Geo Replication, failover groups and DB Copy

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Contents

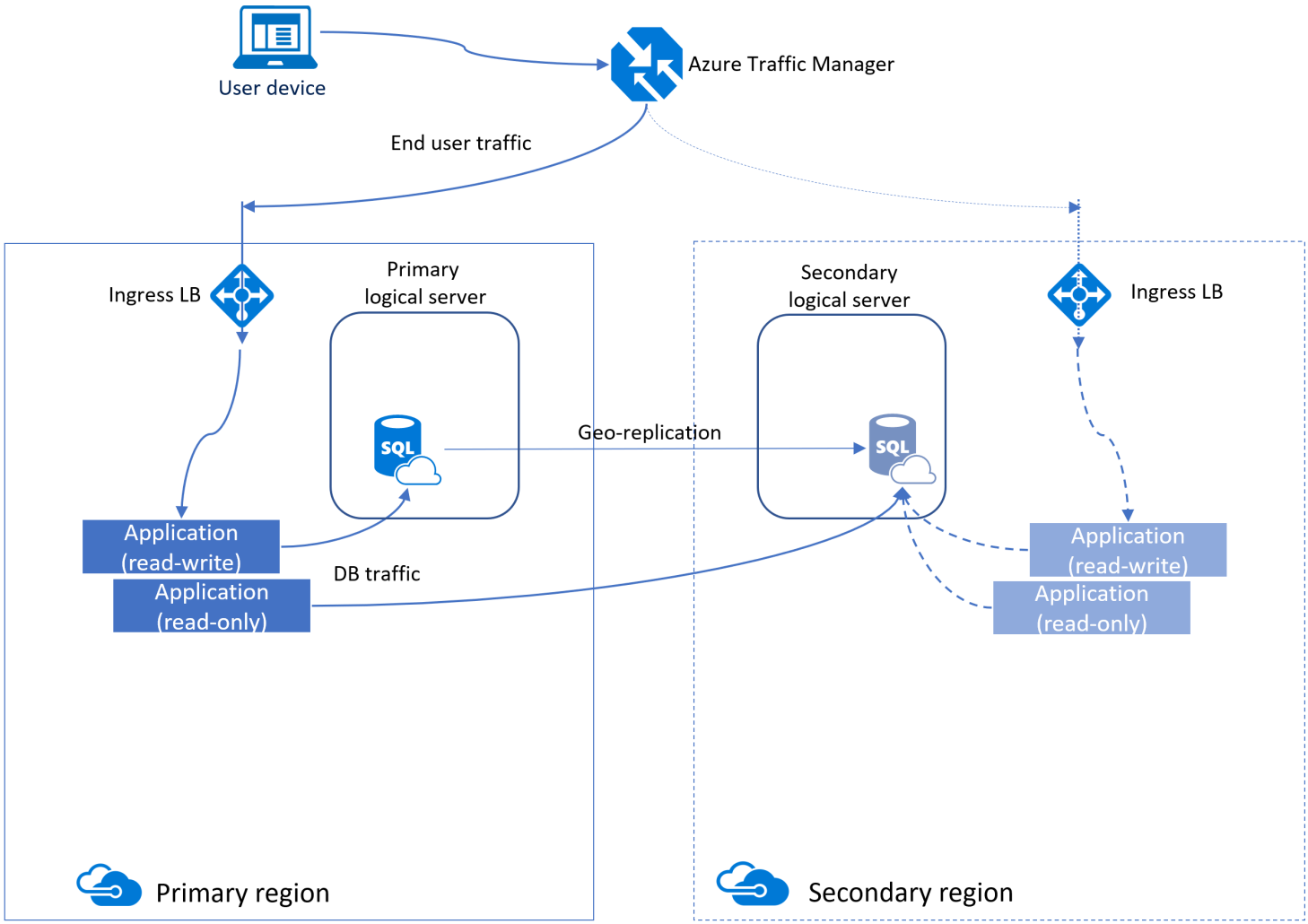
What's covered here?

- **GeoDR** is a feature that lets a customer replicate their Azure SQL Database to a read-only "secondary" database on a different server. Customers may "geo-failover" to that copy in the case of a disaster on the cluster of the primary database.
- **Database Copy:** the database copy operation does exactly what you think. Under the covers, the database copy operation uses exactly the same database replication machinery as GeoDR.
- **Update SLO (partially)**: update SLO is the operation that changes the service objective of a database. Sometimes, update SLO requires copying the entire database to new SQL instance. If so, then under the covers it uses the same database replication machinery as GeoDR.
- **Update Elastic Pool** (partially): under the covers, update elastic pool uses update SLO in order to move databases from one SQL instance (the old elastic pool SQL instance) to another instance (the new elastic pool SQL instance).
- **Failover Groups**: customers can add their geo-replicated databases into a "failover group." Databases in failover groups all failover (between the primary and secondary servers) at the same time. Failover groups have read and write DNS endpoints that always point to the secondary and primary servers respectively.
- **Read Scale-Out**: read scale-out is a private preview feature that allows customers to read from the local secondary replicas of their premium databases.

Geo Replication

Active geo-replication is designed as a business continuity solution that allows the application to perform quick disaster recovery of individual databases in case of a regional disaster or large scale outage. If geo-replication is enabled, the application can initiate failover to a secondary database in a different Azure region. Up to four secondaries are supported in the same or different regions, and the secondaries can also be used for read-only access queries. The failover must be initiated manually by the application or the user. After failover, the new primary has a different connection end point.

The following diagram illustrates a typical configuration of a geo-redundant cloud application using Active geo-replication.



Failover Groups

Auto-failover groups is a SQL Database feature that allows to manage replication and failover of a group of databases on a SQL Database server or all databases in a managed instance to another region. It is a declarative abstraction on top of the existing active geo-replication feature, designed to simplify deployment and management of geo-replicated databases at scale.

Limitations

- Failover group cannot be created between two servers or instances in the same Azure regions.
- Failover group cannot be renamed. User will need to delete the group and re-create it with a different name.
- Database rename is not supported for instances in failover group. User will need to temporarily delete failover group to be able to rename a database.

Database Copy

A database copy is a snapshot of the source database as of the time of the copy request. User can select the same server or a different server. Also user can choose to keep its service tier and compute size, or use a different compute size within the same service tier (edition). After the copy is complete, it becomes a fully functional, independent database.

How good have you found this content?