Disaster Recovery on AWS

Hai Nguyen – Solutions Architect

Agenda

- Disaster Recovery (DR) strategies on AWS
- Elastic Disaster Recovery (DRS)

Agenda

- Disaster Recovery (DR) strategies on AWS
- Elastic Disaster Recovery (DRS)

Type of disaster

Natural disaster

Technical failure

Human actions

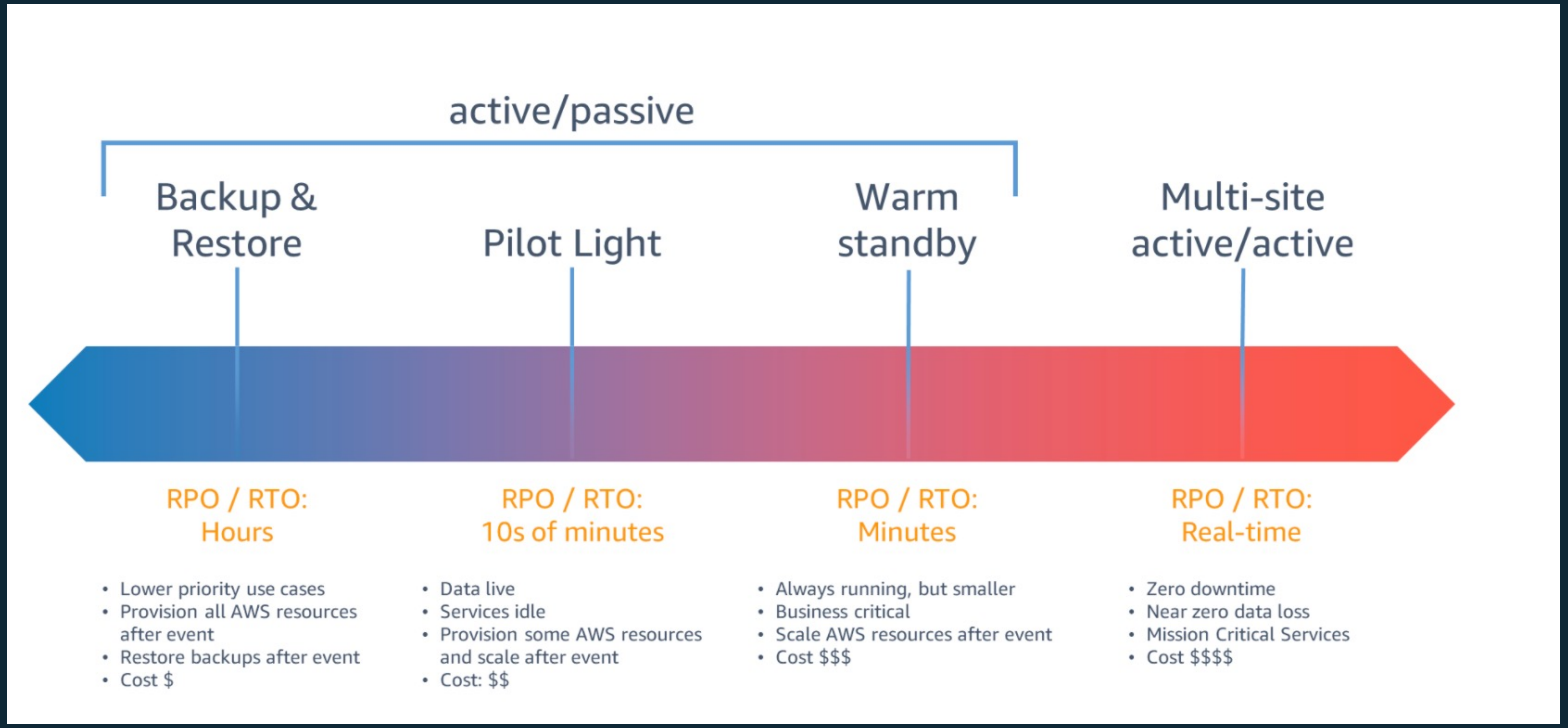
Objectives and Impacts

How much data can you afford to recreate or lose?

How quickly must you recover? What is the cost of downtime?

aws

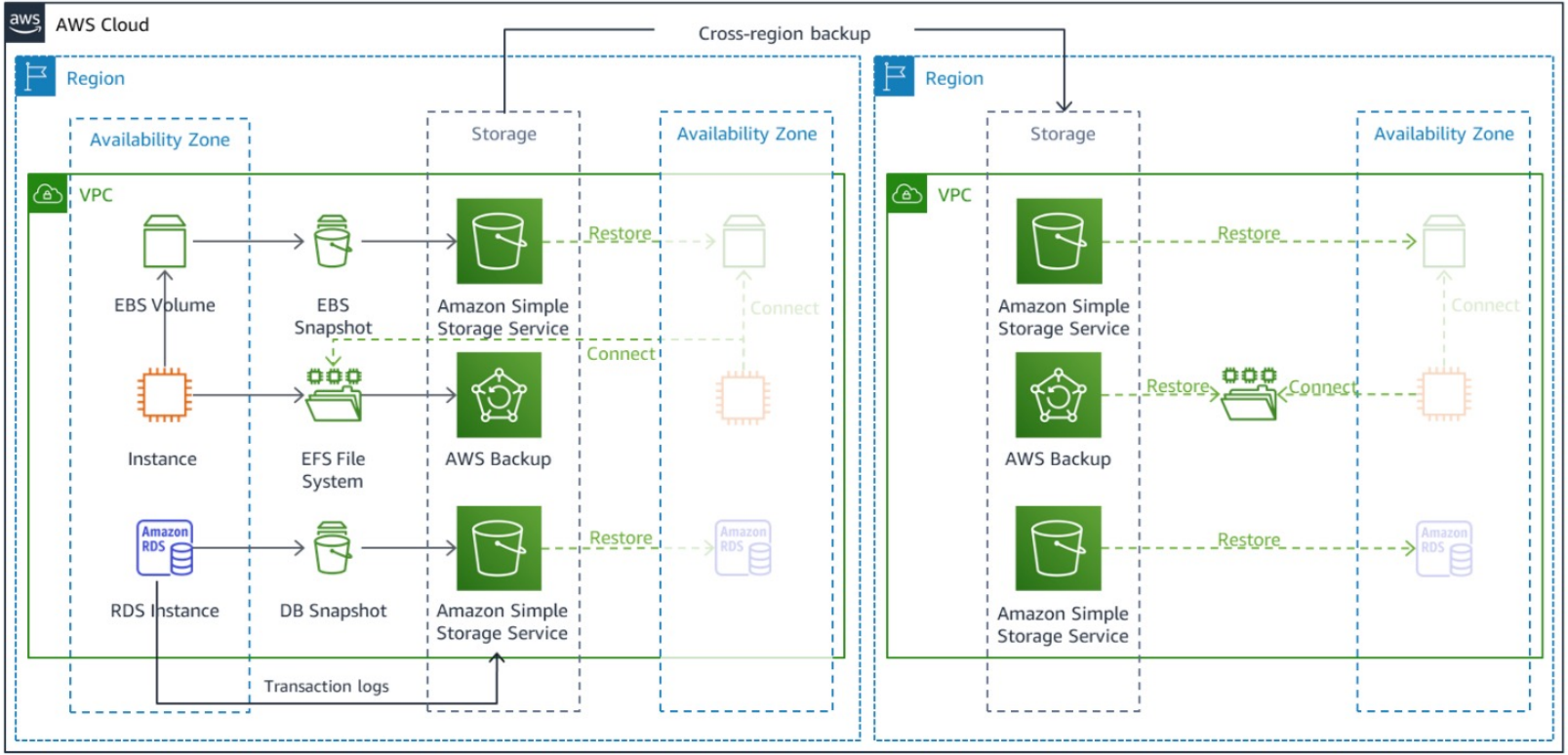
DR strategies – trade-offs between RTO/RPO and costs



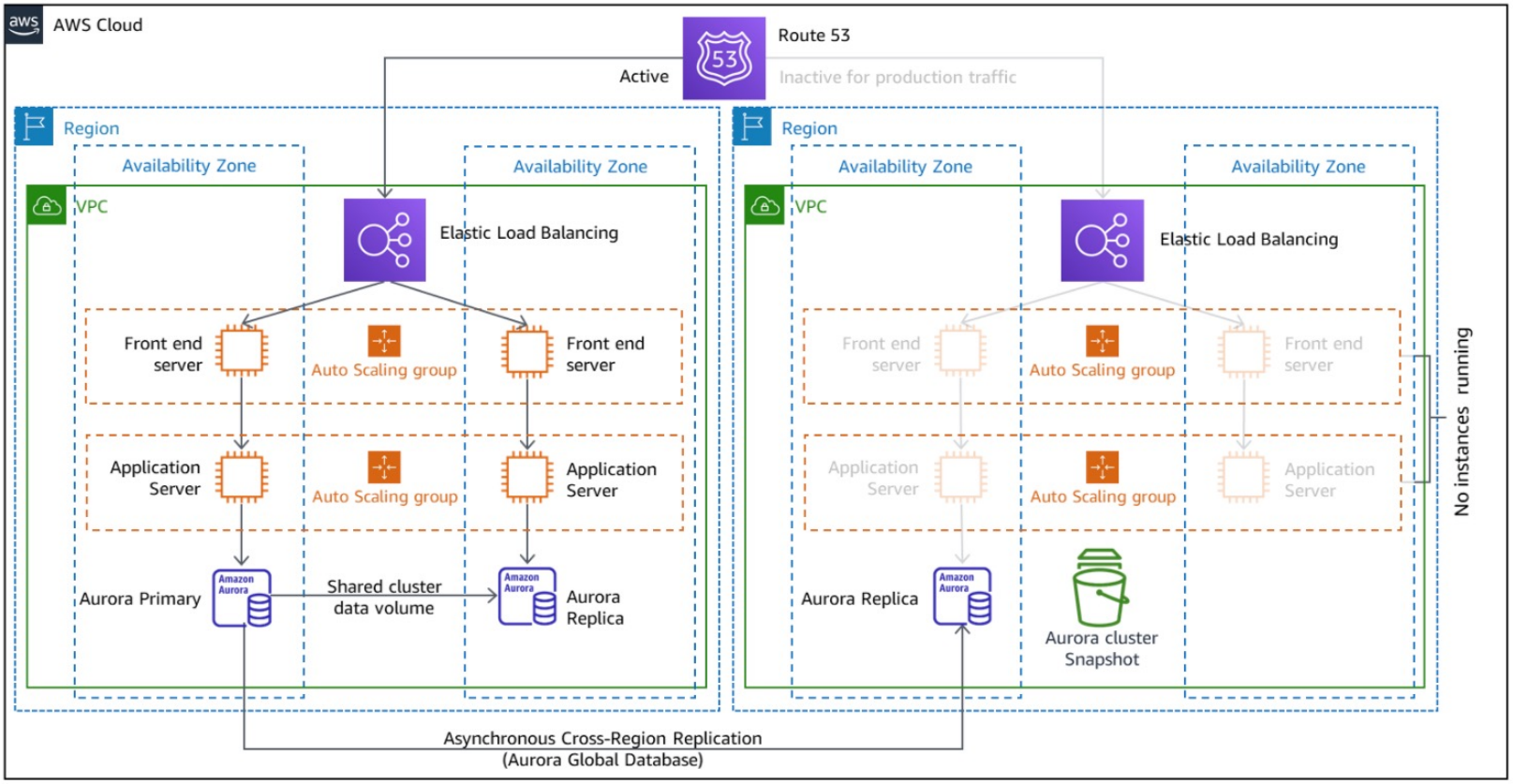
Based on how “hot” your data is and how quick your ability to recover must be, there are a range of options for DR strategies

DR strategies

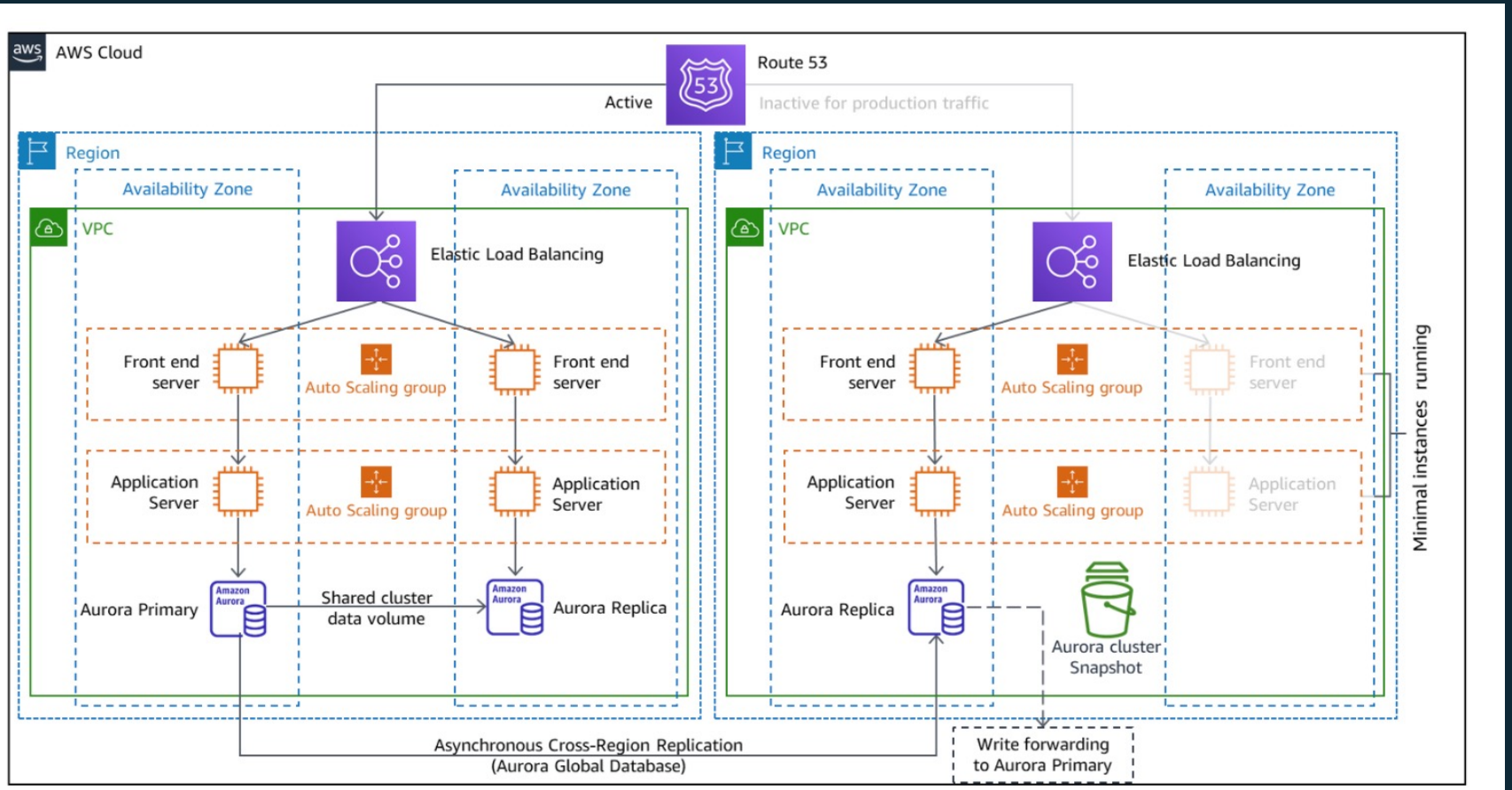
Backup and Restore



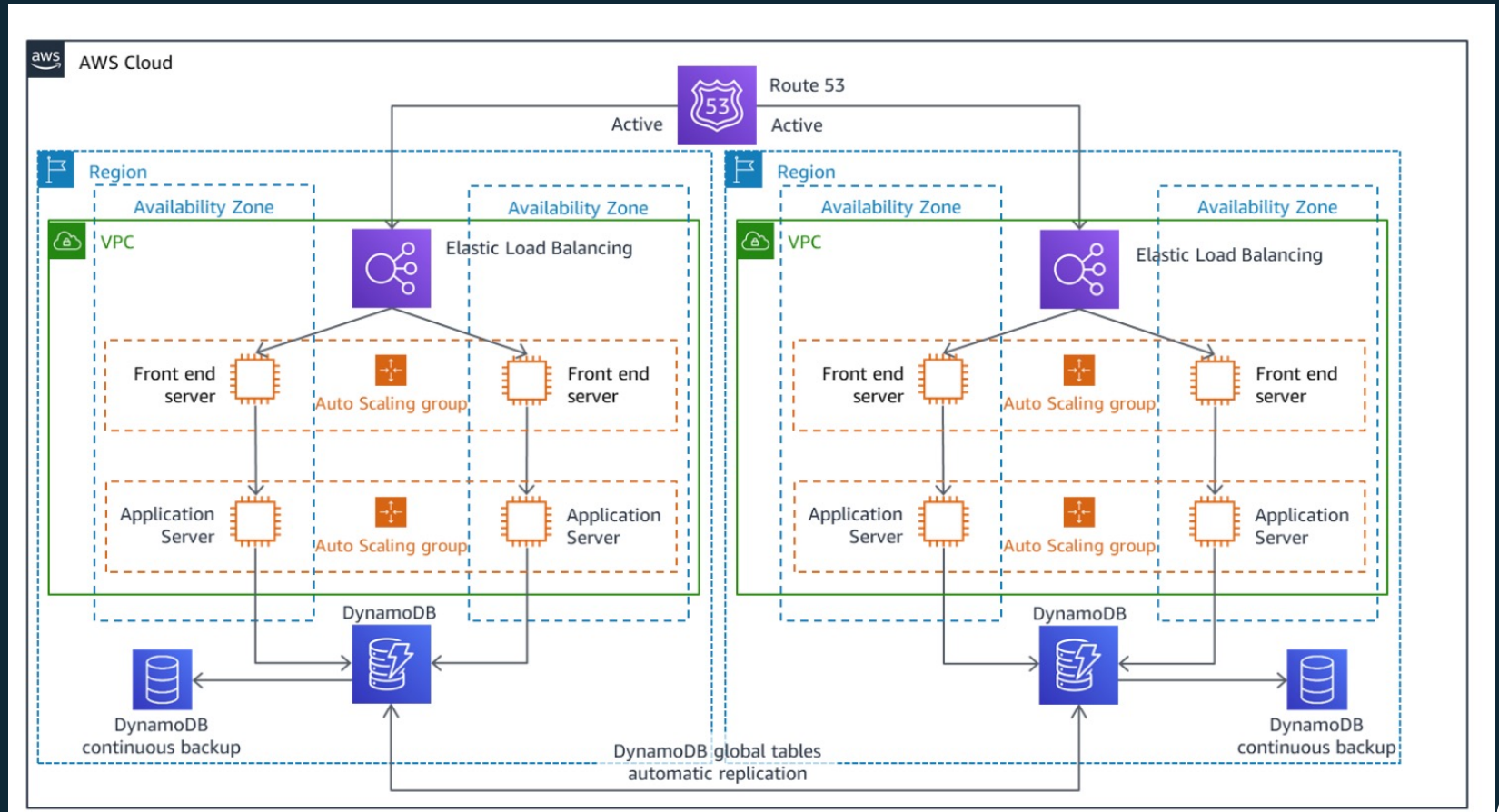
Pilot light



Warm Standby



Multi-site active/active



Considerations for true multi-region design

1. **RPO/RTO** – this is the number one consideration

2. **Network architecture**
   - How do regions talk to each other publically and privately?
   - How much bandwidth is required? What latency and data consistency is tolerable?
   - Network services - Domain Name Services (DNS), Content Delivery Networks (CDN), Caching and Load Balancing.

3. **Data Replication and Synchronization** - asynchronous versus synchronous replication demands, etc.

aws

Agenda

- Disaster Recovery (DR) strategies on AWS
- Elastic Disaster Recovery (DRS)

Elastic Disaster Recovery (DRS)

- Recover applications on AWS from physical infra, VMware vSphere, Hyper-V, and cloud infrastructure from other cloud providers, EC2 instances between AZs or regions.

- Support applications and DB running on Windows and Linux OS.

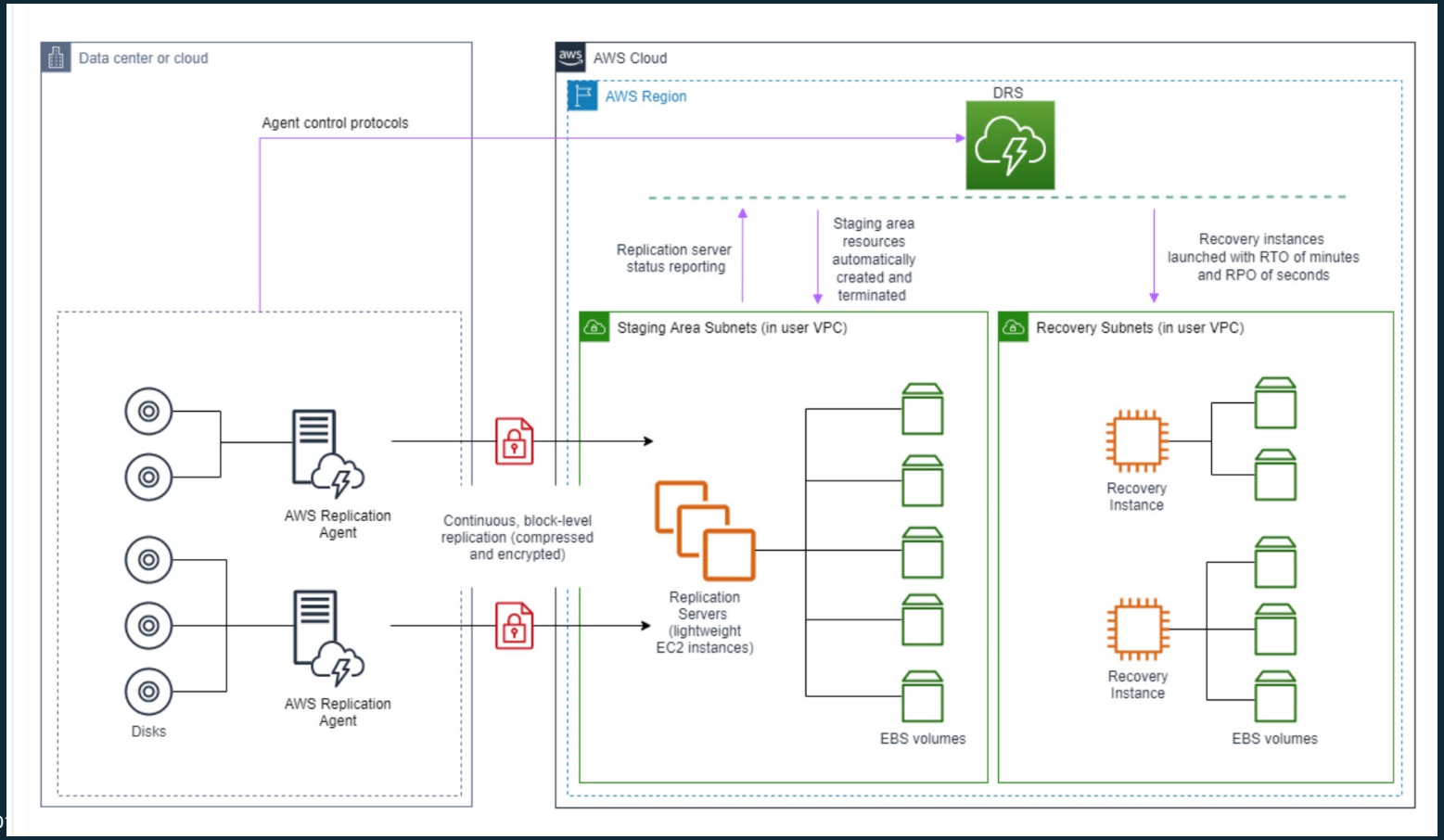
- RTO: in minutes | RPO: in seconds.

- Supported region: 09 regions - Singapore (*)

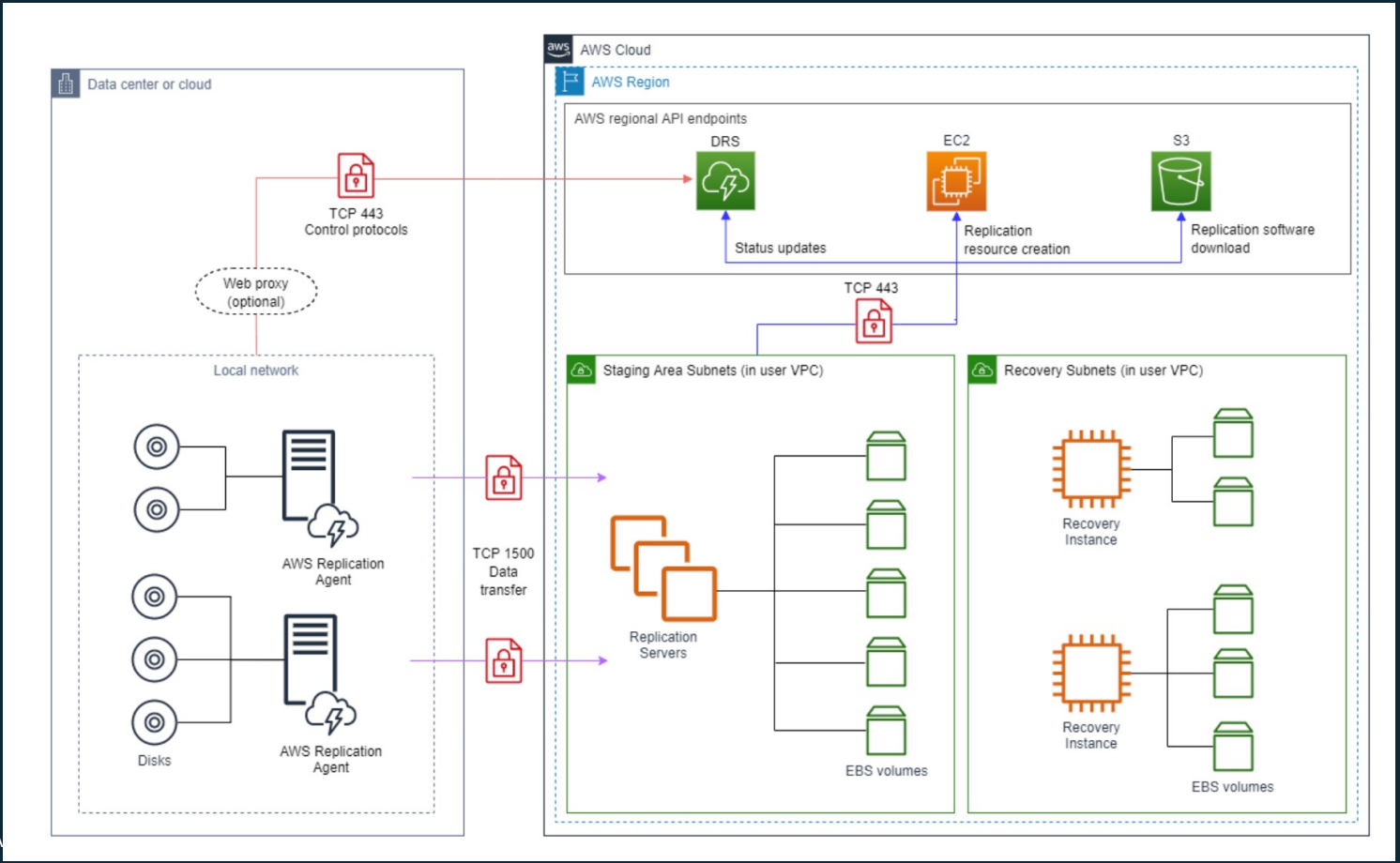
- Use cases:
  - On-premise to AWS.
  - Cloud to AWS.
  - AWS Region to region.

(*) https://go.aws/3uqrDYs

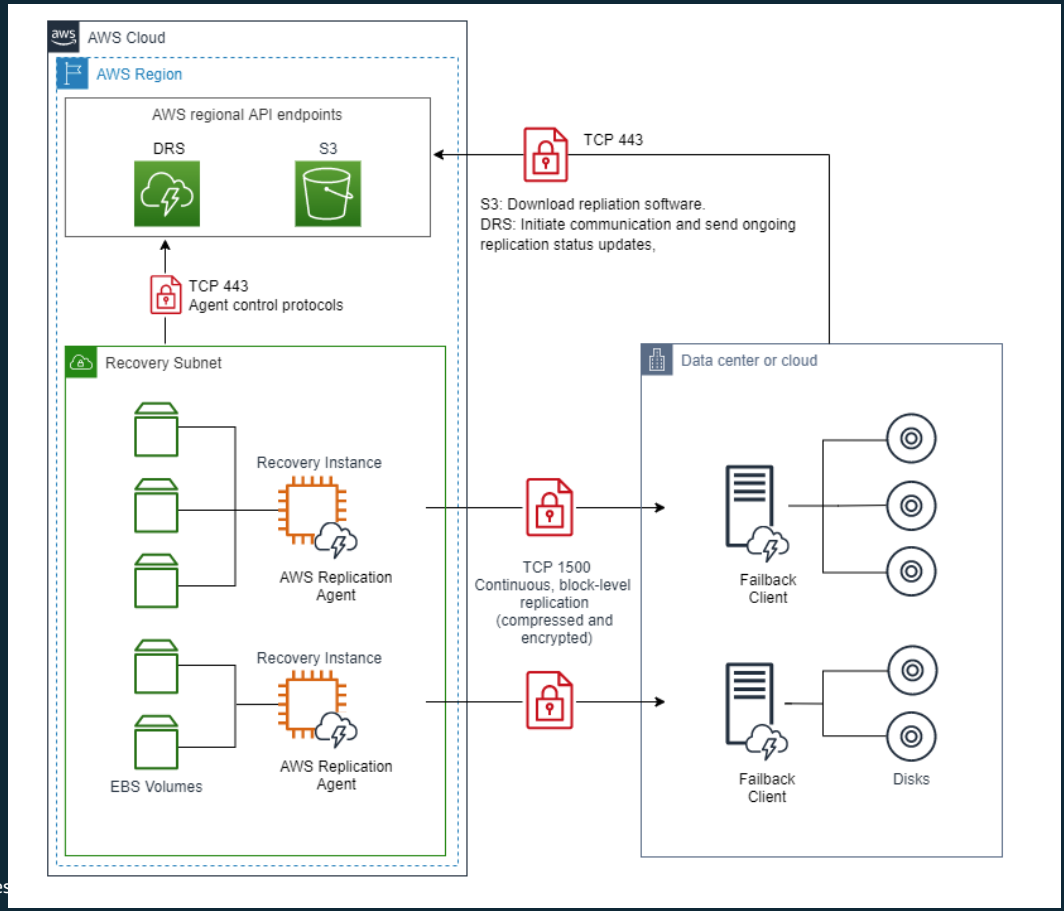
Elastic Disaster Recovery – General Architecture



Elastic Disaster Recovery – Network Architecture



Elastic Disaster Recovery – Failback



DRS and CloudEndure DR comparison (*)

Capability	CloudEndure DR	DRS
OS support	Almost OS are supported	Does not support all of OS
Console and APIs	• Not part of AWS Management Console • Not standard AWS APIs, SDK, and CLI	• Part of AWS Management Console • Standard AWS APIs, SDK, and CLI
Public internet access	• Required for connection between agents, replication servers, and console • Data must go through public internet	• Not required • Supports AWS PrivateLink and AWS Direct Connect for replication and failback • Provides option to replicate not through public internet, which is a significant security benefit
Consumption model	Hourly metering via AWS Marketplace subscription requires an additional EULA	Hourly metering via standard AWS billing and EULA
Pricing	Hourly rate for replication per source server is $0.028	Hourly rate for replication per source server is $0.028

(*) https://go.aws/3KoNsgC

Additional Disaster Recovery Resources

Elastic Disaster Recovery
https://docs.aws.amazon.com/drs/latest/userguide/what-is-drs.html
DR Architecture on AWS (Series):
https://go.aws/3DXLy4g
DR of Workloads on AWS: Recovery in the Cloud
https://go.aws/3Ktmog5
Disaster Recovery of On-premises Apps to AWS
https://go.aws/3JtgZEG
DRS Workshop
https://bit.ly/3rwPWlJ

aws
User Group
Ho Chi Minh - Hanoi
Vietnam

Thank you for watching!

Any Questions?

aws