# **Error 40613, State 14**

Last updated by | Amie Coleman | Mar 13, 2023 at 8:50 AM PDT

#### **Contents**

- Issue
- Troubleshooting
  - ASC
  - Kusto
  - Client Side
- Mitigation
- RCA Template
- Classification

#### Issue

Error 40613 state 14 is observed when there is an active/in-use Dedicated Administrator Connection (DAC) for the database and the customer attempts to open a new DAC connection.

#### **Background**

SQL Server provides a special diagnostic connection for administrators when standard connections to the server aren't possible. This diagnostic connection allows an administrator to access SQL Server to execute diagnostic queries and troubleshoot problems even when SQL Server isn't responding to standard connection requests. Only one DAC is allowed at any one time to guarantee that there are resources available for the connection. For more information on DAC connections, see <u>Diagnostic connection for database administrators</u>

#### **Error Classification**

Client side error:

Sqlcmd: Error: Microsoft ODBC Driver 17 for SQL Server: Database 'Testdb' on server 'TestSvr' is not currently available. Please retry the connection later. If the problem persists, contact customer support, and provide them the session tracing ID of '{2B998A0C-166A-459F-B55D-AC98ddddd0BA}'...

#### Error:

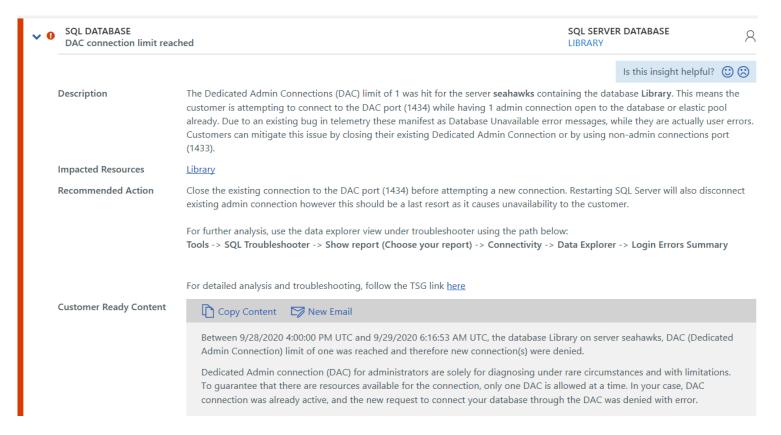
17810, Severity: 20, State: 2. 2019-08-11 05:00:00.15 Logon [Filtered Args] Could not connect because the maximum number of '%1' dedicated administrator connections already exists. Before a new connection can be made, the existing dedicated administrator connection must be dropped, either by logging off or ending the process.%2\_

# Troubleshooting

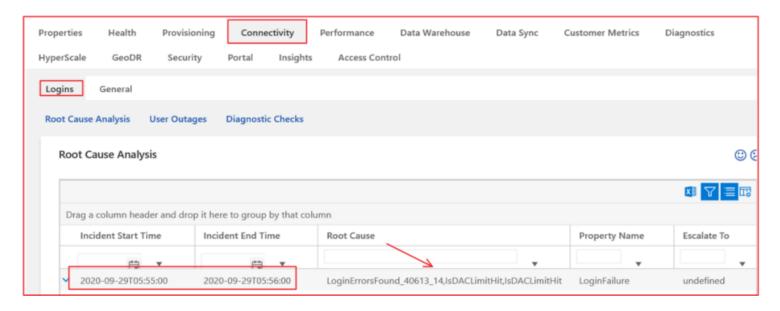
#### ASC

We detect this issue in ASC and generate the below insight, which includes the impact time frame, CSS internal content and customer ready content to use and share with customer for handling this issue.

#### **ASC Insight**



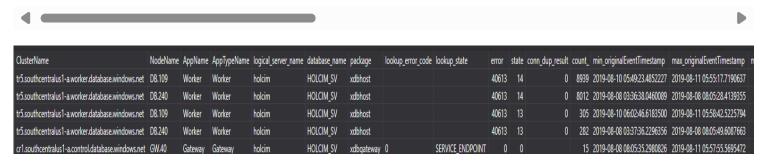
In addition, you can check and confirm the occurrence by generating a Troubleshooter Report for the resource:



#### **Kusto**

If the ASC insight is not generated for any reason, you should be able to identify this behavior by querying login telemetry in Kusto directly:

MonLogin |
where ((logical\_server\_name =~ "ServerName") and database\_name =~ "Databasename") and event == "process\_login\_
| where (is\_success == false and is\_user\_error == false) or total\_time\_ms > 14000
| summarize cnt(), min(originalEventTimestamp), max(originalEventTimestamp), max(total\_time\_ms), avg(total\_time\_ms)
| sort by count\_ desc



#### Client Side

From the client side, the customer can run the below T-SQL query (in the user database) to check that there is an active DAC connection:

```
SELECT Session_id, most_recent_session_Id, connect_time, net_packet_size, client_net_address,
    net_transport, protocol_type, endpoint_id, last_read, last_write
FROM sys.dm exec connections WHERE node affinity = 64
```

If the connection is active, you will see a result similar to the below:



## Mitigation

To identify more information about the active DAC connection, use the following T-SQL query. From the results the customer can identify a Session ID, Host Name, Login Name, and Program Name. This information should be sufficient to then move forward with closing the problematic connection.



To mitigate this issue, there are two options:

- 1. Once the DAC connection has been identified using the above steps, the customer should close the DAC connection.
- 2. If for any reason, it hasn't been possible to identify or disconnect the DAC connection, then restarting the SQL Server will disconnect all existing connections. This should be a last resort as it will impact the customer resource availability briefly

**Note**, if you observed error 40613 state 14 and didn't observe any 17810 in the error, then the issue could be related to socket duplication. For more information, see <u>Socket Duplication TSG - 40613 state 13</u>

## **RCA Template**

**Summary of Impact**: Between *<starttime>* and *<endTime>* on *<dd/mm/yyyy>*, database *<database Name>* on server *<server name>* was not reachable. The unavailability issue reported was caused by user action and it is by-design behavior.

**Root Cause**: The Dedicated Administrator Connection (DAC) is for administrators and is solely used for diagnosing under rare circumstances and with limitations. To guarantee that there are resources available for the connection, only one DAC is allowed at a time. In your case, there was an active DAC connection, and the new request to connect your database through the DAC was denied with error.

Mitigation: Closing the existing DAC connection will allow you to open a fresh connection.

**Additional Information**: Please refer azure docs to learn more about dedicated admin connections and it's limitations - Dedicated admin connection - DAC 🖂

#### Classification

Root Cause: Azure SQL DB v2\Connectivity\Login\User Error

#### How good have you found this content?



