

QGIS Application - Bug report #21556

Bbox processing error with MSSQL

2019-03-11 01:10 PM - Andy Gio

Status:	Closed	
Priority:	Normal	
Assignee:		
Category:	Data Provider/MSSQL	
Affected QGIS version:	3.6.0	Regression?: No
Operating System:		Easy fix?: No
Pull Request or Patch supplied:	No	Resolution: wontfix
Crashes QGIS or corrupts data:	No	Copied to github as #: 29372
Description		
QGIS 3.6.0-Noosa MSSQL 2017		
Opening a geometry table from MSSQL, Qgis takes the bounding box directly from table's Spatial Index: <pre>SELECT min(bounding_box_xmin), min(bounding_box_ymin), max(bounding_box_xmax), max(bounding_box_ymax) FROM sys.spatial_index_tessellations WHERE object_id = OBJECT_ID('[dbo].[GeoTable]')</pre>		
This is OK.		
Opening a geometry view from MSSQL, Qgis can't get the bounding box from a Spatial Index because there is not any Spatial Index defined for a view. So Qgis sends this query to MSSQL: <pre>SELECT MIN(CASE WHEN ([SP_GEOMETRY].STIsValid() = 1) THEN [SP_GEOMETRY].STPointN(1).STX ELSE NULL END), MIN(CASE WHEN ([SP_GEOMETRY].STIsValid() = 1) THEN [SP_GEOMETRY].STPointN(1).STY ELSE NULL END), MAX(CASE WHEN ([SP_GEOMETRY].STIsValid() = 1) THEN [SP_GEOMETRY].STPointN(1).STX ELSE NULL END), MAX(CASE WHEN ([SP_GEOMETRY].STIsValid() = 1) THEN [SP_GEOMETRY].STPointN(1).STY ELSE NULL END) FROM [dbo].[GeoView]</pre>		
This query don't return the right bbox, because it analyze the first point on a feature; and the first point of a feature is not necessarily the min or max.		
I've found the article How do I calculate an optimal bounding box for a SQL Server spatial index? and this is the right query that MSSQL must execute to return the correct bbox:		

```
WITH
  ENVELOPE as ( SELECT SP_GEOMETRY.STEnvelope() as envelope from [dbo].[GeoView] ),
  CORNERS as ( SELECT envelope.STPointN(1) as point from ENVELOPE UNION ALL select envelope.STPointN(3) from
  ENVELOPE )
SELECT
  MIN(point.STX) as MinX,
  MIN(point.STY) as MinY,
  MAX(point.STX) as MaxX,
  MAX(point.STY) as MaxY
FROM CORNERS;
```

History

#1 - 2019-03-19 08:54 AM - Andy Gio

Can anyone tell me something about this?

#2 - 2019-03-19 09:40 AM - Jürgen Fischer

- Description updated

#3 - 2019-03-19 09:48 AM - Jürgen Fischer

- Resolution set to wontfix

- Status changed from Open to Closed

The query you quoted is used "use estimated table parameters" option is enabled in the connection ui - otherwise the envelope is queried (see source:src/providers/mssql/qgsmssqlprovider.cpp#L710)

#4 - 2019-03-20 10:45 AM - Andy Gio

Thanks for your reply. You're right.

Therefore I think that also when 'use estimated table parameters' is checked,

(lines 715 and 717 of [<https://issues.qgis.org/projects/qgis/repository/entry/src/providers/mssql/qgsmssqlprovider.cpp>])

QGIS must have to use the correct query as in line 732 and 734,

because the actual result is incorrect.

Please give me a feedback.

#5 - 2019-03-20 11:17 AM - Jürgen Fischer

Andy Gio wrote:

Thanks for your reply. You're right.

Therefore I think that also when 'use estimated table parameters' is checked,

(lines 715 and 717 of [<https://issues.qgis.org/projects/qgis/repository/entry/src/providers/mssql/qgsmssqlprovider.cpp>])

QGIS must have to use the correct query as in line 732 and 734,

because the actual result is incorrect.

Please give me a feedback.

That's by design - setting the checkbox trades accurate results for access speed (see tip [Use estimated table metadata to speed up operations](#))