

QGIS Application - Bug report #13535

Crash using Geometry Checker plugin

2015-10-06 01:58 PM - Salvatore Larosa

<b>Status:</b>	Closed	
<b>Priority:</b>	Severe/Regression	
<b>Assignee:</b>	Sandro Mani	
<b>Category:</b>	C++ plugins/Geometry Checker	
<b>Affected QGIS version:</b>	master	<b>Regression?:</b> No
<b>Operating System:</b>	Ubuntu 14.04 LTS	<b>Easy fix?:</b> No
<b>Pull Request or Patch supplied:</b>	No	<b>Resolution:</b> fixed/implemented
<b>Crashes QGIS or corrupts data:</b>	Yes	<b>Copied to github as #:</b> 21577

Description

Performing a check on a Polygon layer (attached) I am getting the following stacktrace:

```
Program received signal SIGABRT, Aborted.
[Switching to Thread 0x7fff6b54d700 (LWP 1838)]
0x00007ffffe99b165 in raise () from /lib/x86_64-linux-gnu/libc.so.6
(gdb) bt
#0 0x00007ffffe99b165 in raise () from /lib/x86_64-linux-gnu/libc.so.6
#1 0x00007ffffe99e3e0 in abort () from /lib/x86_64-linux-gnu/libc.so.6
#2 0x00007ffffe9d539b in ?? () from /lib/x86_64-linux-gnu/libc.so.6
#3 0x00007ffffe9debe6 in ?? () from /lib/x86_64-linux-gnu/libc.so.6
#4 0x00007ffffe9e398c in free () from /lib/x86_64-linux-gnu/libc.so.6
#5 0x00007ffff41465ca in QgsGeos::~~QgsGeos (this=0x7fff74114840, __in_chrg=<optimized out>)
    at /home/sam/pacchetti_gis/QGIS/src/core/geometry/qgsgeos.cpp:137
#6 0x00007ffffd415d310 in QgsGeometryDuplicateCheck::collectErrors (this=0x40280c0, errors=..., messages=...,
    progressCounter=0x3eb3f4c, ids=...)
    at /home/sam/pacchetti_gis/QGIS/src/plugins/geometry_checker/checks/qgsgeometryduplicatecheck.cpp:58
#7 0x00007ffffd414cd73 in QgsGeometryChecker::runCheck (this=0x3eb3f10, check=0x40280c0)
    at /home/sam/pacchetti_gis/QGIS/src/plugins/geometry_checker/qgsgeometrychecker.cpp:243
#8 0x00007ffffd414d67c in QgsGeometryChecker::RunCheckWrapper::operator() (this=0x3f31058, check=0x40280c0)
    at /home/sam/pacchetti_gis/QGIS/src/plugins/geometry_checker/qgsgeometrychecker.h:57
#9 0x00007ffffd4151cd3 in QtConcurrent::MapKernel<QList<QgsGeometryCheck*>::iterator,
    QgsGeometryChecker::RunCheckWrapper>::runIteration (this=
    0x3f31020, it=...) at /usr/include/qt4/QtCore/qtconcurrentmapkernel.h:73
#10 0x00007ffffd4151d57 in QtConcurrent::MapKernel<QList<QgsGeometryCheck*>::iterator,
    QgsGeometryChecker::RunCheckWrapper>::runIterations (this=
    0x3f31020, sequenceBeginIterator=..., beginIndex=2, endIndex=3) at /usr/include/qt4/QtCore/qtconcurrentmapkernel.h:82
#11 0x00007ffffd4152205 in QtConcurrent::IterateKernel<QList<QgsGeometryCheck*>::iterator, void>::forThreadFunction
    (this=0x3f31020)
    at /usr/include/qt4/QtCore/qtconcurrentiteratekernel.h:263
#12 0x00007ffffd4151ee8 in QtConcurrent::IterateKernel<QList<QgsGeometryCheck*>::iterator, void>::threadFunction
    (this=0x3f31020)
    at /usr/include/qt4/QtCore/qtconcurrentiteratekernel.h:225
#13 0x00007ffff1fc1b85 in QtConcurrent::ThreadEngineBase::run() () from /usr/lib/x86_64-linux-gnu/libQtCore.so.4
#14 0x00007ffff1fc36bd in ?? () from /usr/lib/x86_64-linux-gnu/libQtCore.so.4
#15 0x00007ffff1fcfd0b in ?? () from /usr/lib/x86_64-linux-gnu/libQtCore.so.4
#16 0x00007ffff753b50 in start_thread () from /lib/x86_64-linux-gnu/libpthread.so.0
#17 0x00007ffffea4495d in clone () from /lib/x86_64-linux-gnu/libc.so.6
#18 0x0000000000000000 in ?? ()
```

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## History

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### #1 - 2015-10-06 02:26 PM - Salvatore Larosa

Sandro Mani seems not to be into the "assigned to" list. How can I notify this to him?

### #2 - 2015-10-08 06:52 AM - Giovanni Manghi

- Assignee set to Sandro Mani

- Target version set to Future Release - High Priority

### #3 - 2015-10-08 06:56 AM - Giovanni Manghi

These days I can only test master on Windows and I confirm the crash when trying to fix a simple polygon with 1 self-intersection when choosing "split feature into multi object feature".

On the other end if choosing "split feature in multiple single-object features" do no causes crash, but one of the two (supposedly) output polygons is lost.

### #4 - 2015-10-08 07:21 AM - Giovanni Manghi

Salvatore Larosa wrote:

| Sandro Mani seems not to be into the "assigned to" list. How can I notify this to him?

I have added to the list... but then it depends if he configured his account to receive notifications from tickets, so maybe is better to notify him directly too.

### #5 - 2015-10-08 07:21 AM - Sandro Mani

I got the notifications. Thanks for reporting the issues, I'll look into them.

### #6 - 2015-10-08 10:00 AM - Sandro Mani

@Giovanni Manghi: I see a crash when I zoom on the canvas **after** the self-intersection fix is complete (i.e. when fix summary dialog is shown). This appears to be caused by corruption in the wkb string of the geometry, even though it looks correct as it is returned by QgsGeometryCollectionV2::asWkb - the corruption appears to happen later on in QgsMapToPixelSimplifier::simplifyWkbGeometry. Can you confirm that this is the same issue you are seeing?

Salvatore Larosa: Could you please specify which checks are active when you trigger the crash?

### #7 - 2015-10-08 10:59 AM - Sandro Mani

So the actual cause of the post-self-intersection fix crash I described above is that QgsMapToPixelSimplifier does not handle curved geometries correctly. Curved geometries arose because the self-intersection fix created new parts as CurvePolygons. I've changed this [1] and now if the original feature was a linear polygon, then the new part will also be one. This prevents the crash from happening when fixing linear polygons, but the issue with QgsMapToPixelSimplifier remains.

[1] <https://github.com/manisandro/QGIS/commit/af983331776fb880c56dba3ffc1e6a6eceaf3cd8>

**#8 - 2015-10-08 03:01 PM - Salvatore Larosa**

Sandro Mani wrote:

Salvatore Larosa: Could you please specify which checks are active when you trigger the crash?

**Geometry validity:**

Self intersection, Duplicate nodes ad Polygon with less 3 nodes.

**Topology checks:**

Check for duplicates, Check for features within other features

**#9 - 2015-10-10 01:09 AM - Giovanni Manghi**

- File test\_gc.dbf.zip added

- File gc.mp4 added

Sandro Mani wrote:

@Giovanni Manghi: I see a crash when I zoom on the canvas **after** the self-intersection fix is complete (i.e. when fix summary dialog is shown). This appears to be caused by corruption in the wkb string of the geometry, even though it looks correct as it is returned by QgsGeometryCollectionV2::asWkb - the corruption appears to happen later on in QgsMapToPixelSimplifier::simplifyWkbGeometry. Can you confirm that this is the same issue you are seeing?

Salvatore Larosa: Could you please specify which checks are active when you trigger the crash?

Screencast and sample data attached. Cheers!

**#10 - 2015-10-12 04:31 AM - Sandro Mani**

Could you please re-test against the latest master? It contains some Geometry Checker fixes as well as changes at QgsGeos level.

**#11 - 2015-10-12 02:28 PM - Nyall Dawson**

- Status changed from Open to Feedback

**#12 - 2015-10-12 03:10 PM - Salvatore Larosa**

Works fine for me in current master. I leave the ticket opened for more feedback from Giovanni.

**#13 - 2015-10-15 12:48 AM - Giovanni Manghi**

- Status changed from Feedback to Closed

Also fine here. Thanks!

**#14 - 2015-10-15 12:49 AM - Giovanni Manghi**

- Resolution set to fixed/implemented

**#15 - 2016-02-03 08:26 AM - R. R.**

- Status changed from Closed to Reopened
- File win7.png added
- File ubuntu\_14\_04\_\_1.png added
- File ubuntu\_14\_04\_\_2.png added

On Windows 7 the 'Check Geometries' plugin may cause a crash when 'Topology checks' are activated. I've tested the .shp file uploaded by Salvatore Larosa and 'Check for duplicates' isn't working (see attachment). On Ubuntu 14.04 there is no crash but QGIS says 'Check error occurred' in a separate dialogue window.

QGIS 2.12.3

**#16 - 2016-02-03 08:31 AM - Sandro Mani**

The crash under windows needs to be investigated.

The dialog shown about check errors is expected: The layer contains issues which are preventing the duplicate check from working (specifically, because the geometry engine, GEOS, won't handle geometries with self intersections, and GEOS is being used to check for topology issues). So you'll need to fix those errors first, and then do the topology checks once those errors are fixed.

**#17 - 2016-02-19 12:41 PM - Jürgen Fischer**

Reinhard Reiterer wrote:

*On Windows 7 the 'Check Geometries' plugin may cause a crash when 'Topology checks' are activated. I've tested the .shp file uploaded by Salvatore Larosa and 'Check for duplicates' isn't working (see attachment). On Ubuntu 14.04 there is no crash but QGIS says 'Check error occurred' in a separate dialogue window.*

Doesn't crash here on windows with master.

**#18 - 2016-03-05 04:35 AM - R. R.**

- File stacktrace\_qgis\_2\_14\_ubuntu\_14\_04 added

I did some testing and the "Geometry checker" often crashes when dealing with complex features. Seems it's a cross-platform issue. I've uploaded the stacktrace of a Ubuntu crash report.

**#19 - 2016-03-05 07:02 AM - Sandro Mani**

If possible, please provide a dataset with which to reproduce and specify how you set up the geometry checker.

**#20 - 2016-03-05 11:37 AM - R. R.**

- File geometry\_checker\_crash.zip added

Hope this helps.

@ #16

Thanks for the detailed explanation.

**#21 - 2016-03-05 02:17 PM - Sandro Mani**

Thanks, can reproduce, will analyze.

**#22 - 2016-03-05 02:25 PM - Sandro Mani**

Fix here: <https://github.com/qgis/QGIS/pull/2868>

**#23 - 2016-03-12 10:28 AM - R. R.**

- *File qgis-2.14.0\_git20160309\_107d30a\_20trusty.zip added*

The fix seems to work. Unfortunately the 'Check geometries' plugin is still facing issues. I've uploaded the .shp files.

**#24 - 2016-03-12 01:34 PM - Sandro Mani**

<https://github.com/qgis/QGIS/pull/2905>

**#25 - 2016-03-14 06:34 PM - Nyal Dawson**

- *Status changed from Reopened to Closed*

PR merged, should be fixed in master and 2.14 now.

**#26 - 2016-03-16 01:17 PM - R. R.**

Is the fix #2905 already implemented? QGIS (1:2.14.0+git20160315+342a754+20trusty) is still crashing.

**#27 - 2016-03-20 10:13 AM - R. R.**

I've tested the 'Check Geometries' plugin on several layers and everything seems to work now :)

**#28 - 2016-03-24 10:14 AM - R. R.**

- *File qgis-2.14.0\_git20160319\_08a1b07\_20trusty.zip added*

- *Status changed from Closed to Reopened*

Hi Sandro, I've noticed another bug. When trying to fix the selected errors QGIS crashes again (see attachment).

**#29 - 2016-03-24 03:17 PM - Sandro Mani**

Wow, that was a nasty bug. Could you try the branch [https://github.com/manisandro/QGIS/tree/geom\\_checker\\_fixes](https://github.com/manisandro/QGIS/tree/geom_checker_fixes) (last two commits are the relevant ones)? Thanks

**#30 - 2016-03-24 03:19 PM - Sandro Mani**

Oh and you'll need to reduce the precision to 1E-6 for the test case you attached. Reason are GEOS precision issues.

**#31 - 2016-04-08 11:23 AM - R. R.**

Is there any way to implement the fix in the next master? I don't know how to install a branch.

**#32 - 2016-04-09 01:19 AM - Sandro Mani**

Now merged in master

**#33 - 2016-04-22 02:57 PM - R. R.**

- *Status changed from Reopened to Closed*

Thanks for your help, the 'Geometry Checker' is no longer crashing. However, fixing minimum area issues may be quite tricky if there are no neighboring polygons to merge with.

**#34 - 2016-07-07 01:10 AM - R. R.**

- *File gap\_check\_topology\_exception.png added*

Is there anything I can do when the gap check reports a topology exception (see gap\_check\_topology\_exception.png)? Is this a bug?

**#35 - 2016-07-07 01:13 AM - Sandro Mani**

It is unlikely a bug (in the QGIS code at least). Can you spot a faulty geometry at the position indicated?

**#36 - 2016-07-07 03:25 AM - R. R.**

- *File post\_no36.png added*

The layer includes many sliver polygons, that the geometry checker can't fix. Maybe I'm doing something wrong?

**#37 - 2016-07-07 03:34 AM - Sandro Mani**

Please open a separate issue and attach the problematic data.

I can not attach the data as the shape files are proprietary :/

Files			
shape.zip	262 KB	2015-10-06	Salvatore Larosa
gc.mp4	2.39 MB	2015-10-09	Giovanni Manghi
test_gc.dbf.zip	1.24 KB	2015-10-09	Giovanni Manghi
win7.png	101 KB	2016-02-03	R. R.
ubuntu_14_04__1.png	125 KB	2016-02-03	R. R.
ubuntu_14_04__2.png	189 KB	2016-02-03	R. R.
stacktrace_qgis_2_14_ubuntu_14_04	23.1 KB	2016-03-05	R. R.
geometry_checker_crash.zip	654 KB	2016-03-05	R. R.
qgis-2.14.0_git20160309_107d30a_20trusty.zip	228 KB	2016-03-12	R. R.
qgis-2.14.0_git20160319_08a1b07_20trusty.zip	490 KB	2016-03-24	R. R.
gap_check_topology_exception.png	16.7 KB	2016-07-06	R. R.
post_no36.png	52.1 KB	2016-07-07	R. R.