WELCOME

Solution Consulting Americas

FY23 Q1 Hack-a-thon

Team 9 (T9)

SA-ENTERPRISE

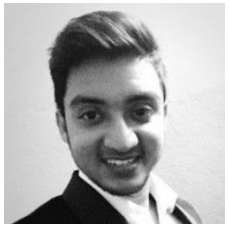
Meet T9

Big Bad Bad End (BBBE)

Robert Kauffman

Shawn Chai

Marianne Myers



Partho Bardhan

Joseph Hansen

Timothy Marland

Jake Cosme

Disaster Recovery Simulator

Multi-Region: Business Continuity under a cloud region outage

Atlas provides business continuity in the event of a cloud region outage via cross-region clusters. Application stack failover with app deployment, security, network routing.

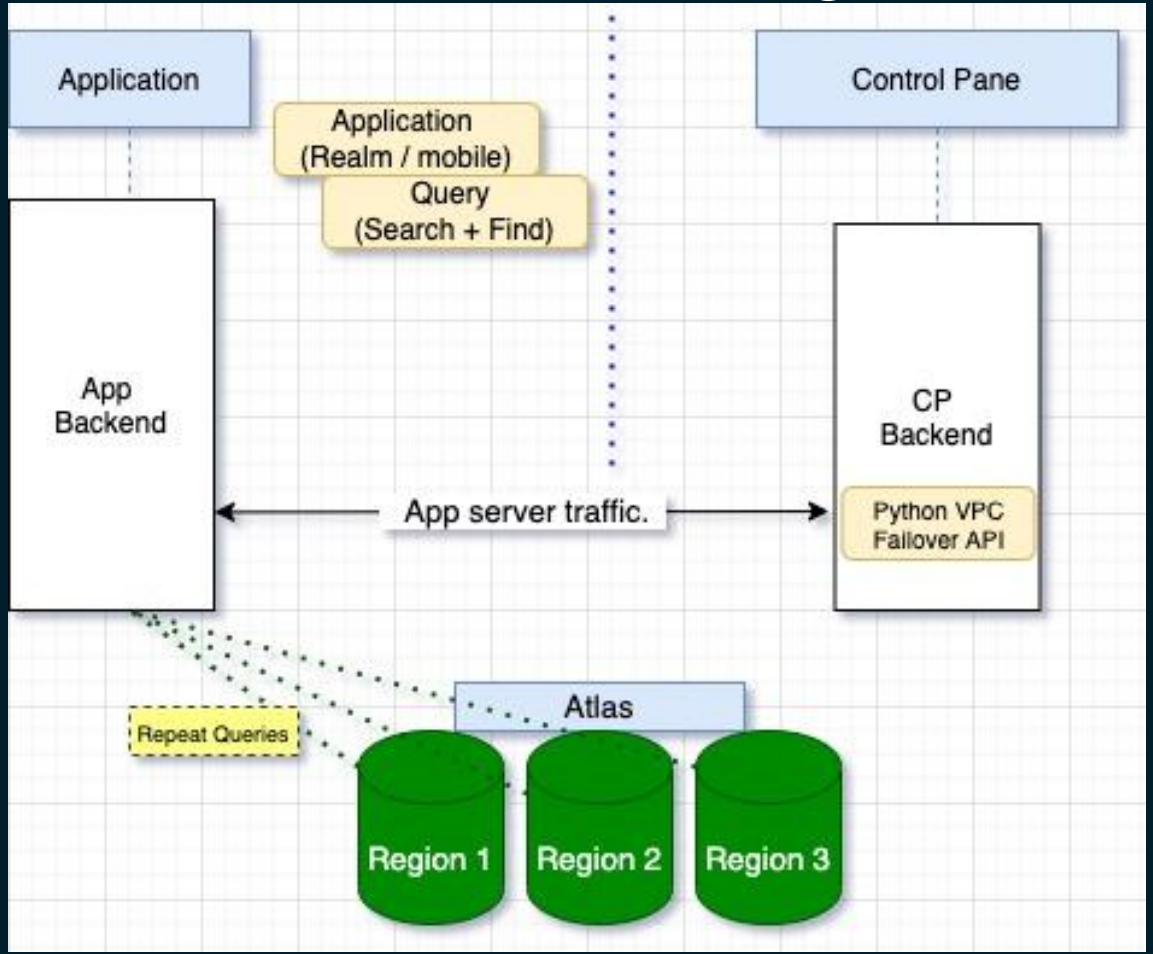
This is a problem

Many of our customers are not cross-region ready from the application layer, and don’t scale their Atlas cluster for cross-region as they can’t reap the benefits.

Architecture design

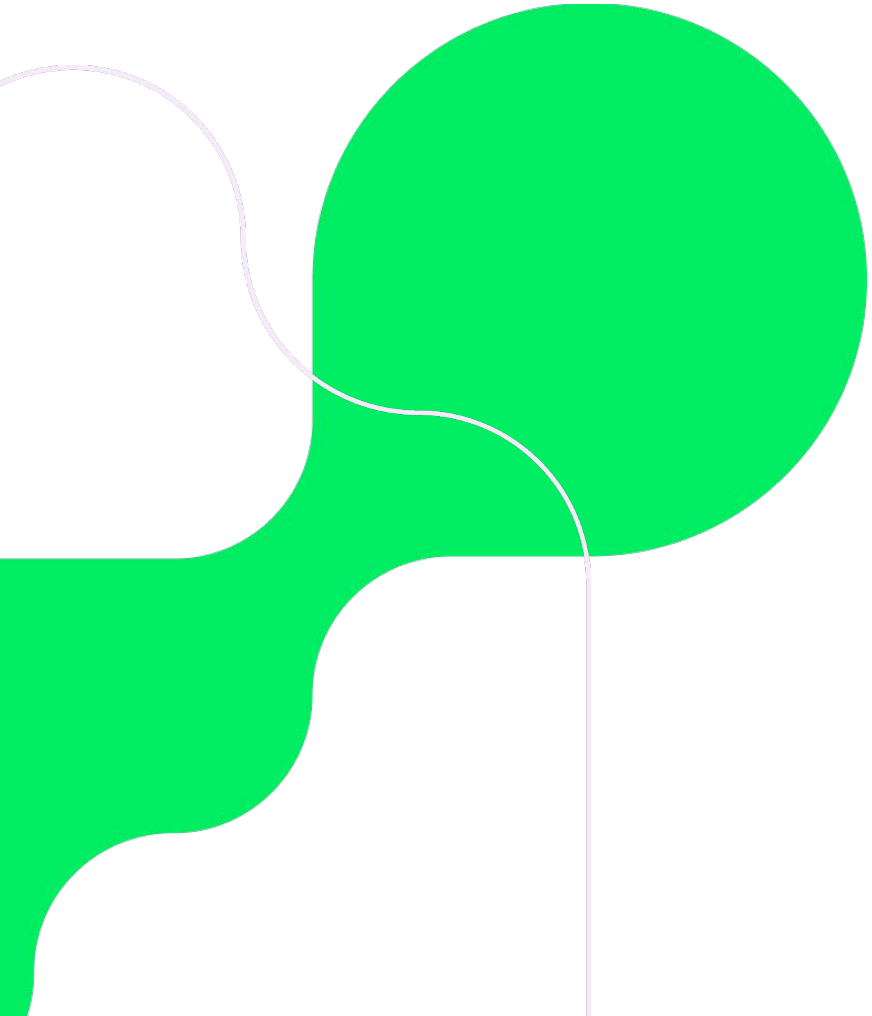
App layer/backend:
EC2 - python, PoV 18 (multi-region HA) to Atlas.
Multi-region app layer.
Loops w/simple find queries. Return on frontend.
Retryable writes.

Realm App Services:
Interactive dashboard w/ health & results of find queries.



Control plane:
Backend executes failover/disaster when initiated from frontend.
Single region failure due to network partition-> VPC peering connection to Atlas.

Atlas:
Multi-region (AWS) single node (us-east-2, us-west-2, us-west-1)



Cap Theorem

INTRODUCE CHAOS!

No distributed system is safe from network failures!

AWS outages history

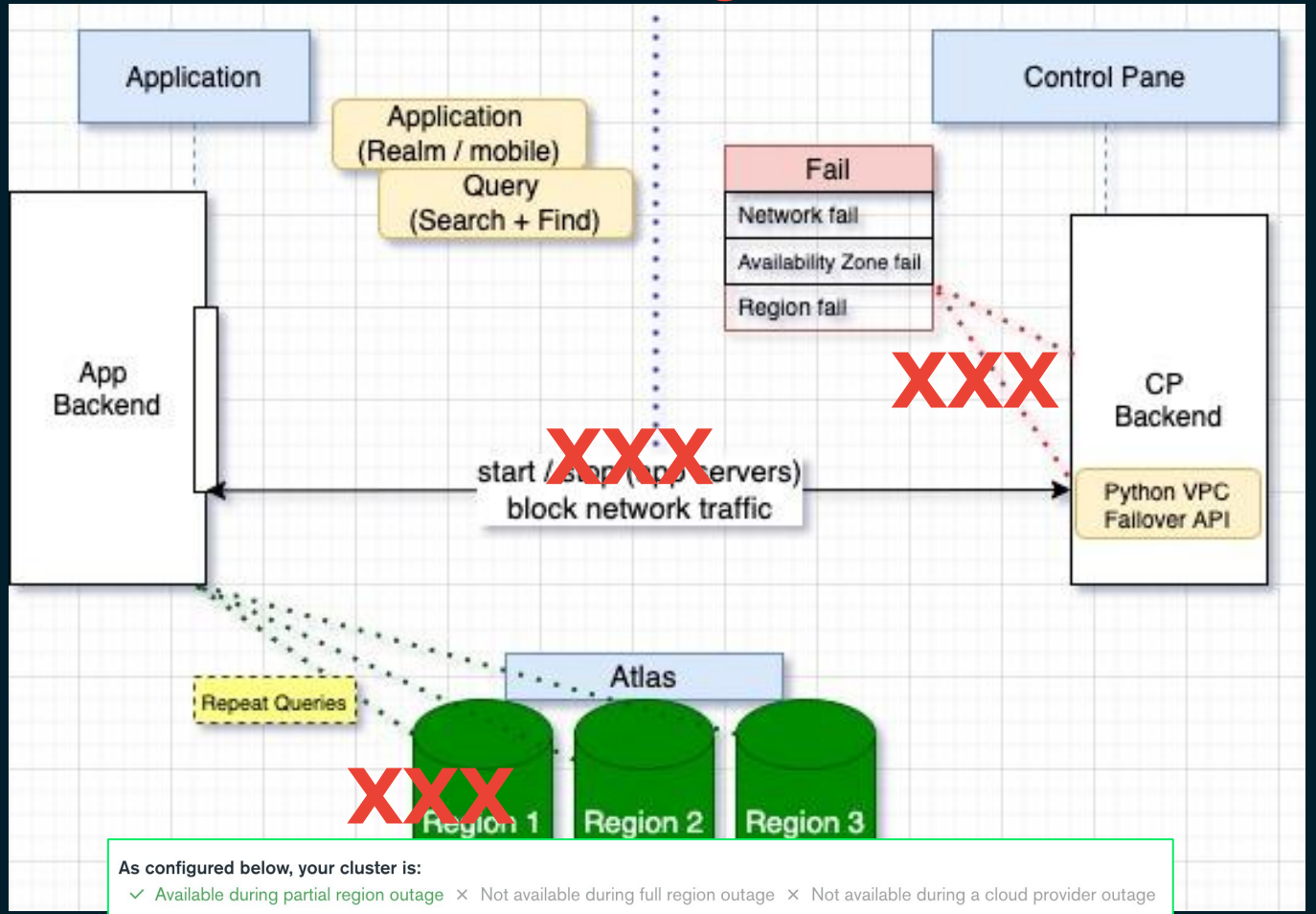
Partial outage

Network fail:
AWS AZ

App traffic:
stop

Atlas cluster:
fail over

Application (api): read / write no interruptions



Thank you for your time.