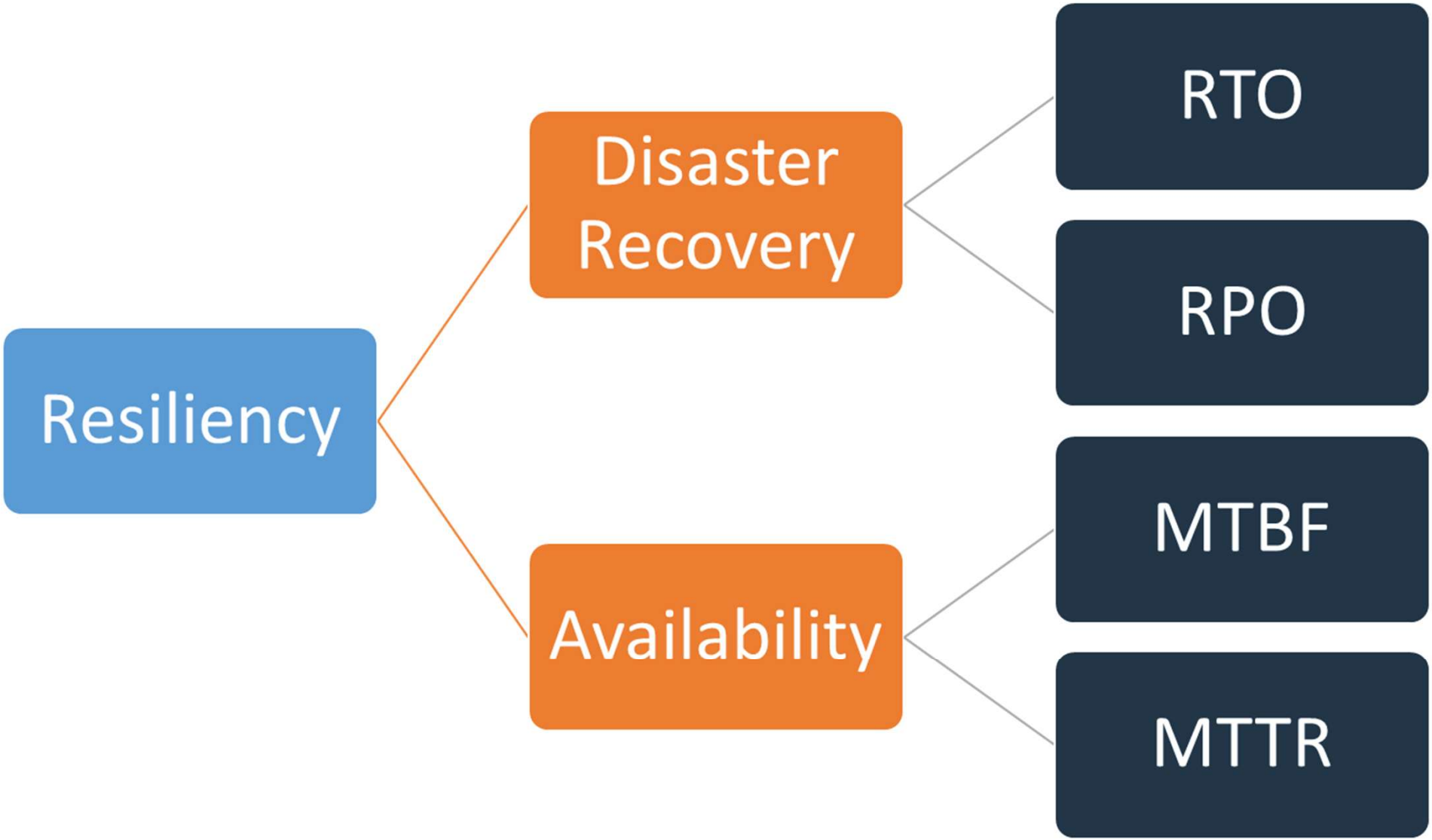
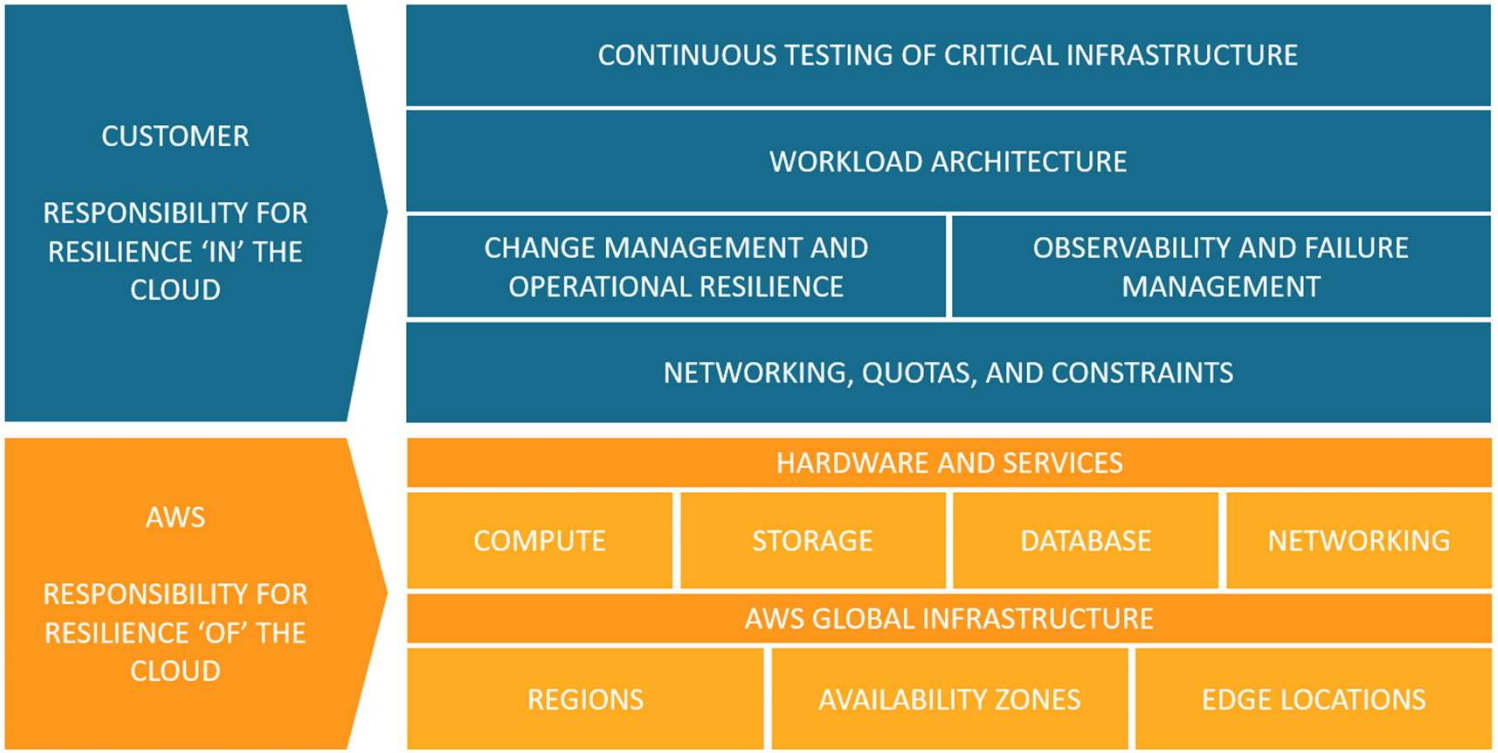
Disaster Recovery in AWS


Resiliency
Disaster Recovery
Availability
RTO
RPO
MTBF
MTTR

Shared Responsibility Model for Resiliency



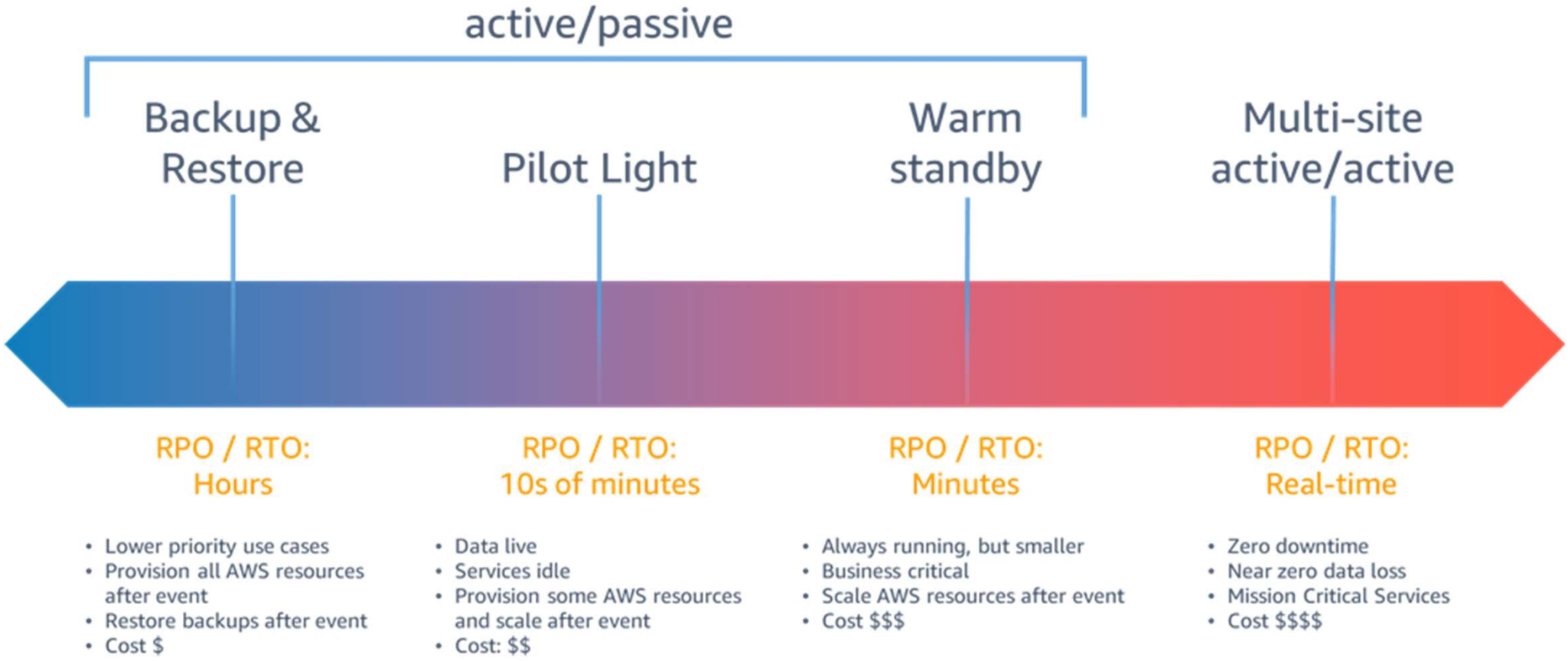
What is a disaster?

- Natural disasters, such as earthquakes or floods
- Technical failures, such as power failure or network connectivity
- Human actions, such as inadvertent misconfiguration or unauthorized/outside party access or modification

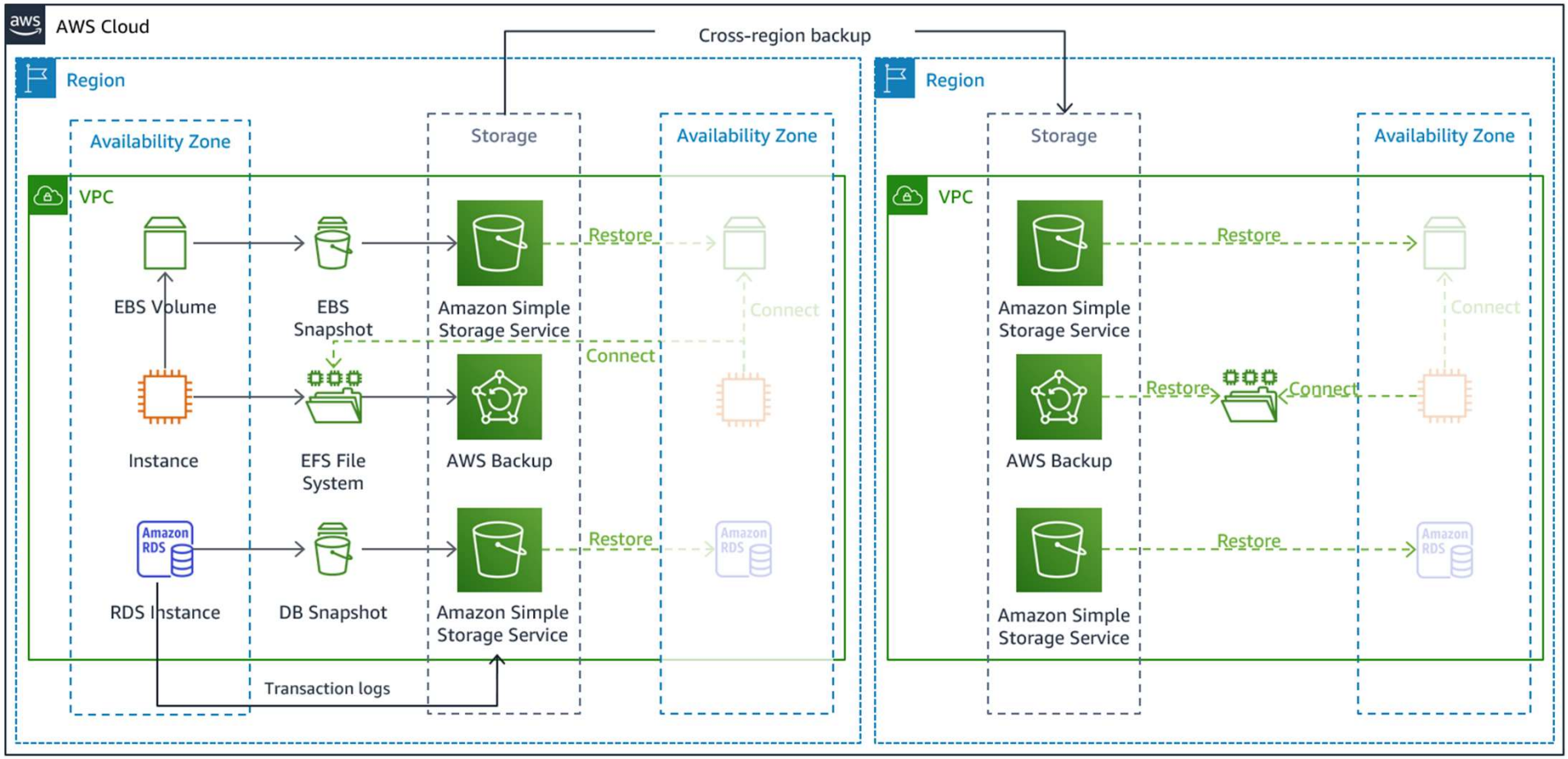
High availability is not disaster recovery

- Disaster recovery has different objectives from Availability, measuring time to recovery

Disaster recovery options in the cloud



Backup and Restore



AWS services that support Backup

- Amazon Elastic Block Store (Amazon EBS) snapshot
- Amazon DynamoDB backup
- Amazon RDS snapshot
- Amazon Aurora DB snapshot
- Amazon EFS backup (when using AWS Backup)
- Amazon Redshift snapshot
- Amazon Neptune snapshot
- Amazon DocumentDB

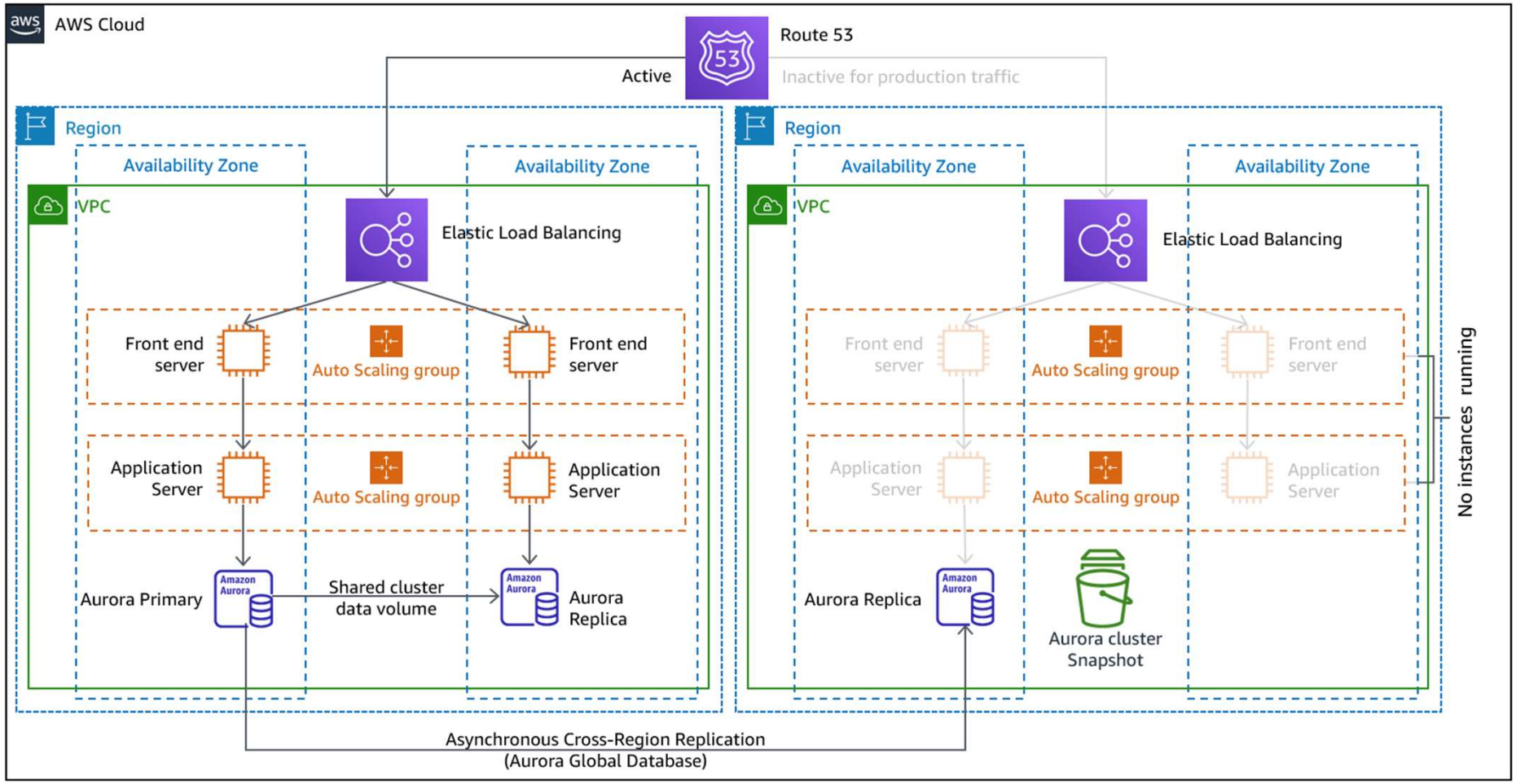
AWS Backup

- AWS Backup provides a centralized location to configure, schedule, and monitor AWS backup capabilities
  - Amazon Elastic Block Store (Amazon EBS) volumes
  - Amazon EC2 instances
  - Amazon Relational Database Service (Amazon RDS) databases (including Amazon Aurora databases)
  - Amazon DynamoDB tables
  - Amazon Elastic File System (Amazon EFS) file systems
  - AWS Storage Gateway volumes
  - Amazon FSx for Windows File Server and Amazon FSx for Lustre

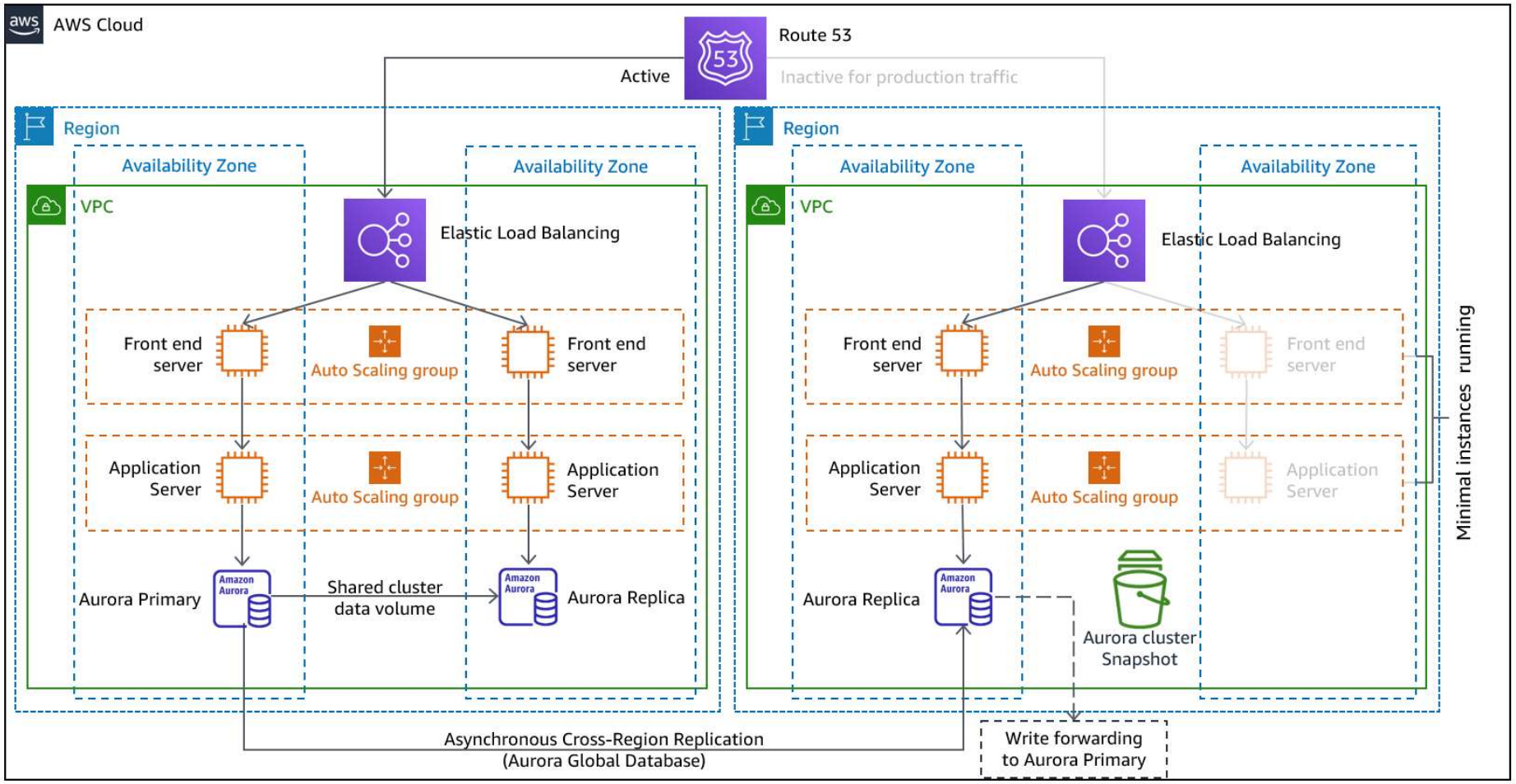
Pilot light

- With the pilot light approach, you replicate your data from one Region to another
- and provision a copy of your core workload infrastructure
- Resources required to support data replication and backup, such as databases and object storage, are always on
- Other elements, such as application servers, are loaded with application code and configurations, but are "switched off" and are only used during testing or when disaster recovery failover is invoked

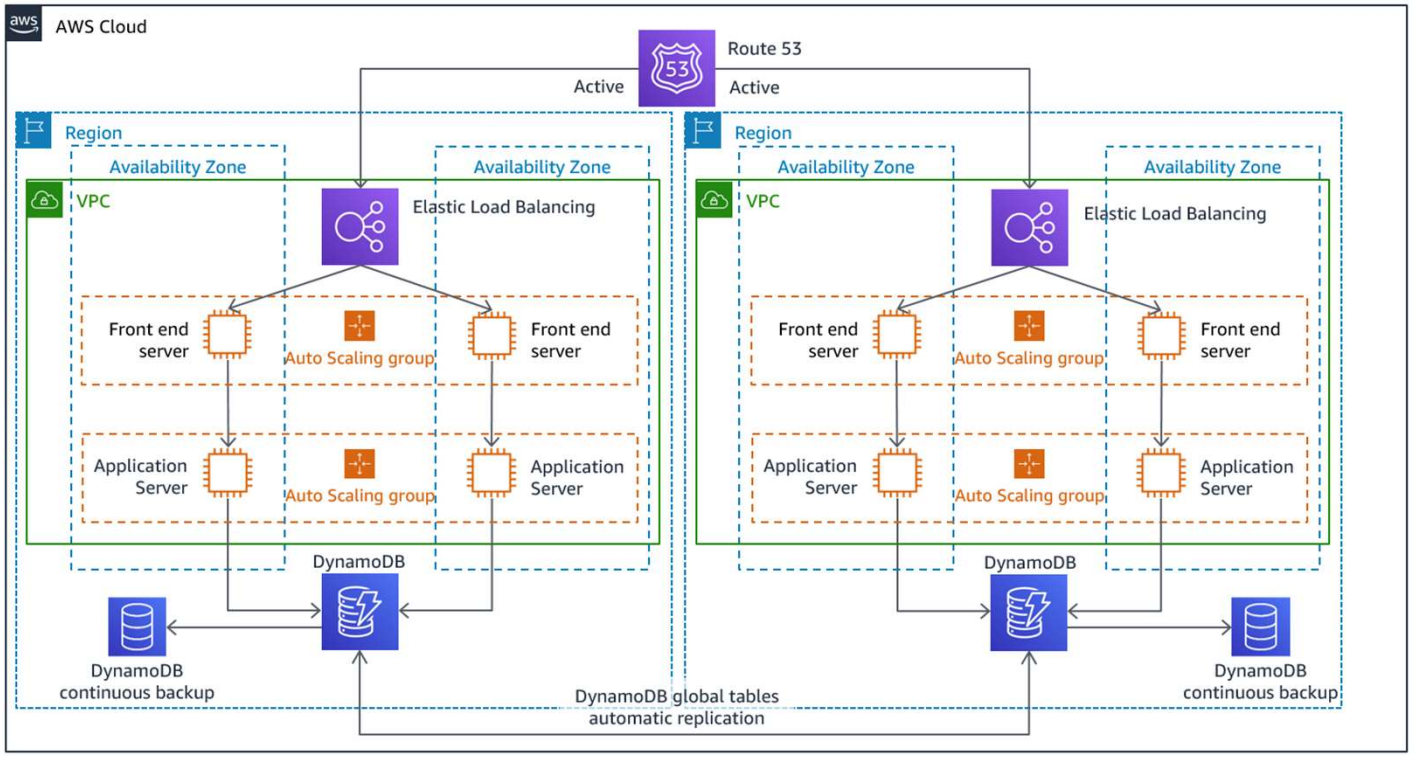
Pilot light


AWS Cloud
Route 53
Active
Inactive for production traffic
Region
Availability Zone
Availability Zone
VPC
Elastic Load Balancing
Front end server
Auto Scaling group
Front end server
Application Server
Auto Scaling group
Application Server
Aurora Primary
Shared cluster data volume
Aurora Replica
Region
Availability Zone
Availability Zone
VPC
Elastic Load Balancing
Front end server
Auto Scaling group
Front end server
Application Server
Auto Scaling group
Application Server
Aurora Replica
Aurora cluster Snapshot
No instances running
Asynchronous Cross-Region Replication
(Aurora Global Database)

Warm standby architecture



Multi-site active/active




Thanks