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Seamless Transition to Serverless: A Step-by-Step Guide for Migrating from Kubernetes

08.03.2024

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AWS - Senior Cloud Architect

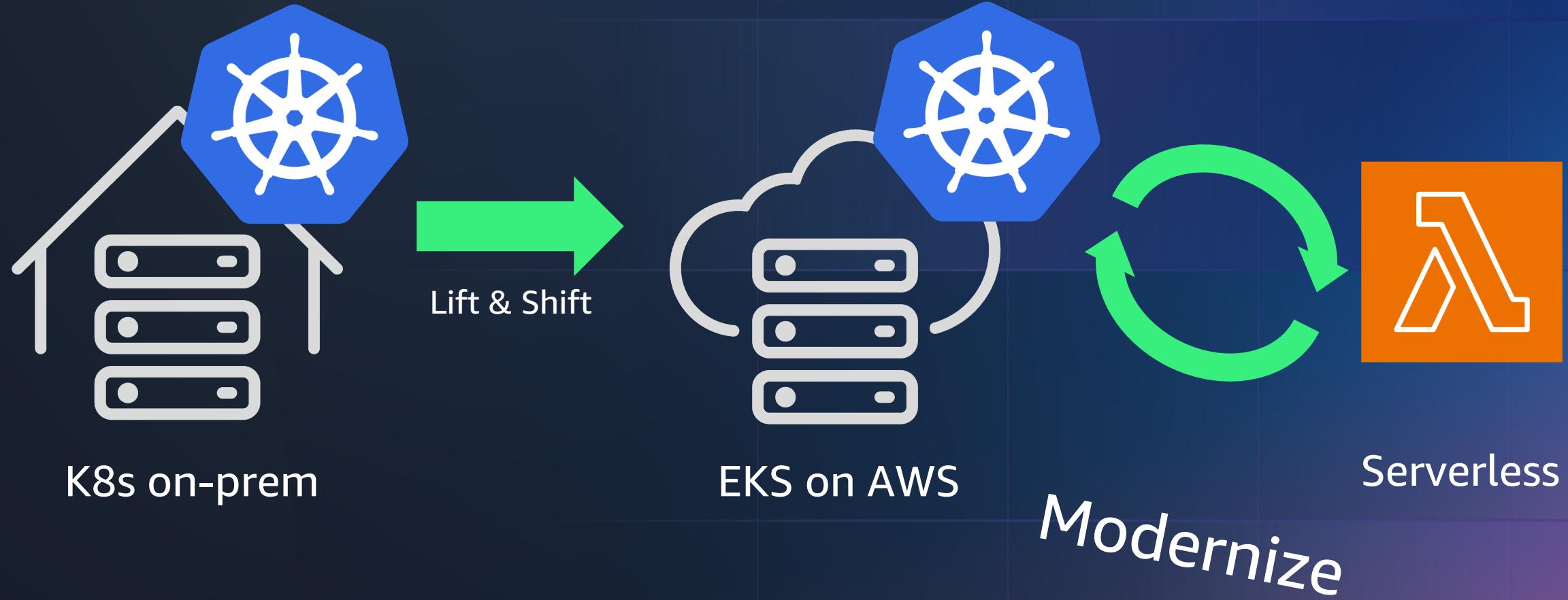
Agenda

- On-prem Kubernetes -> Serverless
- Chronas.org
 - Demo
 - Challenges of the current solution
 - The benefits of the new solution
 - Cost overview and future cost improvements
- Your way to production

On-prem Kubernetes -> Serverless



On-prem Kubernetes -> Serverless



On-prem Kubernetes -> Serverless



Application



Serverless

Computing

Logging

Orchestration

Security

Storage

Chronas.org

- Chronas is a history map application with over 50 million data points which users can curate and contribute to (similar to Wikipedia).
- Completely open source
- Two-man team
- 30.000 monthly users



Demo

Some social media attention ...

Archived post. New comments cannot be posted and votes cannot be cast.

320 108 Share

635.6k Views &
2k reposts

← Post

 Nao Casanova
@NaoCasanova

Si os gusta la HISTORIA, tenéis que conocer CHRONAS, un mapa interactivo con una comunidad de +7.000 miembros que aportan datos (y fuentes) sobre gobernantes, culturas, religiones, fronteras, personajes, ciudades, batallas, castillos...

Maravilloso.
chronas.org/?year=119&epic...

Translate post



4:54 PM · Aug 26, 2023 · 635.6K Views

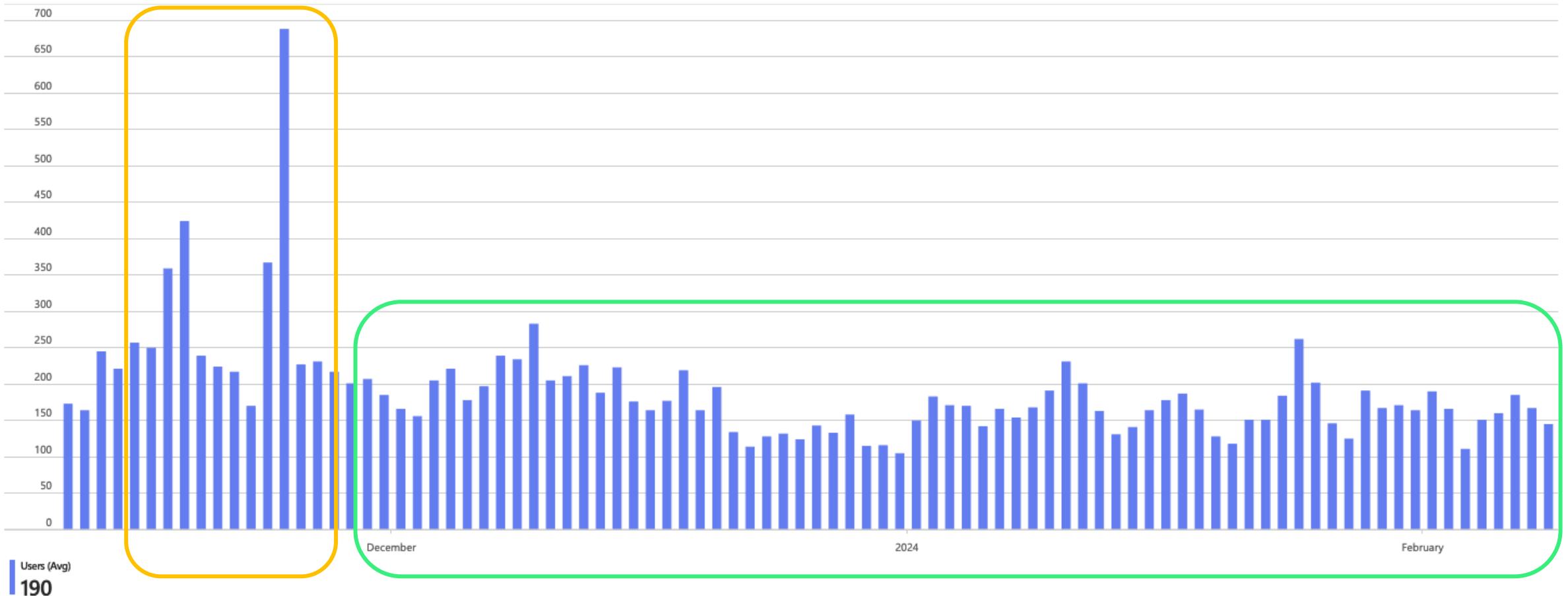
2,113 Reposts 61 Quotes 7,697 Likes 3,750 Bookmarks

3.7K

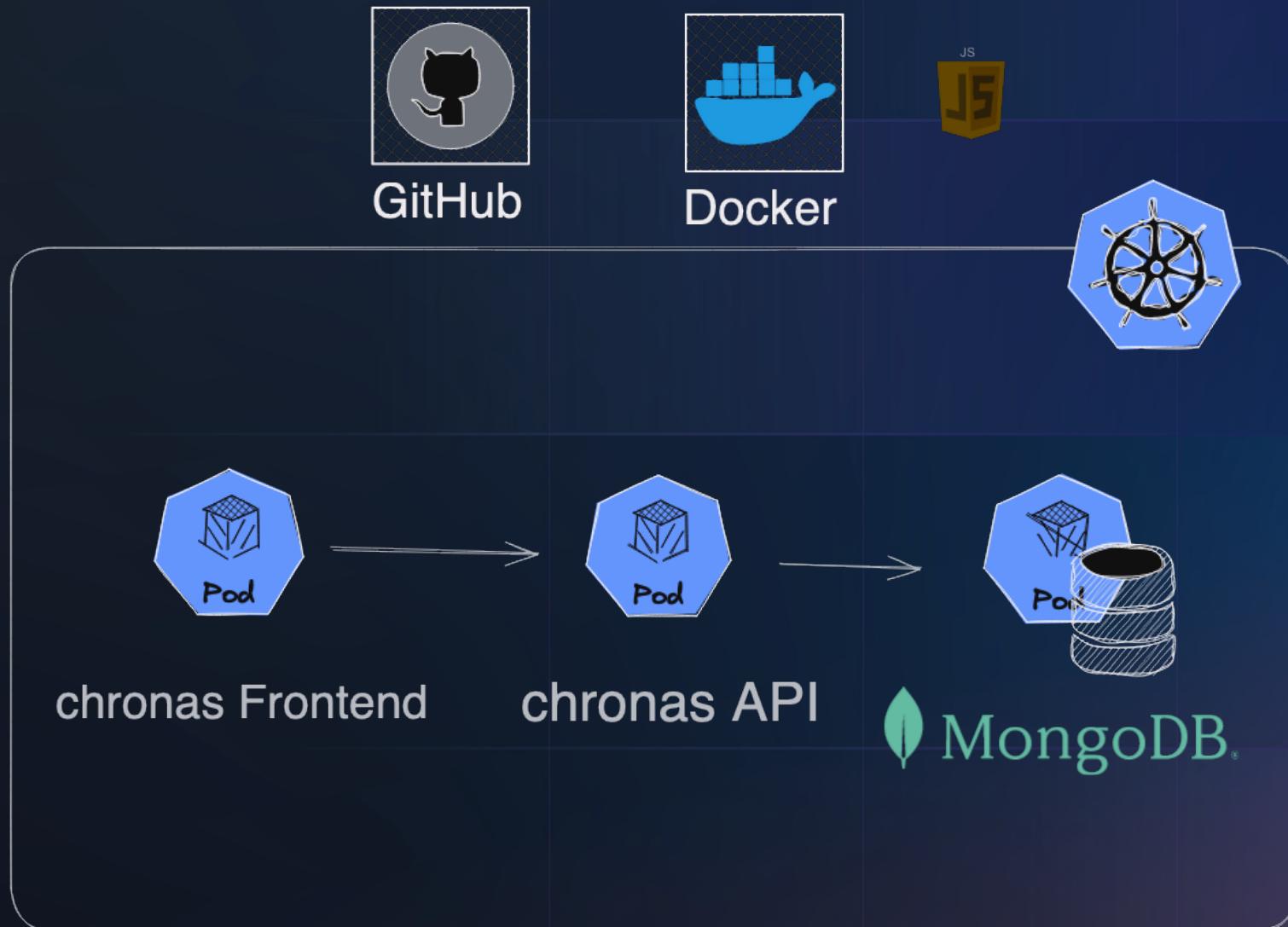
... results in massive global scaling needs

13.27 k users

Chart Type
Bar chart



Previous Solution Architecture – on-prem K8s



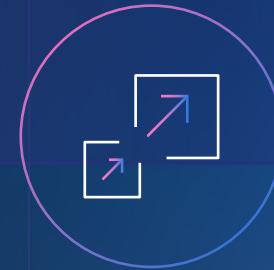
Challenges of the previous solution



Cost Optimization

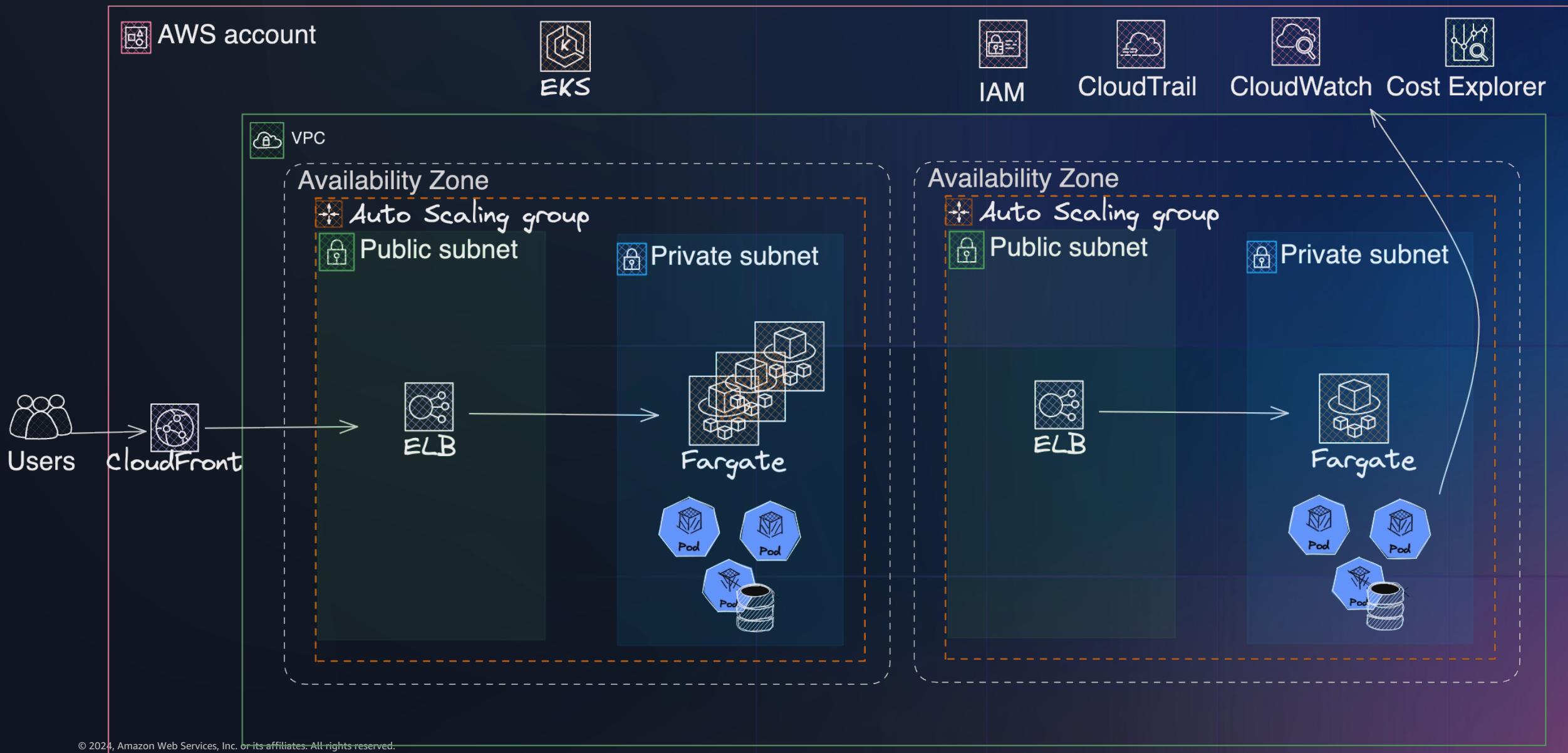


High operational
work and slow
time to “market”



Global scale and
reach

Lift & Shift - In AWS with e.g. EKS



Amazon EKS or Amazon ECS?



ECS

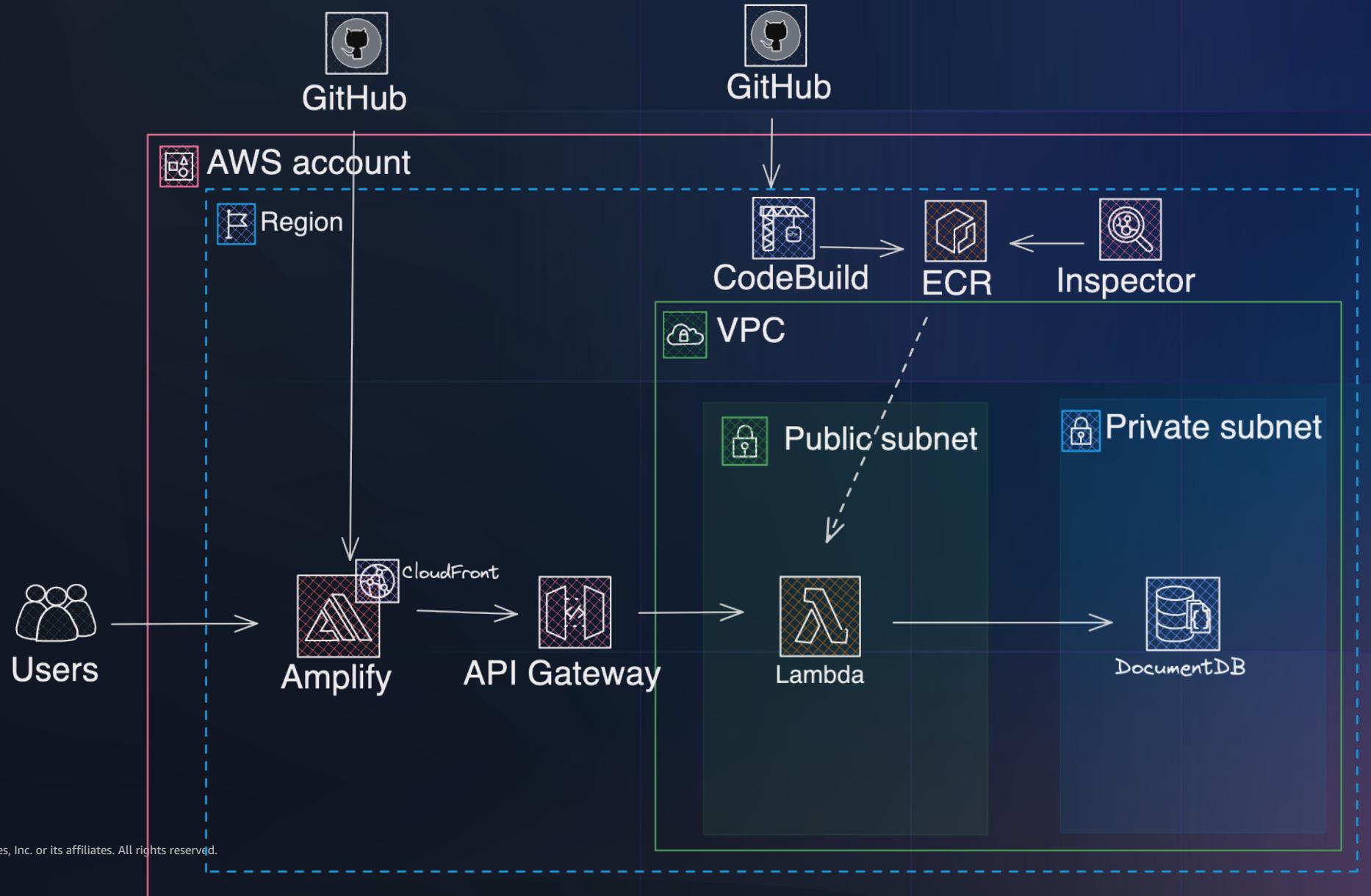
Powerful simplicity



EKS

Open flexibility

Current solution - serverless



Cost of previous solution – Cloud lift & shift

Montly Cost: \$267 – Managed Control plane+ 2 Application Nodes

Virtual machines	224
SSD Storage	30
Data Transfer	8
Misc	5
Maintenance / staffing costs	Medium

Cost directly used from Cloud provider report

Cost of current solution – serverless on AWS

Montly Cost: \$213 - region: eu-west-1

AWS Amplify	21
Amazon API Gateway	3
AWS Lambda	55
Amazon DocumentDB	123
Amazon Inspector	4
AWS CodeBuild	4
Amazon Elastic Container Registry	3
Maintance/staffing effort	low

[AWS Pricing Calculator](#)



20% saved



Reduced maintance effort
from days/month to
hours/month

Cost of current solution – future improvements

Montly Cost: \$167 - region: eu-west-1

AWS Amplify	21
Amazon API Gateway	3
AWS Lambda	55
Amazon DynamoDB	77
Amazon Inspector	4
AWS CodeBuild	4
Amazon Elastic Container Registry	3
Maintance/staffing effort	low

[AWS Pricing Calculator](#)

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37% saved



Reduced maintenance effort
from days/month to
hours/month



Most costs are covered
by 1-year free tier for Chronas ☺

The Benefits of the New Solution



Achieve cost-efficiency with a serverless architecture using AWS Lambda and AWS Amplify. No more paying for idle resources.



Deploy your applications quickly and easily with AWS Amplify, AWS Lambda/AWS Code Build and reduce operational work from days/month to hours/month.



Deliver your content to users around the world with zero infrastructure management using Amazon CloudFront and AWS Amplify.

Your Path to Production Success



Identify what you optimize for



Build small PoC



Gradual transition of a small user percentage

There is not one solution to rule them all

prime video | TECH

Video Streaming

Scaling up the Prime Video audio/video monitoring service and reducing costs by 90%

The move from a distributed microservices architecture to a monolith application helped achieve higher scale, resilience, and reduce costs.

<https://www.primevideotech.com/video-streaming/scaling-up-the-prime-video-audio-video-monitoring-service-and-reducing-costs-by-90>



Some homework

ARC307

Do modern cloud applications lock you in?

Gregor Hohpe

Sr. Principal Evangelist
AWS



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<https://www.youtube.com/watch?v=jykSBmnAM2I>

Do modern cloud applications lock you in?



Not sure where to start your serverless journey?



Numeros Blog-Posts and
Workshops available
e.g. serverlessland.com



Review and Adopt AWS Well-
Architected Framework.





Thank you!

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