

Snapshot Agent failing with OS Error: 53

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Contents

- [Issue](#)
- [Investigation / Analysis](#)
- [Mitigation](#)
- [Public Documentation Reference](#)

Issue

Managed Instance is acting as Publisher and Distributor for either Transactional Replication or Snapshot Replication.

The Snapshot Agent is failing with the following symptoms:

```

2019-11-25 14:42:20.84 Microsoft (R) SQL Server Snapshot Agent
2019-11-25 14:42:20.84 [Assembly Version = 15.0.0.0, File Version = 15.0.1900.210]
2019-11-25 14:42:20.84 Copyright (c) 2016 Microsoft Corporation.
2019-11-25 14:42:20.84 The timestamps prepended to the output lines are expressed in terms of UTC time.
2019-11-25 14:42:20.84 User-specified agent parameter values:
2019-11-25 14:42:20.84 -----
2019-11-25 14:42:20.84 -Publisher servername.dnsprefix.DATABASE.WINDOWS.NET
2019-11-25 14:42:20.84 -PublisherDB ReplTran_PUB
2019-11-25 14:42:20.84 -Publication PublishData
2019-11-25 14:42:20.84 -Distributor servername.dnsprefix.DATABASE.WINDOWS.NET
2019-11-25 14:42:20.84 -DistributorSecurityMode 1
2019-11-25 14:42:20.84 -XJOBID 0xC38AA3D197C0884EB1B989C5B3861000
2019-11-25 14:42:20.84 -XDB
2019-11-25 14:42:20.84 -XHOST np:\pipe\DB.4-ED6CF4187FA6\sql\query
2019-11-25 14:42:20.84 -----
2019-11-25 14:42:20.84 Connecting to Distributor pipe 'np:\pipe\DB.4-ED6CF4187FA6\sql\query'
2019-11-25 14:42:20.89 Connecting to Distributor 'servername.dnsprefix.DATABASE.WINDOWS.NET'
2019-11-25 14:42:21.03 Parameter values obtained from agent profile:
2019-11-25 14:42:21.03 -----
2019-11-25 14:42:21.03 -BcpBatchSize 100000
2019-11-25 14:42:21.03 -HistoryVerboseLevel 2
2019-11-25 14:42:21.03 -LoginTimeout 15
2019-11-25 14:42:21.03 -QueryTimeout 1800
2019-11-25 14:42:21.03 -----
2019-11-25 14:42:21.03 Validating Publisher
2019-11-25 14:42:21.03 Obtained Azure Storage Connection String for accountname
2019-11-25 14:42:21.03 Connecting to Azure Files Storage '\storageaccountname.file.core.windows.net
\\replicationshare'
2019-11-25 14:42:46.77 Failed to connect to Azure Storage '' with OS error: 53.

```

Investigation / Analysis

OS error 53 means: The network path was not found .

If the outbound Network Security Group (NSG) is blocking port 445, the replication agent will fail with this error when connecting to Azure File Storage.

You have several options to confirm if port 445 is open:

1. Open ASC Resource Monitor and check the network configuration of the MI VNet:
 - Starting with the MI, identify the MI's VNet and subnet
 - On the associated NSG of the VNet/subnet, check the outbound rules and if port 445 is allowed
 - Also check the Route Table if the VNet traffic is routed through a Network Virtual Appliance (NVA)
2. Run PowerShell cmdlet `Test-NetConnection` from an Azure VM that is hosted on the same VNet as the Managed Instance.

Example: `$connectTestResult = Test-NetConnection -ComputerName <storage_account_name>.file.core.windows.net -Port 445`

Mitigation

If the Investigation shows that outbound port 445 is blocked, then update the VNet NSG to explicitly allow port 445. This should be sufficient to mitigate OS error 53.

If this doesn't resolve the issue, then, for a test, try to open ports 11000-65000 (any*any*any) and see if this helps.

If you see port 445 being allowed on the NSG outbound rules AND an NVA routing on the route table, then the traffic to the file storage might be blocked inside the NVA. This then requires the customer to review the NVA configuration, as the NVA rules are defined by the customer and we have no way to see them ourselves.


Public Documentation Reference

Please see the list of requirements that are listed on our documentation:

[Transactional replication with Azure SQL Managed Instance](#)

Requirements

- Use SQL Authentication for connectivity between replication participants.
- Use an Azure Storage Account share for the working directory used by replication.
- **Open TCP outbound port 445** in the subnet security rules to access the Azure file share.
- Open TCP outbound port 1433 when the SQL Managed Instance is the Publisher/Distributor, and the Subscriber is not. You may also need to change the SQL Managed Instance NSG outbound security rule for allow_linkedserver_outbound for the port 1433 Destination Service tag from virtualnetwork to internet.
- Place both the publisher and distributor in the cloud, or both on-premises.
- Configure VPN peering between the virtual networks of replication participants if the virtual networks are different.

Note You may encounter error 53 when connecting to an Azure Storage File if the outbound network security group (NSG) port 445 is blocked when the distributor is an Azure SQL Managed Instance database and the subscriber is on-premises. [Update the vNet NSG](#)  to resolve this issue.

How good have you found this content?

