

## QGIS Application - Bug report #7929

### Exiting edit mode without saving triggers a "geometryChanged" event for each removed vertex

2013-05-28 09:31 AM - Sandro Santilli

<b>Status:</b> Closed	
<b>Priority:</b> Normal	
<b>Assignee:</b> Jürgen Fischer	
<b>Category:</b> Digitising	
<b>Affected QGIS version:</b> master	<b>Regression?:</b> No
<b>Operating System:</b>	<b>Easy fix?:</b> No
<b>Pull Request or Patch supplied:</b>	<b>Resolution:</b>
<b>Crashes QGIS or corrupts data:</b>	<b>Copied to github as #:</b> 16800
<b>Description</b>	
When exiting edit mode without saving, the "undo" operation triggers a call to "geometryChanged" for every vertex that was deleted during editing.	
<b>Related issues:</b>	
Related to QGIS Application - Bug report # 7900: Mass vertex removal with nod...	<b>Closed</b> <b>2013-05-25</b>

#### Associated revisions

##### Revision 59788cb8 - 2013-05-29 10:57 PM - Jürgen Fischer

- sync sip binding of QgsVectorLayer
- [API] introduce signal QgsVectorLayer::beforeRollBack()
- merge consecutive geometry changes (fixes #7929)
- avoid validation in nodetool on rollback

#### History

##### #1 - 2013-05-28 10:36 AM - Sandro Santilli

I verified that saving the edit does not call geometryChanged so many times

##### #2 - 2013-05-28 11:23 AM - Sandro Santilli

Under gdb I can also see that a thread is started for each vertex !! This is serious performance loss

##### #3 - 2013-05-28 11:24 AM - Sandro Santilli

The origin seems to be this one:

```
#15 0x00007fb20cfd0a1 in QgsVectorLayerUndoCommandChangeGeometry::undo (this=0x2be0e40)
    at /usr/src/qgis/qgis/src/core/qgsvectorlayerundocommand.cpp:176
#16 0x00007fb20b6bc5b1 in QUndoCommand::undo() () from /usr/lib/x86_64-linux-gnu/libQtGui.so.4
#17 0x00007fb20b6bcebf in QUndoStack::setIndex(int) () from /usr/lib/x86_64-linux-gnu/libQtGui.so.4
#18 0x00007fb20cfcf61a in QgsVectorLayerEditBuffer::rollBack (this=0x29a4080)
    at /usr/src/qgis/qgis/src/core/qgsvectorlayereditbuffer.cpp:450
#19 0x00007fb20cfbed98 in QgsVectorLayer::rollBack (this=0x2ecae40, deleteBuffer=true)
    at /usr/src/qgis/qgis/src/core/qgsvectorlayer.cpp:2612
```

**#4 - 2013-05-28 11:24 AM - Sandro Santilli**

And:

```
#14 0x00007fb20d35ca9b in QgsVectorLayerEditBuffer::geometryChanged (this=0x29a4080, _t1=4, _t2=...)
at /usr/src/qgis/Quantum-GIS/b/src/core/moc_qgsvectorlayereditbuffer.cxx:164
```

**#5 - 2013-05-29 07:12 AM - Sandro Santilli**

I believe the problem is the undo stack as `QgsVectorLayerEditUtils` only exposes a function to delete a single vertex so it makes a geometry clone for each removed vertex and rolls back one vertex at the time.

It would be much much better to expose a "mass vertexes removal" kind of interface, to make it an atomic operation.

Seems to be a work for Martin Dobias :)

**#6 - 2013-05-29 08:01 AM - Jürgen Fischer**

Sandro Santilli wrote:

*I believe the problem is the undo stack as `QgsVectorLayerEditUtils` only exposes a function to delete a single vertex so it makes a geometry clone for each removed vertex and rolls back one vertex at the time.*

Um, isn't that already in place? The undo stack should contain only one entry for "Delete vertices" for each time you hit "delete". Multiple deletes shouldn't be accumulated as they should still be separately undoable.

**#7 - 2013-05-29 08:14 AM - Sandro Santilli**

Evidently not, "delete vertices" is not even supported by the utility class used to keep track of undo stack (AFAIU):

<https://github.com/qgis/Quantum-GIS/blob/master/src/core/qgsvectorlayereditutils.h>

**#8 - 2013-05-29 08:16 AM - Sandro Santilli**

Note that the `nodeTool` contains an hack to avoid multiple "geometryChanged" events by simply disconnecting the hook, deleting each vertex in turn and re-connecting the event, but the method invoked for deleting the single vertex is the one that seems to be filling up the undo stack, with as many geometry copies as vertexes selected. Which explains the fast memory growth for a big geometry (>45k vertexes).

**#9 - 2013-05-29 09:56 AM - Jürgen Fischer**

- Assignee set to Jürgen Fischer

**#10 - 2013-05-29 01:57 PM - Jürgen Fischer**

- Status changed from Open to Closed

Fixed in changeset commit:"59788cb8fcb8e86a71397c3046981d00f06c40b00".

**#11 - 2013-05-30 12:13 AM - Sandro Santilli**

Great job, the memory issue is also fixed by this!

**#12 - 2013-05-30 12:16 AM - Sandro Santilli**

Only, it may be better to comment out the "geometry changes merged" debug line as getting tens of thousand of lines when mass-removing vertices kills CPU ;)