block_write (tng_data=0x88f00, tng_data@entry=0x8c528, block=0x88f00, block_index=<optimized out>, mapping=mapping@entry=0x0, hash_mode=hash_mode@entry=1 '\001')
```

```
at /home/alexxy/Develop/gromacs/src/external/tng_io/src/lib/tng_io.c:6311
```

```
#5 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:13107
```

```
#6 0xb686190c in tng_util_generic_write (tng_data=tng_data@entry=0x8c528, frame_nr=<optimized out>, values=values@entry=0x8bf50, 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 0xb68626f4 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=0x854b8 <__stack_chk_guard@@GLIBC_2.4>, nAtoms=3, x=0x8bf50, v=0x8b5c0, f=0x0) at /home/al
```

```

exxy/Develop/gromacs/src/gromacs/fileio/tngio.cpp:796
#9 0xb6b3c6f8 in gmw_write_tng_from_trxframe (output=<optimized out>, frame=frame@entry=0xbefc90, natoms=3, natoms@entry=-1)
    at /home/alexxy/Develop/gromacs/src/gromacs/fileio/tngio_for_tools.cpp:198
#10 0xb6b4a360 in write_tng_frame (status=<optimized out>, frame=frame@entry=0xbefc90) at /home/alexxy/Develop/gromacs/src/gromacs/fileio/trxio.c:510
#11 0xb6c21ae4 in gmw_trjconv (argc=-1224967432, argv=<optimized out>) at /home/alexxy/Develop/gromacs/src/gromacs/gmxana/gmw_trjconv.c:1748
#12 0x00029638 in runTest (fileName=0x703a0 "spc2-traj.trr", this=<optimized out>) at /home/alexxy/Develop/gromacs/src/gromacs/gmxana/legacyttests/gmw_traj_tests.cpp:117
#13 (anonymous namespace)::TrjconvWithIndexGroupSubset_WithDifferentInputFormats_Test::TestBody (this=<optimized out>)
    at /home/alexxy/Develop/gromacs/src/gromacs/gmxana/legacyttests/gmw_traj_tests.cpp:128
#14 0x0006f254 in HandleSehExceptionsInMethodIfSupported<testing::Test, void> (location=0x761ac "the test body", method=&virtual testing::Test::TestBody(), object=0x8bec8)
    at /home/alexxy/Develop/gromacs/src/external/gmock-1.7.0/gtest/src/gtest.cc:2078
#15 testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void> (object=object@entry=0x8bec8, method=&virtual testing::Test::TestBody(),
    location=location@entry=0x761ac "the test body") at /home/alexxy/Develop/gromacs/src/external/gmock-1.7.0/gtest/src/gtest.cc:2114
#16 0x00065dd4 in testing::Test::Run (this=0x8bec8) at /home/alexxy/Develop/gromacs/src/external/gmock-1.7.0/gtest/src/gtest.cc:2151
#17 0x00065fa0 in testing::TestInfo::Run (this=0x87958) at /home/alexxy/Develop/gromacs/src/external/gmock-1.7.0/gtest/src/gtest.cc:2326
#18 0x000660e0 in Run (this=<optimized out>) at /home/alexxy/Develop/gromacs/src/external/gmock-1.7.0/gtest/src/gtest.cc:2301
#19 testing::TestCase::Run (this=0x879d8) at /home/alexxy/Develop/gromacs/src/external/gmock-1.7.0/gtest/src/gtest.cc:2444
#20 0x000665b0 in Run (this=<optimized out>) at /home/alexxy/Develop/gromacs/src/external/gmock-1.7.0/gtest/src/gtest.cc:2430
#21 testing::internal::UnitTestImpl::RunAllTests (this=<optimized out>) at /home/alexxy/Develop/gromacs/src/external/gmock-1.7.0/gtest/src/gtest.cc:4315
#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
#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
#24 testing::UnitTest::Run (this=<optimized out>) at /home/alexxy/Develop/gromacs/src/external/gmock-1.7.0/gtest/src/gtest.cc:3929
#25 0x00028428 in RUN_ALL_TESTS () at /home/alexxy/Develop/gromacs/src/external/gmock-1.7.0/gtest/include/gtest/gtest.h:2288
#26 main (argc=164904, argv=0xbefc04) at /home/alexxy/Develop/gromacs/src/testutils/unittest_main.cpp:63
(gdb) up
#1 0xb682c7c0 in tng_compress_pos_float (pos=pos@entry=0x87543, natoms=3, nframes=nframes@entry=1, desired_precision=desired_precision@entry=0.001000000005, speed=speed@entry=0,
    algo=0x8b6f8, nitens=0xbefc5bc) at /home/alexxy/Develop/gromacs/src/external/tng_io/src/compression/tng_compress.c:1248
1248     if (quantize_float(pos, natoms, nframes, (float)PRECISION(prec_hi, prec_lo), quant))
(gdb) up
#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=0.001000000005,
    speed=speed@entry=0, algo=0x8b6f8, nitens=0xbefc5bc, nitens@entry=0xbefc5b4) at /home/alexxy/Develop/gromacs/src/external/tng_io/src/compression/tng_compress.c:1279
1279     return tng_compress_pos_float(pos, natoms, nframes, desired_precision, speed, algo, nitens);
(gdb) up
#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
4837     dest = tng_compress_pos_float_find_algo(start_pos, (int)n_particles,
(gdb) up
#4 tng_particle_data_block_write (tng_data=0x88f00, tng_data@entry=0x8c528, block=0x88f00, block_index=<optimized out>, mapping=mapping@entry=0x0, hash_mode=hash_mode@entry=1 '\001')
    at /home/alexxy/Develop/gromacs/src/external/tng_io/src/lib/tng_io.c:6311

```

```

6311         stat = tng_compress(tng_data, block, frame_step,
(gdb) up
#5 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:13107
13107         tng_particle_data_block_write(tng_data, block,
(gdb) up
#6 0xb686190c in tng_util_generic_write (tng_data=tng_data@entry=0x8c528, frame_nr=<optimized out>, values=values@entry=0x8bf50, 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
18151         stat = tng_frame_set_write(tng_data, TNG_USE_HASH);
(gdb) up
#7 0xb68626f4 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
18662         stat = tng_util_generic_write(tng_data, frame_nr, values, n_values_per_frame,
(gdb) up
#8 0xb6b44204 in gmxfwrite_tng (tng=0x8c528, bUseLossyCompression=<optimized out>, step=1, elapsedPicoSeconds=<optimized out>, lambda=2.80259693e-45,
    box=0x854b8 <__stack_chk_guard@@GLIBC_2.4>, nAtoms=3, x=0x8bf50, v=0x8b5c0, f=0x0) at /home/alexxy/Develop/gromacs/src/gromacs/fileio/tngio.cpp:796
796         compression) != TNG_SUCCESS)
(gdb) up
#9 0xb6b3c6f8 in gmxfwrite_tng_from_trxframe (output=<optimized out>, frame=frame@entry=0xbefc90, natoms=3, natoms@entry=-1)
    at /home/alexxy/Develop/gromacs/src/gromacs/fileio/tngio_for_tools.cpp:198
198         (const rvec *) frame->f);
(gdb) up
#10 0xb6b4a360 in write_tng_frame (status=<optimized out>, frame=frame@entry=0xbefc90) at /home/alexxy/Develop/gromacs/src/gromacs/fileio/trxio.c:510
510         gmxfwrite_tng_from_trxframe(status->tng, frame, -1);
(gdb) up
#11 0xb6c21ae4 in gmxfwrite_tng (argc=-1224967432, argv=<optimized out>) at /home/alexxy/Develop/gromacs/src/gromacs/gmxana/gmxfwrite_tng.c:1748
1748         write_tng_frame(trxout, &ftrout);
(gdb) up
#12 0x00029638 in runTest (fileName=0x703a0 "spc2-traj.trr", this=<optimized out>) at /home/alexxy/Develop/gromacs/src/gromacs/gmxana/legacystests/gmxfwrite_tng_tests.cpp:117
117         return gmxfwrite_tng(argc(), caller.argv());
(gdb) up
#13 (anonymous namespace)::TrjconvWithIndexGroupSubset_WithDifferentInputFormats_Test::TestBody (this=<optimized out>)
    at /home/alexxy/Develop/gromacs/src/gromacs/gmxana/legacystests/gmxfwrite_tng_tests.cpp:128
128         runTest(GetParam());
(gdb) up
#14 0x0006f254 in HandleSehExceptionsInMethodIfSupported<testing::Test, void> (location=0x761ac "the test body", method=&virtual testing::Test::TestBody(), object=0x8bec8)
    at /home/alexxy/Develop/gromacs/src/external/gmock-1.7.0/gtest/src/gtest.cc:2078
2078         return (object->*method)();
(gdb) up
#15 testing::internal::HandleExceptionsInMethodIfSupported<testing::Test, void> (object=object@entry=0x8bec8, method=&virtual testing::Test::TestBody(),
    location=location@entry=0x761ac "the test body") at /home/alexxy/Develop/gromacs/src/external/gmock-1.7.0/gtest/src/gtest.cc:2114
2114         return HandleSehExceptionsInMethodIfSupported(object, method, location);
(gdb) up
#16 0x00065dd4 in testing::Test::Run (this=0x8bec8) at /home/alexxy/Develop/gromacs/src/external/gmock-1.7.0/gtest/src/gtest.cc:2151
2151         this, &Test::TestBody, "the test body");
(gdb) up
#17 0x00065fa0 in testing::TestInfo::Run (this=0x87958) at /home/alexxy/Develop/gromacs/src/external/gmock-1.7.0/gtest/src/gtest.cc:2326
2326         test->Run();
(gdb) up

```

```

#18 0x000660e0 in Run (this=<optimized out>) at /home/alexxy/Develop/gromacs/src/external/gmock-1.7.0/gtest/src/gtest.cc:2301
2301     if (!should_run_) return;
(gdb) up
#19 testing::TestCase::Run (this=0x879d8) at /home/alexxy/Develop/gromacs/src/external/gmock-1.7.0/gtest/src/gtest.cc:2444
2444     GetMutableTestInfo(i)->Run();
(gdb) up
#20 0x000665b0 in Run (this=<optimized out>) at /home/alexxy/Develop/gromacs/src/external/gmock-1.7.0/gtest/src/gtest.cc:2430
2430     if (!should_run_) return;
(gdb) up
#21 testing::internal::UnitTestImpl::RunAllTests (this=<optimized out>) at /home/alexxy/Develop/gromacs/src/external/gmock-1.7.0/gtest/src/gtest.cc:4315
4315     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=0xbefef04) 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
Is duplicate of 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: I90a6406cccbc43fd57d4423c2b661019cf7763e8

History

#1 - 07/02/2014 12:00 PM - Teemu Murtola

- Is duplicate of Bug #1542: two unit tests fail on 32-bit ARM added

#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