Geo secondary not available due to elastic pool resource limit

Last updated by | Vitor Tomaz | Aug 5, 2020 at 12:41 PM PDT

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Scenario

Customer reported DB unaccusable, because multiple secondary databases in the elastic pool stopped synchronizing and became unavailable. Our automation detected this issue, but was not able to resolve it by restarting the sql instances. The on-call engineers mitigated the issue by reseeding the affected databases.

The customer has a standard elastic pool with over 300 databases. This is beyond the recommended limits, as described here:

https://docs.microsoft.com/en-us/azure/sql-database/sql-database-geo-replication-overview

Elastic pools with 800 or less DTUs and more than 250 databases using geo-replication may encounter issues including longer planned failovers and degraded performance. These issues are more likely to occur for write intensive workloads, when geo-replication endpoints are widely separated by geography, or when multiple secondary endpoints are used for each database. Symptoms of these issues are indicated when the geo-replication lag increases over time. This lag can be monitored using sys.dm_geo_replication_link_status. If these issues occur, then mitigations include increasing the number of pool DTUs, or reducing the number of geo-replicated databases in the same pool.

Cause

Even if the workload running against these databases fits within the DTU limits, maintaining geo replication introduces additional system overhead that might cause performance issues and synchronization problems at this scale.

Recommendation

PG recommend that the customer splits the pool or increases DTU, to stay closer to the recommended limits and avoid such problems.

Classification

Root Cause: Azure SQL DB v2\GeoDR/AutoDR

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