

# Cannot enumerate changes at the RelationalSyncProvider for table 'dbo.customertable'

Last updated by | Keith Elmore | Apr 5, 2021 at 7:57 AM PDT

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## Cannot enumerate changes at the RelationalSyncProvider for table 'dbo.customertable'.

### Scenario


Using Azure SQL Data Sync to synchronize for large set of rows (around 15 million) failed.

### Error :

Sync failed with the exception '**Cannot enumerate changes at the RelationalSyncProvider for table 'dbo.customertable'. Check the inner exception for any store-specific errors. Inner exception: SqlException Error Code: -2146232060 - SqlError Number:-2, Message: Execution Timeout Expired. The timeout period elapsed prior to completion of the operation or the server is not responding. Inner exception: The wait operation timed out For more information, provide tracing ID 'c4a39cc2-xxxxx' to customer support.**'

This error message report that DataSync process is not able to complete the process to synchronize the data and following I would like to share with you what was our troubleshooting process and the solution:

### Troubleshooting

- Using **Azure Portal** we didn't find a high resource consumption in terms of CPU, DataIO or Log IO. I would like to recommend using the dmv [sys.dm\\_resource\\_stats](#)  with 15 seconds of delay for consumption resources.
- In this situation, we need to review what is the process or the query that is taking this time, for this reason, we enabled SQL Auditing in order to review what is the query that is taking this time. Also, using

[sys.dm\\_exec\\_requests](#) ☐ we found a query all the time in suspending state. We found that a user table dbo.customertable is joining the data with the table that contains the modifications captured by DataSync, for example, customertable\_dss\_tracking under the schema datasync.

- In this situation, I asked to our customer if they have any maintenance plan for rebuilding the indexes and updating the statistics and they told they don't have.

## Solution:

- As suggestion, we rebuilt all the indexes for this user table called customertable, and after running again the synchronization process it was completed in few seconds. if you need one, review this [URL](#) ☐.

## Additional Information

- During the troubleshooting process, our customer has configured as a member of this Data Sync group a SQL Server OnPremise environment and we noticed that this process took too much time. In this situation, we found two important things that I would like to share with you:
  - **In every synchronization using the DataSync service that is running as a service in OnPremise, this program needs to download the data saving it in a temporal file in windows temp folder, it is very important that:**
    - Have enough free space depending on the data to be synchronized.
    - The capacity of I/O is key in terms of performance. You could use Performance Monitor to review the transfer speed and MB/s of the IO. Please, use SSD if could be possible.
    - Also, the capacity of network bandwidth to download the file. You could use Performance Monitor to review the transfer speed
  - **In SQL Server OnPremise:**
    - Maintain a correct maintenance plan for the tables. If you change the data with some frequency the data it is very important having a maintenance plan (updating statistics and rebuilding indexes).
    - If could be possible, install the service in the same server that the SQL Server is or if you have an isolate server with DataSync Agent installed, please, try that the connection between these servers will be very closed to.
  - **Remember that using Uniqueidentifier data type as Primary Key the initial synchronization will caused a high fragmentation (+/- 99%), after an initial synchronization please rebuild the indexes.**
  - **I found a performance issue that could takes hours to complete synchronization.**
    - Our customer dropped a previous Data Sync Group and create a new one.
    - In this new one, our customer is using the same tables to synchronize the data.
    - When the initial synchronization is performed again, DataSync needs to review every row in the destination table in OnPremise, running 3 queries, one to identify the row, and two to delete the row in metadata and another one in the destination table. If you table has 15.000.000 rows and the initial synchronization has 15.000.000, Datasync will rung around 45.000.000 operations that could take hours and hours to complete the process. For this reason, if our customer don't need the tables in OnPremise delete them to recreate again. Using SQL Server Profiler you could identify what is happening any time.

## Public Doc Reference

<https://blogs.msdn.microsoft.com/azuresqlsupport/2019/03/21/lesson-learned-78-datasync-cannot-enumerate-changes-at-the-relationsyncprovider-for-table-customertable-execution-timeout-expired/> 

## Classification

Root cause Tree - DataSync/User issue/error/SyncFail

## How good have you found this content?

