

# Chaos Engineer

## By Serverless

Ekalak (Mint) Rengwanidchakul  
SRE@Morningstar



# Chaos Engineering

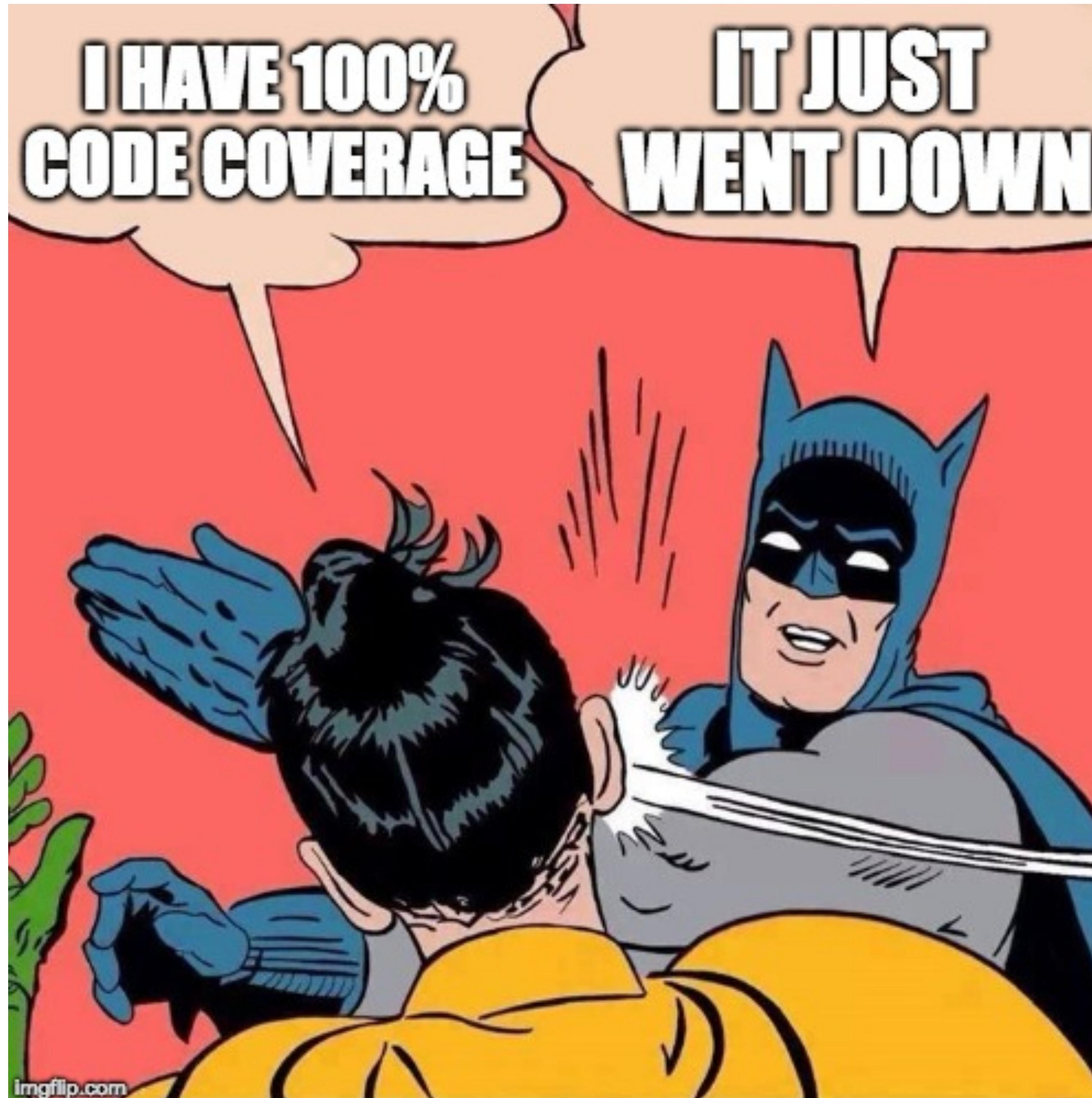
NETFLIX

Who else embraces the failure

- ④ AWS - Gameday
- ④ Google - DiRT
- ④ Facebook - Storm
- ④ Dropbox - DRT
- ④ ...



MORNINGSTAR®



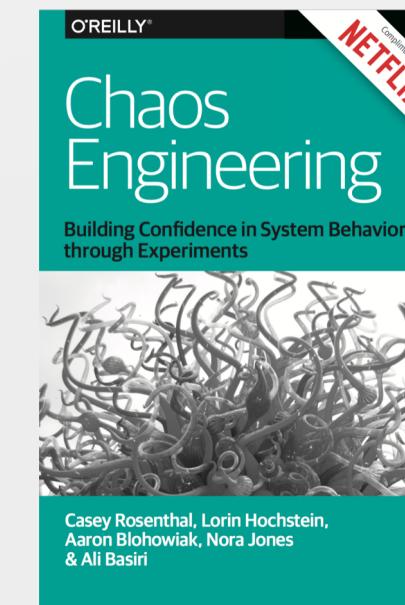
Known

Unit Test, Integration Test ...

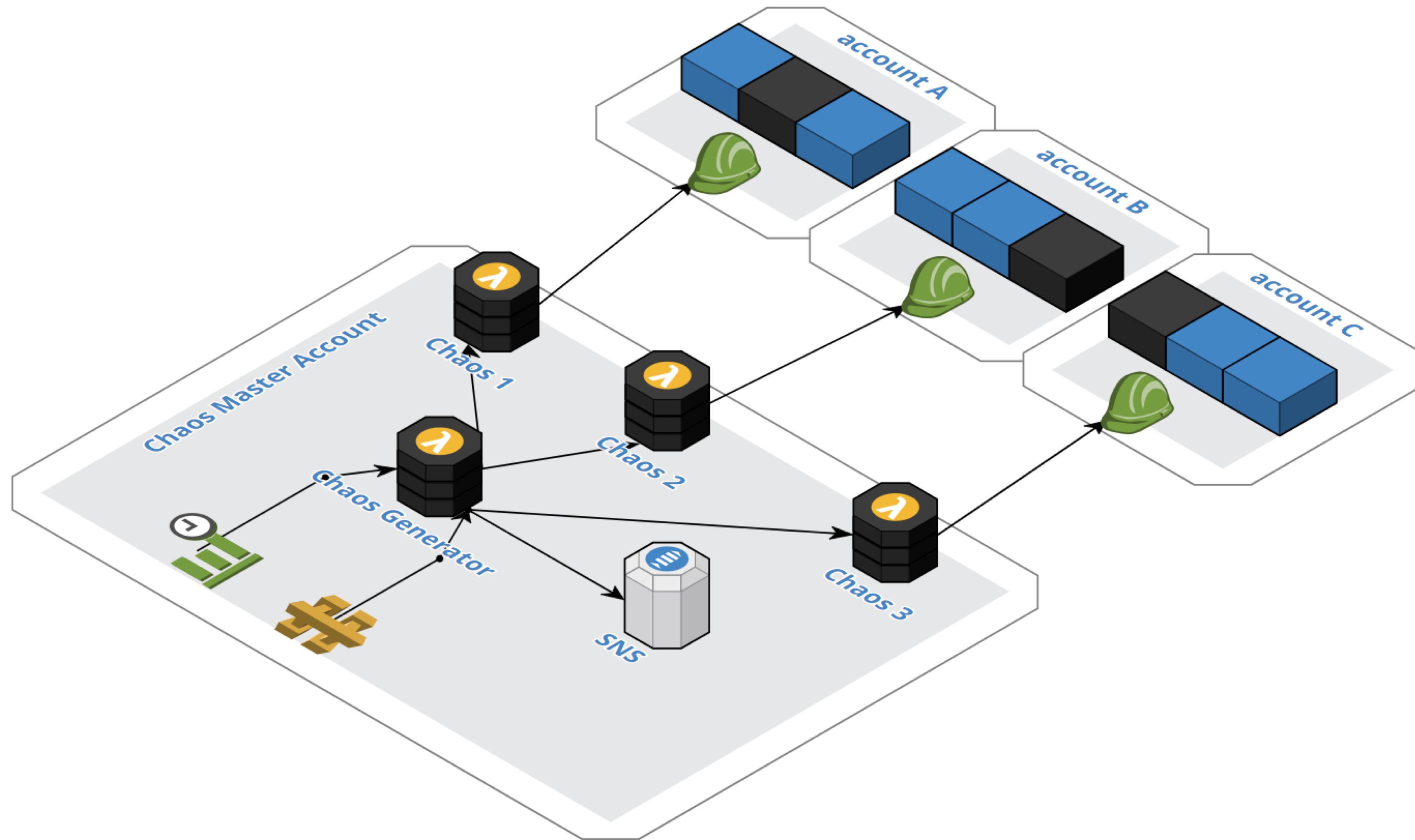
Unknown

Network, hardware, customer behavior, someone  
trips on the cable

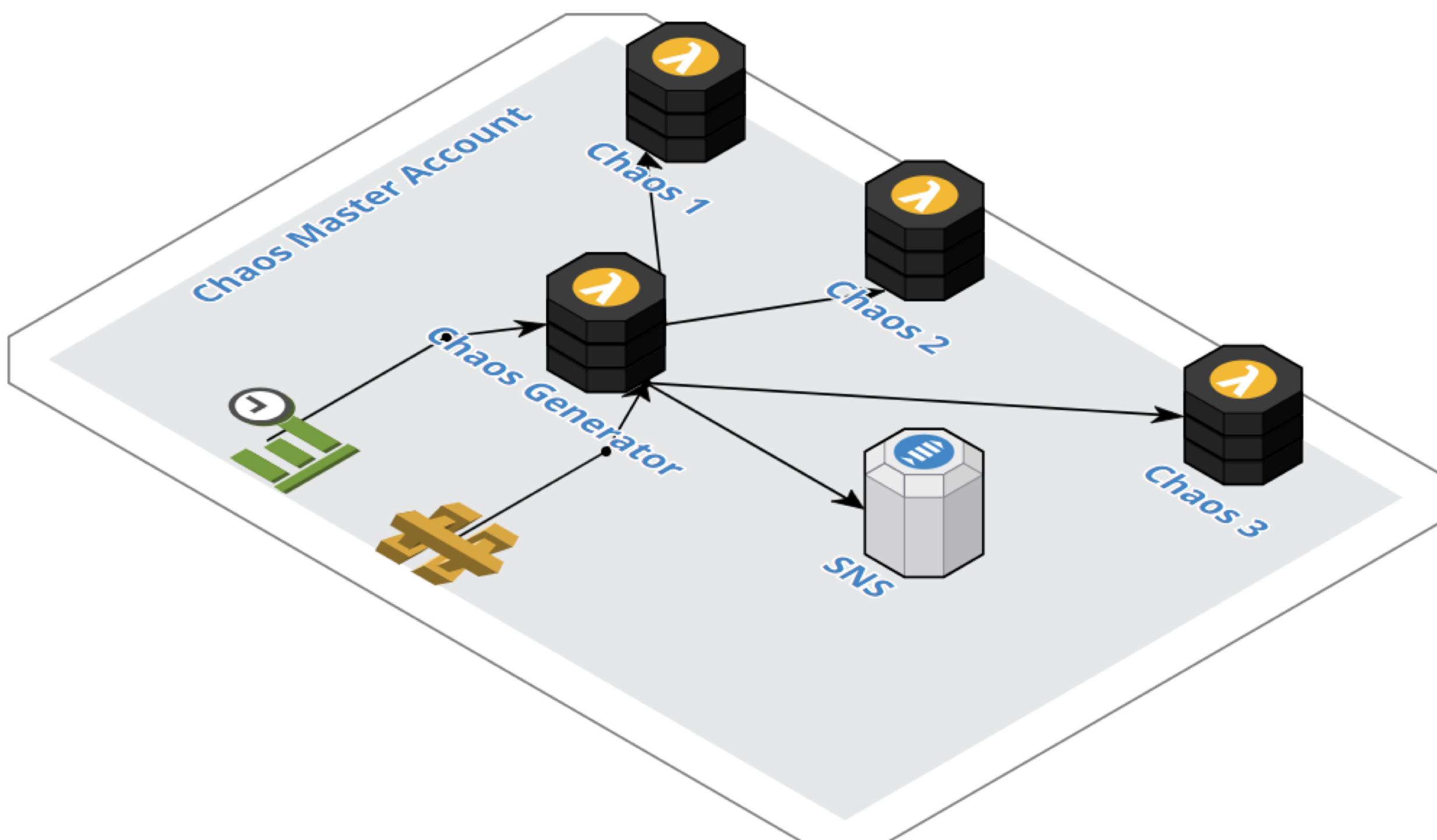
"Chaos Engineering is the discipline of experimenting on a distributed system  
in order to build confidence in the system's capability  
to withstand turbulent conditions in production."  
— Principles of Chaos (<http://principlesofchaos.org>)



# Chaos Engineer serverless way



# Master Account



Serverless

Lambda, API Gateway, Cloud Watch, SNS

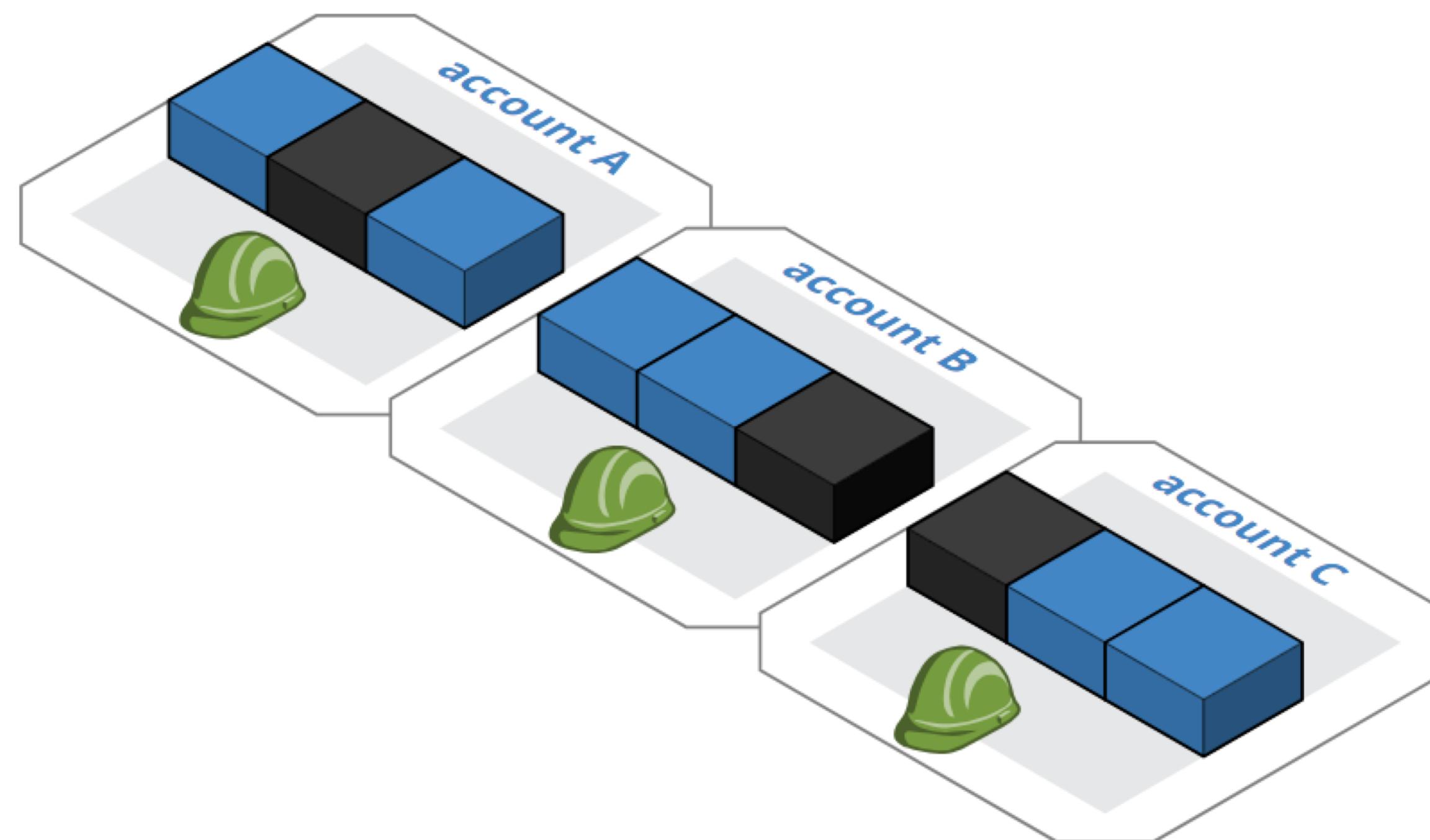
Scalable

A company is an association or collection of individuals,  
whether natural persons, legal

Cost – \$ 0.30 / month

Based on half a million lambda calls and SNS

# Target Account



## Cross Account Role

IAM role for Master account to assume

## Least Privilege

Granting least privilege only required permission

## Target Itself

Master and Target account can be the same or mix and match. One global master while target also targets itself.

# Demo

The image shows two side-by-side screenshots. On the left is the AWS Management Console interface, displaying the 'AWS services' dashboard. The 'Recently visited services' section includes EC2, Lambda, and Systems Manager. The 'All services' section is organized into categories: Compute (EC2, Lightsail, Elastic Container Service, Lambda, Batch, Elastic Beanstalk), Storage (S3, EFS, Glacier, Storage Gateway), Database (RDS, DynamoDB, ElastiCache, Neptune, Amazon Redshift), Migration (AWS Migration Hub, Application Discovery Service, Database Migration Service, Server Migration Service, Snowball), Networking & Content Delivery (VPC, CloudFront, Route 53, API Gateway, Direct Connect), Machine Learning (Amazon SageMaker, Amazon Comprehend, AWS DeepLens, Amazon Lex, Machine Learning, Amazon Polly, Rekognition), Analytics (Athena, EMR, CloudSearch), and various other services like Management Tools, Mobile Services, AR & VR, Application Integration, Media Services, Customer Engagement, Business Productivity, Desktop & App Streaming, Internet of Things, and IoT Core. On the right is a terminal window titled '2. bash' running on a Mac OS X desktop. It contains two commands: 'siege -c10 -d 10 -i --header="cache-control:no-cache" http://chaos-monkey-elb-587415475.us-east-1.elb.amazonaws.com' and '\$ aws lambda invoke --function-name chaos\_monkey ./output.log && cat output.log && echo ""'. The terminal window has tabs labeled 'bash' and 'docker'.

# Thank You Q & A

Ekalak (Mint) Rengwanidchakul  
SRE@Morningstar