

# QGIS Application - Bug report #20871

## Style "Meters at scale" hogs CPU

2018-12-22 10:16 PM - Daniel Krüger

<b>Status:</b>	Open	
<b>Priority:</b>	Normal	
<b>Assignee:</b>		
<b>Category:</b>	Symbology	
<b>Affected QGIS version:</b>	3.4.2	<b>Regression?:</b> No
<b>Operating System:</b>	Linux/Xubuntu 18.04.1	<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> 28690
<b>Description</b>		
After selecting "Meters at scale" option in a style QGIS becomes unresponsive for couple of seconds to several minutes. This involves at least the following situations:		
<ul style="list-style-type: none"><li>- Opening the project takes several minutes</li><li>- Opening the layer settings which contains the "Meters at scale" option</li><li>- Clicking on an item in the symbol tree</li><li>- Changing an option of an item in the symbol tree</li></ul>		
I attached gdb to a running QGIS process and pressed CTRL-C when clicking on symbol tab sheet in layer settings and the dialog got unresponsive for a minute or so. Maybe this helps a little bit.		
<pre>Thread 1 "qgis.bin" received signal SIGINT, Interrupt. 0x00007fc790791fac in __sin_local (x=2.3596955266584345e-07) at ../sysdeps/ieee754/dbl-64/s_sin.c:473 473  ../sysdeps/ieee754/dbl-64/s_sin.c: Datei oder Verzeichnis nicht gefunden. (gdb) bac #0 0x00007fc790791fac in __sin_local (x=2.3596955266584345e-07) at ../sysdeps/ieee754/dbl-64/s_sin.c:473 #1 0x00007fc790791fac in __sincos (x=2.3596955266584345e-07, sinx=0x7ffc5e7817b8, cosx=0x7ffc5e7817b0) at ../sysdeps/ieee754/dbl-64/s_sincos.c:75 #2 0x00007fc79ba94d61 in QgsDistanceArea::computeSpheroidProject(QgsPointXY const&amp;, double, double) const () at /usr/lib/libqgis_core.so.3.4.2 #3 0x00007fc79ba9527a in QgsDistanceArea::measureLineProjected(QgsPointXY const&amp;, double, double, QgsPointXY*) const () at /usr/lib/libqgis_core.so.3.4.2 #4 0x00007fc79bc4459c in QgsRenderContext::convertMetersToMapUnits(double) const () at /usr/lib/libqgis_core.so.3.4.2 #5 0x00007fc79bc44715 in QgsRenderContext::convertToPainterUnits(double, QgsUnitTypes::RenderUnit, QgsMapUnitScale const&amp;) const () at /usr/lib/libqgis_core.so.3.4.2 #6 0x00007fc79b8395fd in QgsMarkerSymbolLayer::markerOffset(QgsSymbolRenderContext&amp;, double, double, QgsUnitTypes::RenderUnit, QgsUnitTypes::RenderUnit, double&amp;, double&amp;, QgsMapUnitScale const&amp;, QgsMapUnitScale const&amp;) const () at /usr/lib/libqgis_core.so.3.4.2 #7 0x00007fc79b8397af in QgsMarkerSymbolLayer::markerOffset(QgsSymbolRenderContext&amp;, double, double, double&amp;, double&amp;) const () at /usr/lib/libqgis_core.so.3.4.2 #8 0x00007fc79b7f5c16 in QgsSimpleMarkerSymbolLayerBase::calculateOffsetAndRotation(QgsSymbolRenderContext&amp;, double, bool&amp;, QPointF&amp;, double&amp;) const () at /usr/lib/libqgis_core.so.3.4.2 #9 0x00007fc79b7f9646 in QgsSimpleMarkerSymbolLayerBase::renderPoint(QPointF, QgsSymbolRenderContext&amp;) () at /usr/lib/libqgis_core.so.3.4.2 #10 0x00007fc79b7f9bfd in QgsSimpleMarkerSymbolLayer::renderPoint(QPointF, QgsSymbolRenderContext&amp;) () at /usr/lib/libqgis_core.so.3.4.2 #11 0x00007fc79b864b31 in QgsMarkerSymbol::renderPointUsingLayer(QgsMarkerSymbolLayer*, QPointF, QgsSymbolRenderContext&amp;) () at /usr/lib/libqgis_core.so.3.4.2 #12 0x00007fc79b86bb1d in QgsMarkerSymbol::renderPoint(QPointF, QgsFeature const*, QgsRenderContext&amp;, int, bool) () at /usr/lib/libqgis_core.so.3.4.2 #13 0x00007fc79b7e9a5d in QgsMarkerLineSymbolLayer::renderPolylineInterval(QPolygonF const&amp;,</pre>		

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QgsSymbolRenderContext&) () at /usr/lib/libqgis_core.so.3.4.2
#14 0x00007fc79b7ead88 in QgsMarkerLineSymbolLayer::renderPolyline(QPolygonF const&, QgsSymbolRenderContext&) () at
/usr/lib/libqgis_core.so.3.4.2
#15 0x00007fc79b839c0e in QgsLineSymbolLayer::drawPreviewIcon(QgsSymbolRenderContext&, QSize) () at
/usr/lib/libqgis_core.so.3.4.2
#16 0x00007fc79b85ff0c in QgsSymbolLayerUtils::symbolLayerPreviewPicture(QgsSymbolLayer*, QgsUnitTypes::RenderUnit,
QSize, QgsMapUnitScale const&) () at /usr/lib/libqgis_core.so.3.4.2
#17 0x00007fc7973e9788 in QgsLayerPropertiesWidget::emitSignalChanged() () at /usr/lib/libqgis_gui.so.3.4.2
#18 0x00007fc799f1e6cf in QMetaObject::activate(QObject*, int, int, void**) () at /usr/lib/x86_64-linux-gnu/libQt5Core.so.5
#19 0x00007fc79ad5ebe2 in QAbstractButton::toggled(bool) () at /usr/lib/x86_64-linux-gnu/libQt5Widgets.so.5
#20 0x00007fc79ad5f001 in () at /usr/lib/x86_64-linux-gnu/libQt5Widgets.so.5
#21 0x00007fc79ad60606 in QAbstractButton::setChecked(bool) () at /usr/lib/x86_64-linux-gnu/libQt5Widgets.so.5
#22 0x00007fc7973e7400 in QgsLayerPropertiesWidget::QgsLayerPropertiesWidget(QgsSymbolLayer*, QgsSymbol const*,
QgsVectorLayer*, QWidget*) () at /usr/lib/libqgis_gui.so.3.4.2
#23 0x00007fc797474255 in QgsSymbolSelectorWidget::layerChanged() () at /usr/lib/libqgis_gui.so.3.4.2
#24 0x00007fc799f1e6cf in QMetaObject::activate(QObject*, int, int, void**) () at /usr/lib/x86_64-linux-gnu/libQt5Core.so.5
#25 0x00007fc799e9b67a in QItemSelectionModel::currentChanged(QModelIndex const&, QModelIndex const&) () at
/usr/lib/x86_64-linux-gnu/libQt5Core.so.5
#26 0x00007fc799e9b96e in QItemSelectionModel::setCurrentIndex(QModelIndex const&,
QFlags<QItemSelectionModel::SelectionFlag>) () at /usr/lib/x86_64-linux-gnu/libQt5Core.so.5
#27 0x00007fc79aebba4c in QAbstractItemView::mousePressEvent(QMouseEvent*) () at
/usr/lib/x86_64-linux-gnu/libQt5Widgets.so.5
#28 0x00007fc79af29a7b in QTreeView::mousePressEvent(QMouseEvent*) () at /usr/lib/x86_64-linux-gnu/libQt5Widgets.so.5
#29 0x00007fc79acac98f in QWidget::event(QEvent*) () at /usr/lib/x86_64-linux-gnu/libQt5Widgets.so.5
#30 0x00007fc79ad4d4be in QFrame::event(QEvent*) () at /usr/lib/x86_64-linux-gnu/libQt5Widgets.so.5
#31 0x00007fc79aeca0b3b in QAbstractItemView::viewportEvent(QEvent*) () at /usr/lib/x86_64-linux-gnu/libQt5Widgets.so.5
```

Bug report #18399 seems to be the same. However I cannot reopen it.

## History

### #1 - 2018-12-31 01:10 AM - Daniel Krüger

I made some further debugging with Callgrind and added some qDebug() output to QgsMarkerLineSymbolLayer::renderPolylineInterval().

It seems that QgsSymbolLayerUtils::symbolLayerPreviewPicture() needs a large processing time for generating the icon. That's because it uses some default QgsRenderContext with default ellipsoid. So it draws millions of markers (repeated every 3 meters at scale) on the icon.

Where is the right place to fix this scaling issue?

If someone is interested I can provide a small test project. It takes a couple of minutes for opening the project.

### #2 - 2019-02-21 08:41 PM - Johannes Kroeger

- File *uncertain borders.qgz* added

I just ran into this option behaving weirdly and hogging CPU as well. In my case it is NOT hogging CPU when the canvas is EPSG:4326 but it is if the canvas is for example EPSG:3857 or EPSG:25832 (UTM32N).

Here is an example project, set the OTF projection to trigger the CPU hogging. You might need to pan around a bit to make it happen. Data is

[https://www.naturalearthdata.com/http://www.naturalearthdata.com/download/10m/cultural/ne\\_10m\\_admin\\_0\\_countries.zip](https://www.naturalearthdata.com/http://www.naturalearthdata.com/download/10m/cultural/ne_10m_admin_0_countries.zip)

Files

Böschung_3m.qml	11.5 KB	2018-12-22	Daniel Krüger
uncertain borders.qgz	7.12 KB	2019-02-21	Johannes Kroeger