

Transactional replication with GeoDR

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Configuration Steps

Auto-failover groups on publisher or distributor


If geo-replication is enabled on a publisher or distributor SQL Managed Instance in a failover group, the SQL Managed Instance administrator must clean up all publications on the old primary and reconfigure them on the new primary after a failover occurs.

After failover(no matter it is manual or unplanned failover), you need to perform the cleanup steps and recreate the replication on new primary.

Execute on the old primary


Stop all the running replication agent jobs

Execute on the new primary because old primary is read-only

-- Drop subscription metadata on publisher database EXEC sp_dropsubscription @publication='PublishData', @article='all',@subscriber='[sql-mi-sub.d5453f8d115c.database.windows.net](#)' 

-- Forcefully drop all replication objects from publisher by running the following script in the published database: EXEC sp_removedbreplication

Execute on the subscriber

-- Drop subscription metadata from the subscriber. Run the following script on the subscription database on subscriber SQL Managed Instance: EXEC sp_subscription_cleanup @publisher = N'[sql-mi-pub.d5453f8d115c.database.windows.net](#)' , @publisher_db = N'ReplTran_Pub', @publication = N'PublishData';

Execute on the old primary if it is failback scenario that distribution db already exists

EXEC sp_dropdistributor 1,1

Recreate the publication on new primary, remember to add NSG outbound rule for TCP port 445

Set up succeeded, but then find error in log reader agent:

```
2021-02-03 08:58:15.156 OLE DB DISTOLE 'sqlmi-new.d5453f8d115c.database.windows.net': select
datasource, srvid from master..sys.servers where
ltrim(substring(reverse(ltrim(substring(reverse(srvname),charindex(',',reverse(srvname))+1,len(srvname))))),charin
dex(':',srvname)+1,len(srvname))) = N'SQLMI-NEW.D5453F8D115C.DATABASE.WINDOWS.NET' collate
Latin1_General_CI_AI 2021-02-03 08:58:15.156 Status: 4096, code: 20024, text: 'Initializing'. 2021-02-03
08:58:15.156 The agent is running. Use Replication Monitor to view the details of this agent session. 2021-02-03
08:58:15.156 OLE DB DISTOLE 'sqlmi-new.d5453f8d115c.database.windows.net': sp_MSget_last_transaction
@publisher_id = 0, @publisher_db = N'ReplTran_PUB', @for_truncate = 0x0 2021-02-03 08:58:15.171 OLE DB
DISTOLE 'sqlmi-new.d5453f8d115c.database.windows.net': sp_MSquery_syncstates 0, N'ReplTran_PUB' 2021-
02-03 08:58:15.171 OLE DB DISTOLE 'sqlmi-new.d5453f8d115c.database.windows.net':
sp_MSget_last_transaction @publisher_id = 0, @publisher_db = N'ReplTran_PUB', @for_truncate = 0x1 2021-02-
03 08:58:15.171 Publisher: {call sp_repldone ( 0x00000000000000000000, 0x00000000000000000000, 0, 0)}
2021-02-03 08:58:15.171 Publisher: {call sp_replcmds (500, 0, 0, , 0, 500000)} 2021-02-03 08:58:15.171 Status: 0,
code: 20011, text: 'The process could not execute 'sp_replcmds' on 'sqlmi-
new.d5453f8d115c.database.windows.net'. 2021-02-03 08:58:15.171 The process could not execute
'sp_replcmds' on 'sqlmi-new.d5453f8d115c.database.windows.net'. 2021-02-03 08:58:15.171 Status: 0, code:
15517, text: 'Cannot execute as the database principal because the principal "dbo" does not exist, this type of
principal cannot be impersonated, or you do not have permission.'. 2021-02-03 08:58:15.171 Status: 0, code:
22037, text: 'The process could not execute 'sp_replcmds' on 'sqlmi-new.d5453f8d115c.database.windows.net'.'.
2021-02-03 08:58:15.171 Disconnecting from OLE DB DISTOLE 'sqlmi-
new.d5453f8d115c.database.windows.net' 2021-02-03 08:58:15.453 Disconnecting from OLE DB DistLog
'sqlmi-new.d5453f8d115c.database.windows.net' 2021-02-03 08:58:15.453 Disconnecting from OLE DB
Publisher 'SQLMI-NEW.D5453F8D115C.DATABASE.WINDOWS.NET' 2021-02-03 08:58:15.453 Disconnecting
from OLE DB 'sqlmi-new.d5453f8d115c.database.windows.net'
```

<Root cause>: publisher database on the new primary is created automatically during geoDr sync up and is not owner by sa, so we need to change the database owner to sa.

```
use ReplTran_PUB
go
```

```
EXEC sp_changedbowner 'sa'
```

Then test insert on the new primary MI, it can publish the data successfully to subscriber.

Auto-failover groups on subscriber

If geo-replication is enabled on a subscriber instance in a failover group, **the publication should be configured to connect to the failover group listener endpoint for the subscriber managed instance**. In the event of a failover, subsequent action by the managed instance administrator depends on the type of failover that occurred:

For a failover with no data loss, replication will continue working after failover. For a failover with data loss, replication will work as well. It will replicate the lost changes again. For a failover with data loss, but the data loss is outside of the distribution database retention period, the SQL Managed Instance administrator will need to reinitialize the subscription database.

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