Bio

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Objectives

- Quick overview of Amazon Web Services Terms

- What is EC2?

- Options for SQL Server on EC2

- Create a SQL Server in EC2

- Security and Network Overview

- Other "Gotchas"

- Availability Groups on EC2

- And now for something completely different…

Amazon Web Services Terms

- AWS
- EC2
- Route 53
- IAM
- VPC
- Security Groups
- AMI

What is EC2?

- Elastic Cloud Computing
- Virtual Server created through AWS for general computing use
- Used to be through Xen virtualization but recently changed to KVM
- Can be Linux or Windows OS
- Made by using a premade Amazon Machine Image (AMI)

Options For SQL Server On EC2

- Relational Database Service (RDS)
- Using a prebaked Windows AMI with SQL Server already installed
  - Only good for up to SQL Server 2017 currently
- Using a prebaked Windows AMI and install SQL Server manually
- Using a prebaked Linux AMI and install SQL Server manually
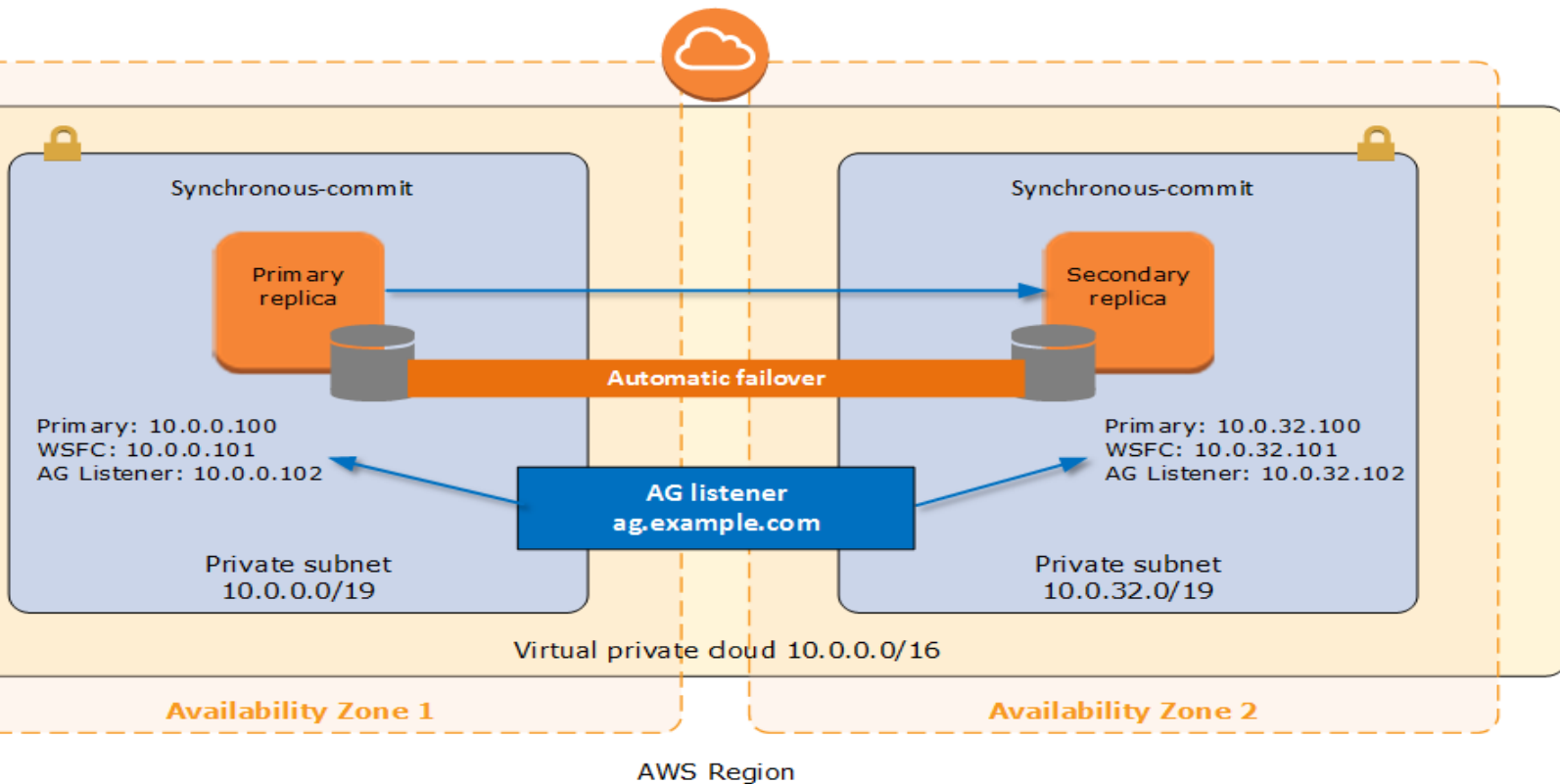
Create A SQL Server in EC2

- Demo

Security and Network Overview

- Virtual Private Cloud (VPC)

- Security Groups (SG)

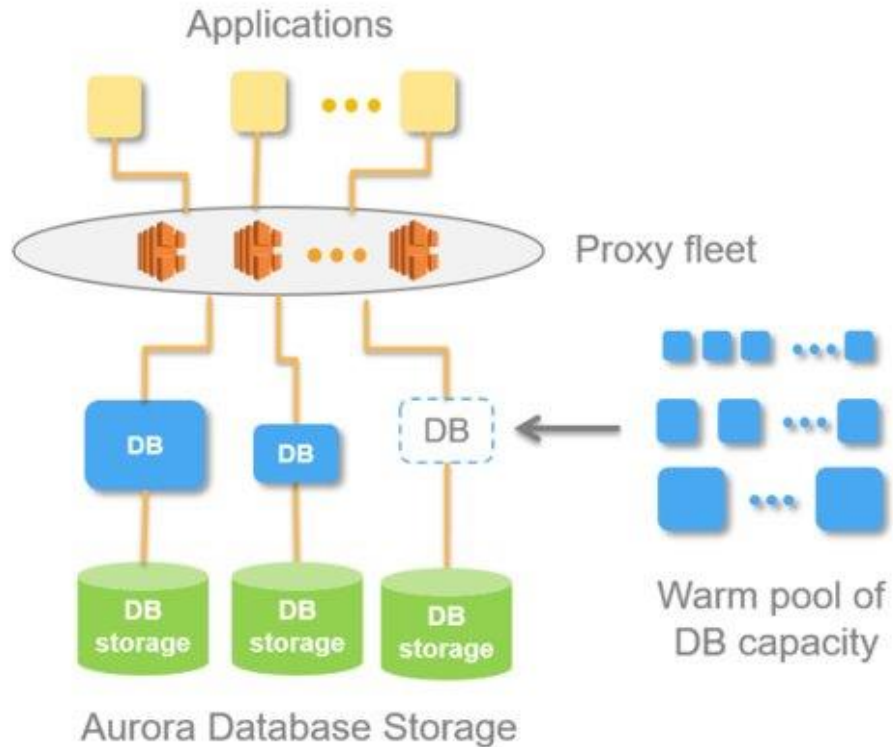- Identity and Access Management (IAM)

- Route53

Other "Gotchas"

- IOPS is dependent on disk size
- Bandwidth between instances is dependent on instance size
- Index maintenance on larger indexes may take down the AG
  - Around a million pages
- Striping the drives will help with IOPS
- AWS recommends r or i class servers
- Save money by using reserved instances

Availability Groups on EC2

And Now for something Completely different...

- Aurora Serverless

Applications

Proxy fleet

DB

DB

DB

Warm pool of DB capacity

DB storage

DB storage

DB storage

Aurora Database Storage

Credits

- Best Practices for SQL Server
  - https://docs.aws.amazon.com/quickstart/latest/sql/best-practices.html
- Identity and Access Management
  - https://docs.aws.amazon.com/IAM/latest/UserGuide/introduction.html
- Aurora Serverless
  - https://aws.amazon.com/rds/aurora/serverless/
- Bootstrapping Your Large Production On-Premises SQL Server Databases to Amazon EC2
  - https://aws.amazon.com/blogs/database/bootstrapping-your-large-production-on-premises-sql-server-databases-to-amazon-ec2/