Distribution Agent Error 1934 ANSI_PADDING

Last updated by | Vitor Tomaz | Feb 24, 2023 at 3:30 AM PST

Contents

Issue

The customer has configured Transactional Replication on Managed Instance and is adding a Subscriber to the published MI database. The snapshot has been created successfully, but when applying it to the Subscriber database, the Distribution Agent is failing with SQL error 1934.

In the agent history of the Distribution Agent, the following agent output details are logged:

```
(...)
2022-08-18 08:37:38.246 Connecting to Subscriber <FQDN of the Subscriber server or instance>
2022-08-18 08:37:38.652 Initializing
2022-08-18 08:37:39.402 Skipping file 'articlename_2.pre' because it has already been delivered for a previous
2022-08-18 08:37:39.730 Disconnected from Azure Storage '\\storageaccount.file.core.windows.net\snapshots'  wi
2022-08-18 08:37:39.730 Agent message Code 1934. INSERT failed because the following SET options have incorect
2022-08-18 08:37:39.761 Category:COMMAND
Source: Failed Command
Number:
Message: CREATE TABLE [dbo].[articlename](…column list…)
2022-08-18 08:37:39.777 Category:NULL
Source: Microsoft OLE DB Driver for SQL Server
Number: 1934
Message:  INSERT failed because the following SET options have incorect settings: 'ANSI_PADDING'. Verify that
```

Investigation / Analysis

When generating snapshot (.sch) files, the Snapshot Agent generates SET ANSI PADDING ON for the published table only if any of the following is true:

- there exists a computed column in the published table
- there exists a column of type Varchar, Char, Varbinary, or Binary in the published table

In all other cases, ANSI PADDING will be set to OFF. So, the Snapshot Agent decides based on the state of the published table (Publisher side) whether to generate ANSI setting with ON or with OFF. It does not access the Subscriber side and cannot predict if there would be problems if ANSI PADDING setting is generated with OFF. In general, SET ANSI PADDING OFF in the .sch file is not a bug per se, however, it can create problems in certain situations.

Problems with ANSI PADDING OFF arise in situations where any of the following exists (on the Subscriber side):

- indexed views and/or
- indexes on computed columns and/or
- filtered indexes and/or
- query notifications and/or
- XML data type methods and/or
- spatial index operations

Mitigation

The customer can apply one of the workarounds below:

- Alter the published tables for which OFF setting is observed by adding a dummy Varchar column or by modifying an existing Nvarchar column to Varchar. Note that changing from nvarchar to varchar might cause character conversion issues; it can also cause performance problems in the applications if these result in implicit conversions (see Slow query due to implicit conversion and Data type precedence).
- Alter the .sch files in the snapshot folder by modifying SET ANSI PADDING OFF statements to ON. Note that this needs to be repeated each time after creating a new snapshot.

PG is working on a fix (check internal references below).

Internal reference

- IcM 328925401
- Work Item 1021540

How good have you found this content?