Error 40983 - Replication to the partner managed instance could not be established

Last updated by | Radhika Shah | Nov 29, 2022 at 1:20 PM PST

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Issue

Failover Group create fails with error 40983:
Replication to the partner managed instance could not be established. Verify that connectivity between the Virtual Networks of the primary and secondary managed servers has been established correctly according to guidelines in https://aka.ms/instanceFailoverGroups.

Investigation/Analysis

Requirements

There are a few requirements that need to be met: https://docs.microsoft.com/en-us/azure/azure-sql/database/auto-failover-group-overview?tabs=azure-powershell#enabling-geo-replication-between-managed-instances-and-their-vnets

The most common issues are:

Subnet/VNET address range overlap between subnets/VNETs of primary and secondary managed instances

In ASC go to VNET hosting geo-primary managed instance and check subnet that is hosting managed instance. Get its address prefix. Do the same thing for geo-secondary managed instance. Compare these two. If they are the same, ex. both geo-primary and geo-secondary managed instance subnet address ranges are 10.0.0.0/24,

this is a case of VNET address space overlap. This means traffic to the secondary VNET is always routes inside primary VNET.

Customers are trying to use Global VNet Peering but Virtual Cluster was created before 9/22/2020.

To be able to use global virtual network peering for SQL managed instances from virtual clusters created before 9/22/2020, customers can consider configuring maintenance window on the instances, as it will move the instances into new virtual clusters that support global virtual network peering.

Check if both virtual clusters (primary and secondary) were created after 9/22/2020.

- In ASC you can select the Virtual Cluster in Resource Explorer and see the Create Date.
- Alternatively, run following query in Kusto providing instance name.

  NOTE: All server/instance names in sample queries and screenshots below are lab/test servers.

```
let managedInstanceName = 'xxxxxx';
MonManagedServers
| where name == managedInstanceName
| summarize arg_max(TIMESTAMP,*) by managed_server_id
| join kind=leftouter ( MonPrivateClusters
| summarize arg_max(TIMESTAMP,*) by private_cluster_id
) on $left.private_cluster_id == $right.private_cluster_id
| project TIMESTAMP, InstanceName = name, InstanceCreateTime = create_time
, VC_Id=private_cluster_id1, VC_Name= name1, VC_CreateTime = create_time1
```

  VC_CreateTime should be after 9/22/2020.

Ports 5022, and 11000-11999 are blocked

We can use SQL Agent to test connectivity between both instances. See How-to test failover group connectivity between primary and secondary SQL Managed Instances

Invalid routes

```
MonEffectiveRoutes
| where TIMESTAMP > ago(5h)
| where subnet_resource_id == '/subscriptions/xxx-xxx-xxx/resourceGroups/xxxxx/providers/Microsoft.Network/virt
| where ipv6_is_match( '172.30.99.96/27', address_prefixes) or address_prefixes contains '172.30.99.96/27' //IP
| project name, source, status, address_prefixes, type
```

Sample output:

name	source	status	address_prefixes	type
	VPNGateway	Active	172.30.99.0/24	VPNGateway
	Default	Active	0.0.0.0/0	Internet
	Default	Active	172.16.0.0/12	Null
[redacted]-	User	Invalid	172.30.99.96/27	Null

Mitigation

Subnet/VNET address range overlap between subnets/VNETs of primary and secondary managed instances

Customer needs to drop geo-secondary managed instance and re-create it in a different VNET that does not have overlapping address range as geo-primary managed instance VNET. Check prerequisites Configure an auto-failover group for Azure SQL Managed Instance - Prerequisites

Customers are trying to use Global VNet Peering but Virtual Cluster was created before 9/22/2020.

By configuring maintenance window on the instance, instance will be moved into a new virtual clusters that support global virtual network peering. Please note this is a long running operation and a reconfiguration will happen around the end of the operation.

Ports 5022, and 11000-11999 are blocked

Open the required ports in NSGs or other network devices.
Confirm that connectivity works from MI to MI using How-to test failover group connectivity between primary and secondary SQL Managed Instances

Invalid routes

Customer to work with their network administrator and validate the route settings before proceeding to remove invalid routes.

Root Cause Classification

Cases resolved by this TSG should be coded to the following root cause:
Root Cause: Azure SQL v3/GeoDR/AutoDR/Other

How good have you found this content?