

Error: A network-related or instance-specific error has occurred

Last updated by | Subbu Kandhaswamy | Sep 22, 2021 at 11:25 AM PDT

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Issue

Customer will receive generic network related or instance specific error, when connecting to azure sql database with unique provider errors .

Error

A network-related or instance-specific error occurred while establishing a connection to SQL Server. The server was not found or was not accessible. Verify that the instance name is correct and that SQL Server is configured to allow remote connections. (provider: TCP Provider, error: 0 - An operation on a socket could not be performed because the system lacked sufficient buffer space or because a queue was full

Identifying failures reasons using provider error

Note : The full error message from TCP Provider will tell you more about what the actual problem is. Note that this will be visible only if protocol is explicitly defined in the server name field (see below)

Error message(s)	Reason(s)
A network-related or instance-specific error occurred while establishing a connection to SQL Server. The server was not found or was not accessible. Verify that the instance name is correct and that SQL Server is configured to allow remote connections. (Provider: Named Pipes Provider: Could not open a connection to SQL Server)	This hides the underlying error (that comes from tcp provider or SNI provider). This error message is not helpful. Ask customer to get the right error message by forcing tcp in their protocol (sqlcmd -S tcp :servername.database.windows.net -U username -P password -d database)
A network-related or instance-specific error occurred while establishing a connection to SQL Server. The server was not found or was not accessible. Verify that the instance name is correct and that SQL Server is configured to allow remote connections. (provider: TCP Provider, error: -1 No such host is known.)	Most likely the DNS Record does not exist. Do sqlcmd/nslookup to double check. If it exists, it's also possible that tcp endpoint is unresponsive. TCP Timeout is 21s and client did not receive SYN-ACK in response to its SYN packet within that time. Do tcping to the endpoint to capture statistics.
A network-related or instance-specific error occurred while establishing a connection to SQL Server. The server was not found or was not accessible. Verify that the instance name is correct and that SQL Server is configured to allow remote connections. (provider: SQL Network Interfaces, error: 26 - Error Locating Server/Instance Specified)	Also happens because tcp protocol is not forced. Prepend servername with tcp: to get more helpful error message.
A network-related or instance-specific error occurred while establishing a connection to SQL Server. The server was not found or was not accessible. Verify that the instance name is correct and that SQL Server is configured to allow remote connections. (provider: TCP Provider, error: 0 - An operation on a socket could not be performed because the system lacked sufficient buffer space or because a queue was full.)	Client side issue typically. Local machine having buffer exhaustion or port exhaustion. Look for processes that are using up tcp (netstat.exe will tell you more, or if network output buffer is backed up (PerfMon on the server will have counters for this)

What to check next ?

1. Is the issue happening across all clients?

- Attempt connection to database from your dev box after replacing these values . If you can connect (you might get login failed or firewall error), this **limits the error to the client side**

```
sqlcmd -S tcp:servername.database.windows.net -U dummyValue -P dummyValue -d databasename
```

b. If you cannot connect from your machine, this limits error to server side

2. If issue is client side obtain,

a. psping trace to servername.database.windows.net port 1433 (psping -t <server>:<port>). If this shows "Socket not available* errors every now and then or takes anything more than 500ms to connect, this potentially indicates networking issue.

b. If psping above doesn't show anything, wireshark traces while attempting to connect tcp:servername.database.windows.net via client will be useful.

3. If issue is server side,

a. Check if the issue is transient?

b. Are they connecting to Secure Proxy? (This is a TDS Proxy, much like Gateway, but audits all actions going through it. This is owned by the Data Security Proxy team in ILDC). If they are using Secure Proxy, engage Data Security Proxy team to help debug issues on their side.

c. Is login being redirected? (look at MonLogin | where event == "process_login_finish" and logical_server_name == "servername" and database_name == "dbname" | where originalEventTimestamp > ago(1h) | project originalEventTimestamp, result, peer_address, host_name

If result = e_crContinue, then it is being redirected to backend (or security proxy). If it is e_crContinueSameState then it is being proxied

i. This helps you isolate the problem further.

Escalate to GW team with your findings , if issue persists and not customer end

Classification

Root Cause: Azure SQL DB v2\Connectivity\Network Reliability\Client Network

How good have you found this content?

