Error 40613, State 129

Last updated by | Amie Coleman | Mar 8, 2023 at 9:35 AM PST

Contents

Issue

Error 40613 state 129 indicates that the database is not available due to HADR reasons. Possible reasons include:

- The database is not in either PRIMARY or SECONDARY state
- There is a long running reconfiguration on the database
- There is a long recovery on the database

This state is usually routed to the Availability PG team or Geo-DR depending on whether the database is Geo Primary or Geo Secondary.

Troubleshoot

ASC

This issue is typically detected in ASC and a critical insight generated with the impact time and customer ready content.

ASC Insight

Critical insight

SQL Database
Database experienced unplanned failover downtime

Send Feedback

Issue category
SQL Database

Description

Between **2023-03-06 07:53:23 UTC** and **2023-03-06 07:53:27** UTC there were **1** reconfiguration(s) that occurred for the database [redacted] on server [redacted]. The total duration of failovers during that time was **4 seconds**, due to **API Fault** which is an unplanned operation.

Impacted Resources

[redacted]

Recommended action

Review the reconfiguration scenario and provide the customer ready content after considering all applicable criteria and performing the checklist below.

Checklist :

1. Confirm customer impacted timeframe from their application logs, compare with the telemetry on our end.
2. Look for details such as the last successful connection before the failover and the first successful connection after to get a specific idea of impact via tools such as Kusto or XTS.
3. Consider database load such as large transactions or high consumption of resources.
4. Review reconfiguration history if applicable, either recently or even older cases to see if a trend is occurring.

Links

Working with SQL Database connection issues and transient errors

Database connection errors, transient errors, and other temporary errors

Generated On
Mar 06, 2023 11:10:06 UTC

Customer ready content

Copy content New email

Between 2023-03-06 07:53:23 and 2023-03-06 07:53:27, the database [redacted] on server [redacted] experienced 1 reconfiguration(s). The total unavailability time caused by these reconfiguration(s) was 4 seconds.

The Azure infrastructure can dynamically reconfigure servers for planned operations such as load balancing and updates, or unplanned occurrences such as recoveries from software or hardware issues. In this instance, the reconfiguration was due to unplanned operation(s). Most reconfiguration events take less than 60 seconds to complete.

To plan for these situations, build resiliency into your application to help create transparency for the end user. For information about connectivity in Azure SQL DB, how to implement retry logic, and to understand common errors in Azure SQL DB, refer to database connection errors. Meanwhile, our product team is minimizing these situations and their impact on your database availability.

Resources

- Troubleshoot, diagnose, and prevent SQL connection errors and transient errors for SQL Database
- Database connection errors

In addition you can also check and confirm the occurrence from a Troubleshooter report:
Downtime Reasons > Downtime > All Login Outages

outageStartTime	outageEndTime	durationSecon...	OutageType	OutageReason...	OutageReasonLevel2	OutageReasonLevel3
2023-03-06 13:18:49.8160	2023-03-06 13:18:59.8480	10.03	Unplanned	Unknown	["sqlserver/40613/129 (FindLoginForContainedDBAuthUnexpectedFailure)"]	GeoRole: GeoPrimary

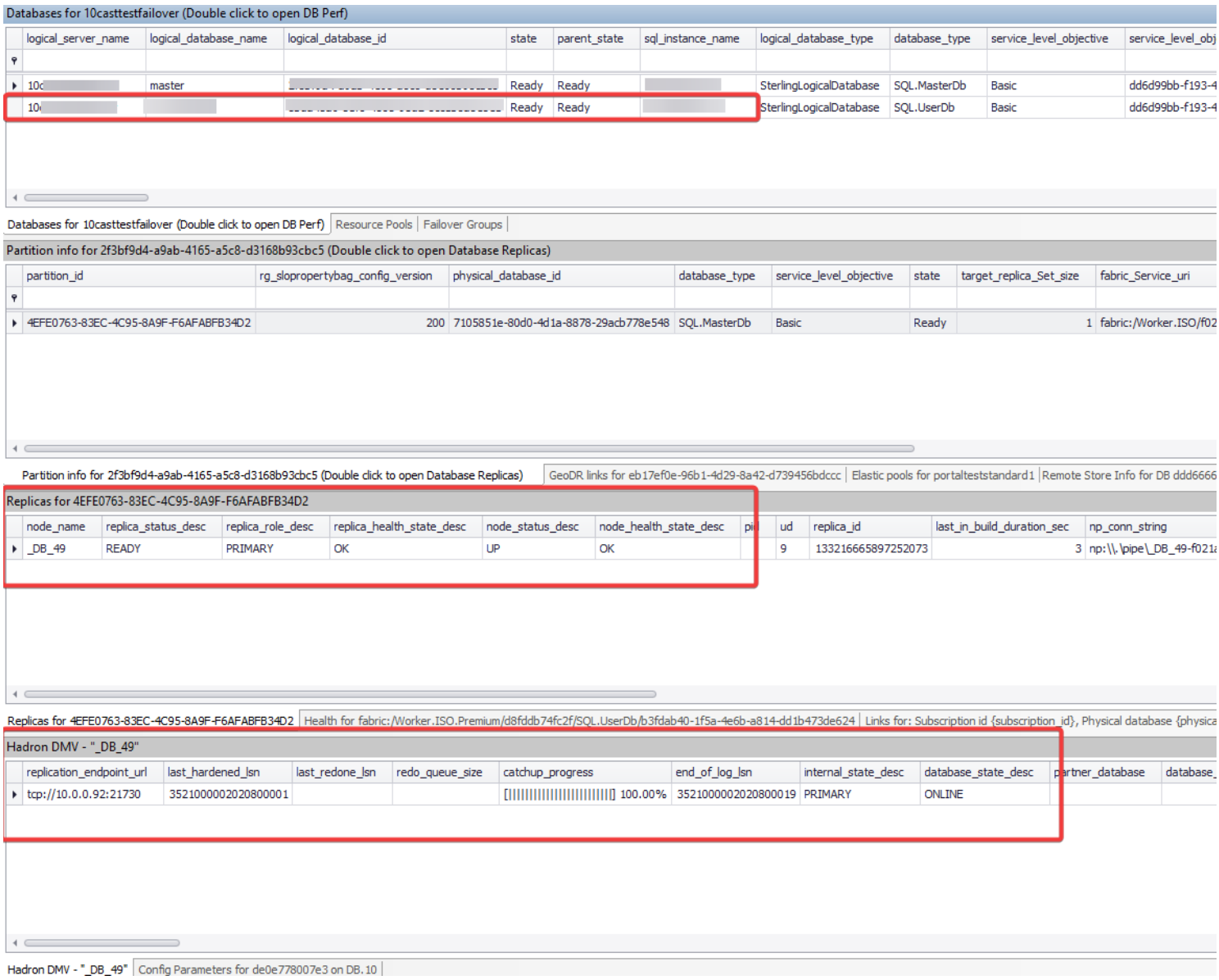
Kusto

MonLogin Query Check for login failures and error states to see when the issue started occurring and when the most recent error occurred (note that the telemetry in Kusto will have a small delay of around 15 minutes, so whilst this can help with recent failures it may not neccessarily tell you if the issue is still present)

```
let servername = "";
let databasename = "";
MonLogin
//| where TIMESTAMP >= datetime(2023-01-24 00:00:35Z)
//| where TIMESTAMP <= datetime(2023-01-25 12:15:59Z)
| where TIMESTAMP >=ago (1h)
| filter logical_server_name == servername
| filter database_name == databasename
| filter is_success == false
| order by TIMESTAMP desc
| project PreciseTimeStamp, error, state, peer_address, logical_server_name, database_name, application_name,
```

XTS

Utilise XTS to check resource state, Replica health and recovery progress (Sterling servers and databases.xts view or Database replicas.xts view specifically for replica information)



Mitigation

Depending on the outcome of your investigation, Availability/Geo-DR related cases typically progress in one of two ways;

1. The Availability issues have self-resolved/are no long impacting and the customer requests an RCA. For transient issues where the downtime was what we consider 'reasonable' (~60 seconds or less), we have the below RCA Template that can be shared with the customer. **Note** use your own judgement or consult with a xEE/TA when considering sharing the pre-canned RCA. Whilst this can be acceptable for some customers (for example, if the downtime was a single occurrence and lasted a few seconds), it may not be suitable for other scenarios where there has been multiple events causing prolonged downtime.
   For the latter scenario, please raise an IcM to the Availability/Geo-DR PG team, requesting an RCA.

2. The Availability issue is on-going and requires further investigation by opening an IcM to Availability/Geo-DR PG team for manual mitigation.

RCA Template

USE THIS TEMPLATE IN ACCORDANCE WITH THE CUSTOMER SITUATION/EXPERIENCE. CONSULT WITH xEE or TA BEFOREHAND IF NEEDED

Summary of Impact
Between <*Starttime*> and <*EndTime**> Database <Database Name> on Server <*Servername*> was not reachable, and this unavailability errors (40613) you reported were due to an Unplanned failover.

Root cause The Azure infrastructure has the ability to dynamically reconfigure servers for planned operations (*such as load balancing and updates)*, or unplanned occurrences (*such as recoveries from software or hardware issues)*. In this instance, the reconfiguration was due to unplanned operation(s). Most reconfiguration events take less than 60 seconds to complete. This relates to long recovery of transactions that were running on the database at the time of the reconfiguration.

Mitigation Most of the reconfigurations are transient in nature and can be seamlessly handled by applying retry logics to your application. Azure SQL Databases need to maintain transactional consistency, transactions that are in flight during this operation will need to roll back and, if large in size, can take a longer time to complete. Implementing best practices such as batching transactions to smaller sizes will result in less recovery time when these reconfiguration operations occur.

Recommended next steps Building resiliency into your application to account for these situations can help create transparency to the end user when these transient scenarios occur. For information about connectivity in Azure SQL DB, how to implement retry logic, and to understand common errors in Azure SQL DB, please refer to this article on Database connection errors.

Our product team is continually working to minimize these situations and their impact to your database availability.

Classification

Root Cause: Azure SQL DB v2\Availability\Unplanned Failovers

How good have you found this content?