



Proposal for Cross Region Disaster Recovery



Agenda

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3	Cross Region Disaster Recovery	7	Approach & Methodology
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Executive Summary

Situation & Corebridge Need

- The most significant challenge within the current Disaster Recovery setup revolves around the time and effort required to initiate EC2 instances within the Recovery region for a given application during drill exercises.
- More specifically, the complications lie in effectively maintaining Disaster Recovery-specific configurations, as well as in orchestrating the process of bootstrapping and initiating services in an orderly manner.
- While this might not pose a significant concern in the context of an active/active Disaster Recovery strategy, it certainly adds a significant delay for EC2 instances functioning within the confines of an active/passive Disaster Recovery strategy

Solution Summary

- The solution encompasses establishing a Chef Infrastructure within the Recovery region to handle the desired state configuration of EC2 instances on the DR site, catering to both active/passive and active/active DR strategies.
- It outlines how chef cookbooks, recipes, roles, and databags are configured to sustain the relevant configuration on the DR site.
- Additionally, the solution includes an automation approach that employs lambda, Terraform, and Chef, providing operator-driven automation for a given application.
- Furthermore, there is a proposal to start with a small team with core skills in Chef, Terraform, python , and carry out Proof of Concept (POC) in the Core-Bridge environment
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Benefits

Extended COE team on ground with Corebridge

Extensive AWS experience with three-tier apps and big data platforms

Strong and skilled Engineers with extensive experience Financial Sector

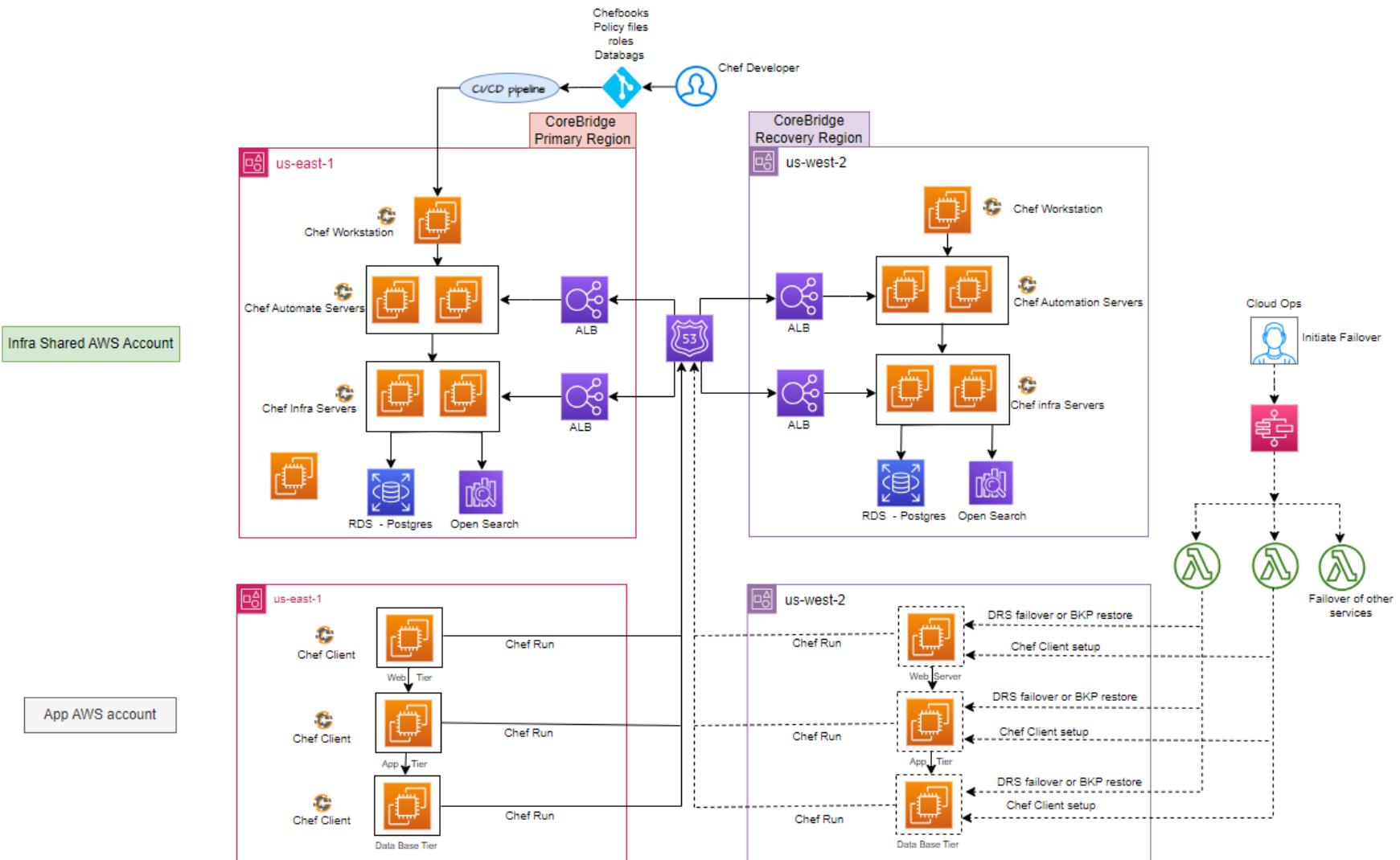
Attain RPO/RTO with no added Toil, enhancing efficiency

Committed to adhere to the SLAs

Expertise in dealing with shared nfra build, DR & Automation projects

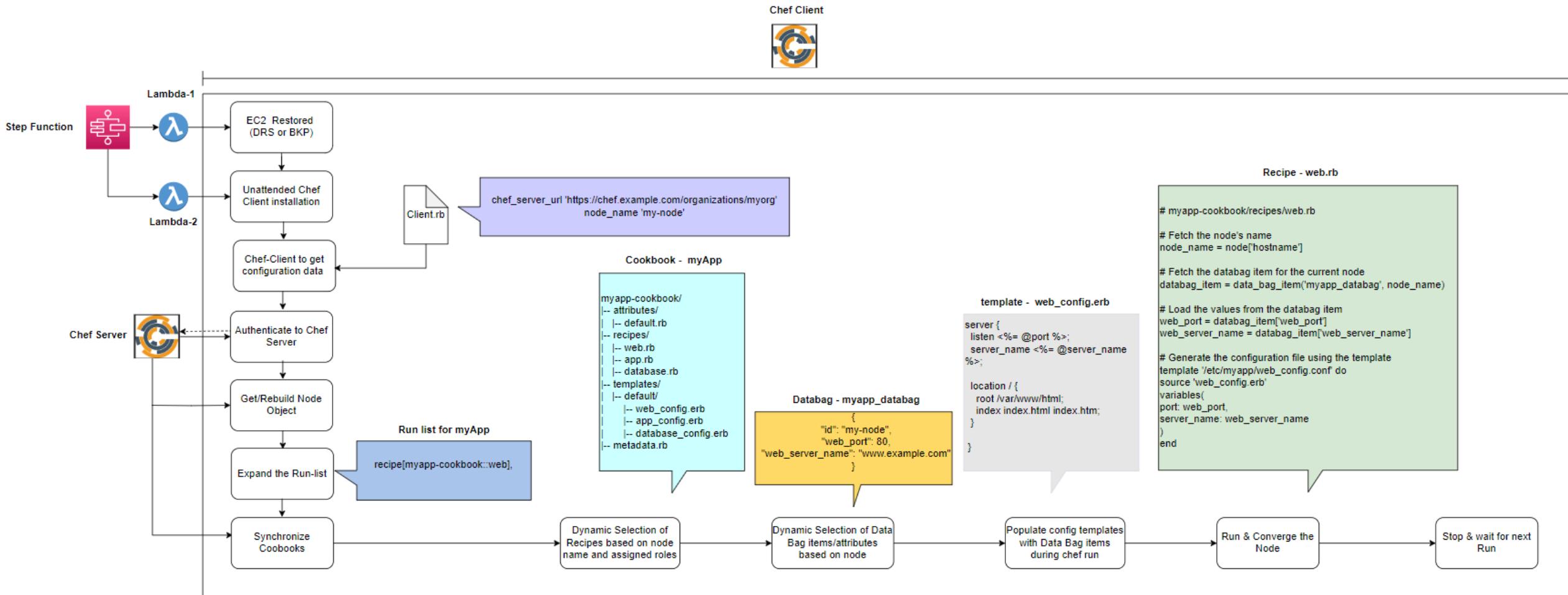


Disaster Recovery of EC2 using Chef



- Assuming primary Chef Infra on EC2 instances in the primary region.
- Building HA infrastructure for Chef Automate and Chef Infra clusters.
- Provisioning, configuration, integration with Chef Recommended OpenSearch, PostgreSQL
- Synchronization between primary and secondary Chef clusters via scheduled job.
- DNS with centrally controlled failover policy.
- Chef books, databags, roles, and policy files in Git repository.
- CI/CD pipelines for deployment to Chef workstation.
- Failover triggered by Cloud Ops using script/step function.
- Lambda function restores EC2 instance, configures Chef client.
- Chef client pulls recipes, updates property files, starts services

Disaster Recovery of EC2 - Process Flow



Thank You!



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Appendix

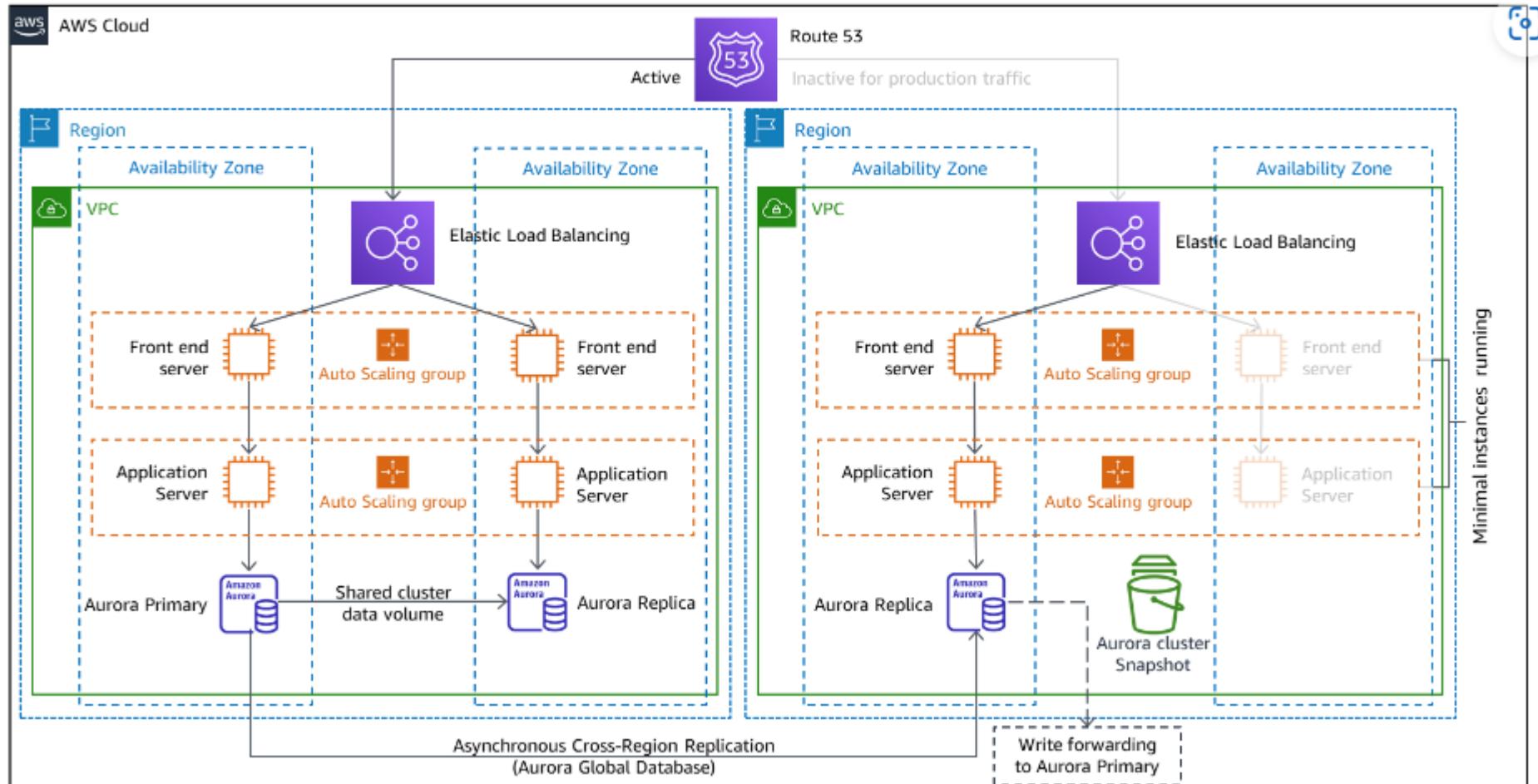


Active/Active DR strategy



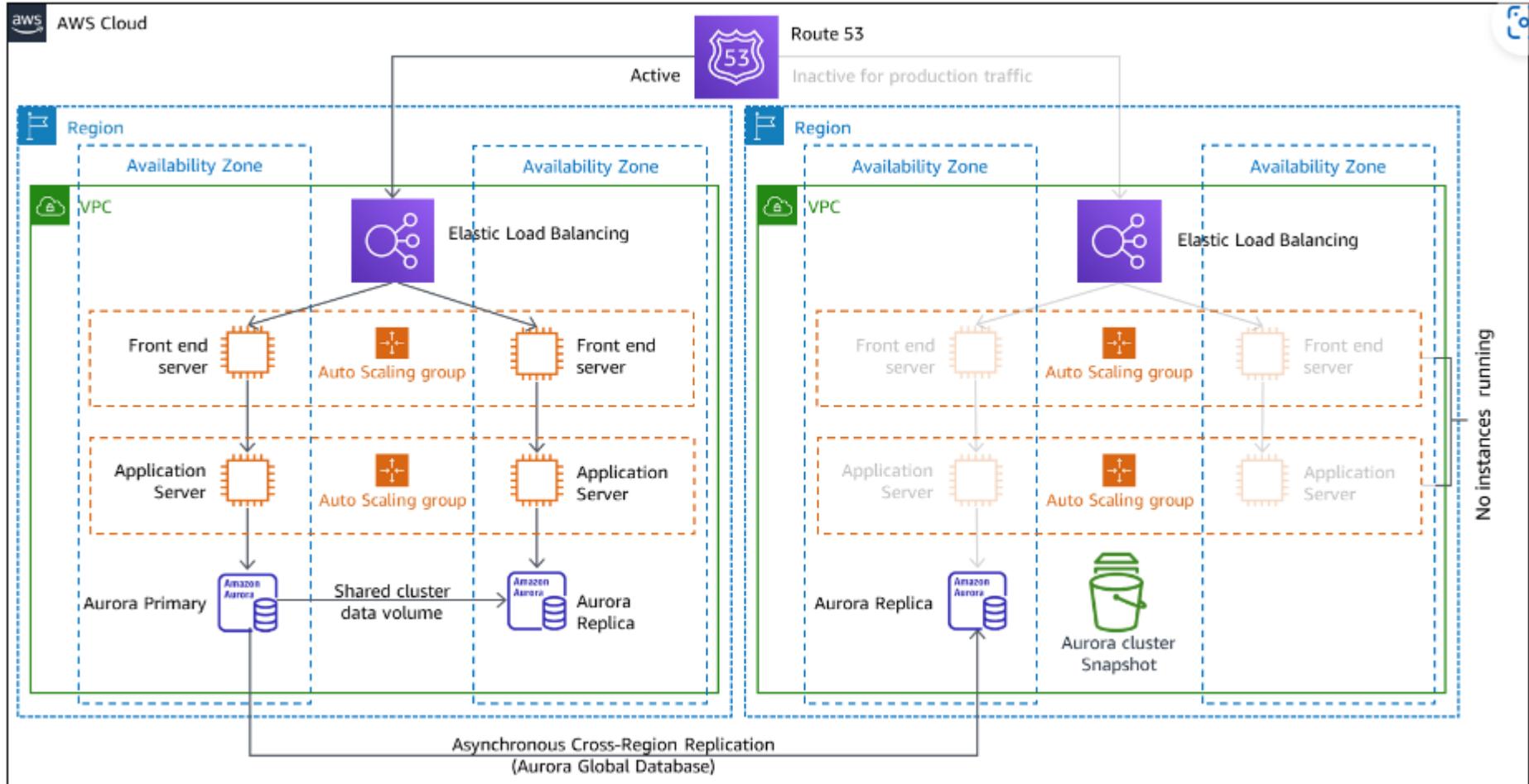
- ✓ RPO/RTO in Seconds
- ✓ Zero Downtime
- ✓ Mission Critical Services
- ✓ Cost \$\$\$
- ✓ Aurora provides Cross region read/writable replica
- ✓ For RDS, need to depend on third party solutions like data guard or golden gate

Warm Standby DR strategy



- ✓ RPO/RTO in minutes
- ✓ Always running, but smaller
- ✓ business critical
- ✓ Scale AWs resources after event
- ✓ Cost \$\$\$

Pilot Light DR strategy



- ✓ RPO /RTO: 10s of minutes
- ✓ Data live
- ✓ Provision some services and scale after event
- ✓ cost: \$\$



Agile Project Management

