Serverless Blueprint

All Things Open

Hello!

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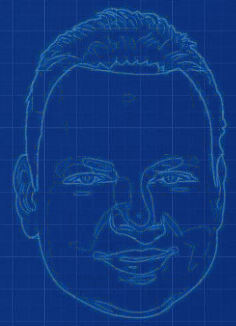
Solutions Architect

commercetools



What is serverless?

Trendy Buzzword

WHERE SHOULD WE FOCUS THIS YEAR?
"BLOCKCHAIN"
IT WILL CHANGE EVERYTHING.
EVERYBODY IS TALKING ABOUT IT.
THE POTENTIAL APPLICATIONS ARE ENDLESS.
WE DON'T WANT TO BE LEFT BEHIND.
WHAT EXACTLY IS BLOCKCHAIN?
ALSO, "ARTIFICIAL INTELLIGENCE"
TOM FISH BURNE
©marketoonist.com

"Serverless is a dumb name.“

- Reddit Commenter

"Serverless is just anything running on AWS.“

- Same Reddit Commenter

Serverless computing is a cloud-computing execution model in which the cloud provider runs the server, and dynamically manages the allocation of machine resources. Pricing is based on the actual amount of resources consumed by an application, rather than on pre-purchased units of capacity. It can be a form of utility computing.

- *Wikipedia*

Serverless has servers.

Function as a service (FaaS) is a category of cloud computing services that provides a platform allowing customers to develop, run, and manage application functionalities without the complexity of building and maintaining the infrastructure typically associated with developing and launching an app.

- *Wikipedia*

FaaS Options

Serverless Tooling

serverless

Claudia.js

pulumi

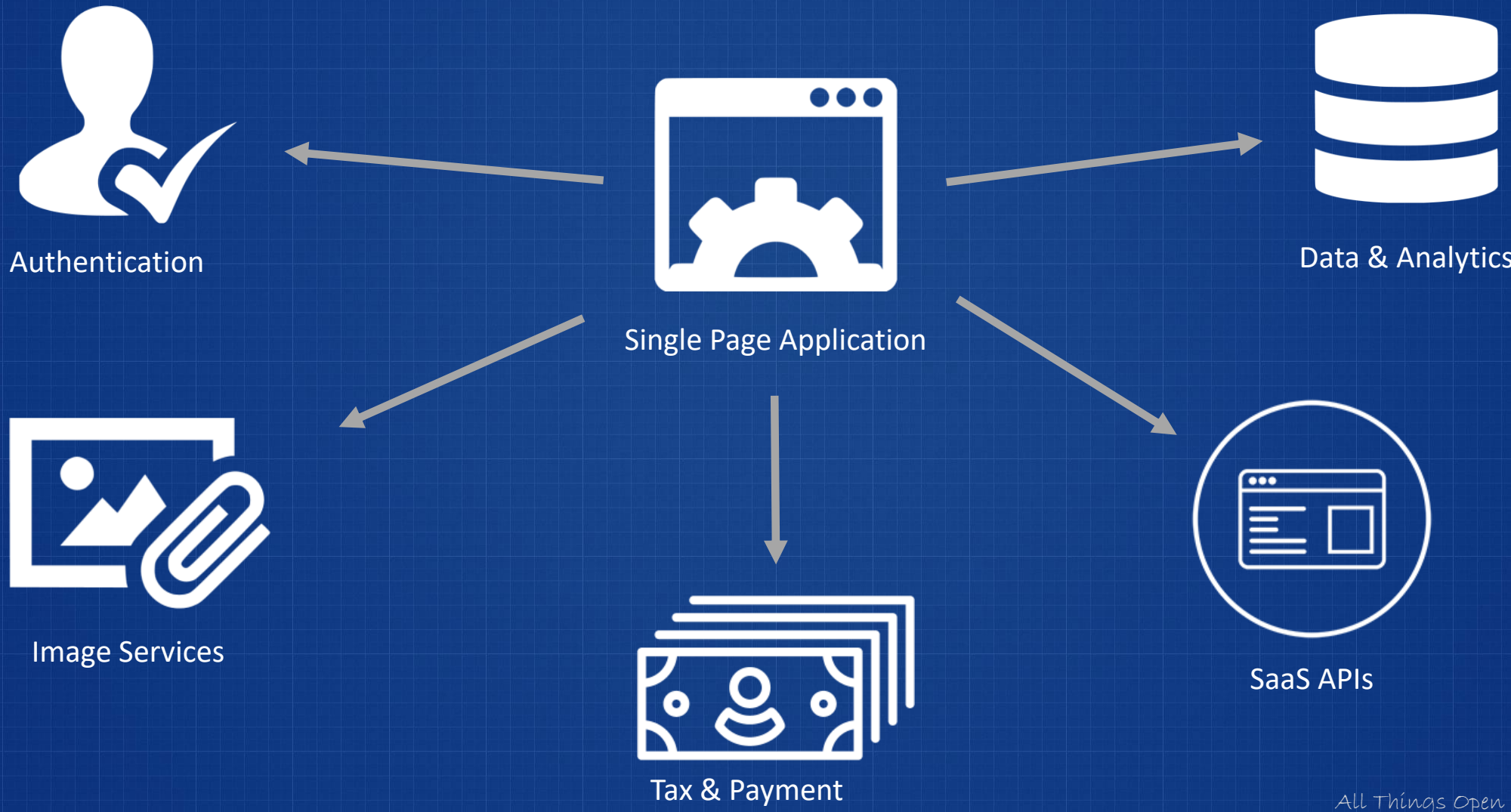
APEX
serverless architecture

https://github.com/commercetools/commercetools-serverless-examples

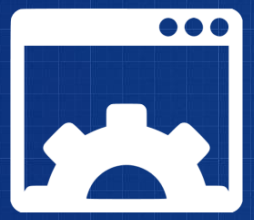
Microservices are a software development technique—a variant of the service-oriented architecture architectural style that structures an application as a collection of loosely coupled services. In a microservices architecture, services are fine-grained and the protocols are lightweight.

- Wikipedia

Common Architecture



Another Approach



Single Page Application

Custom Microservices

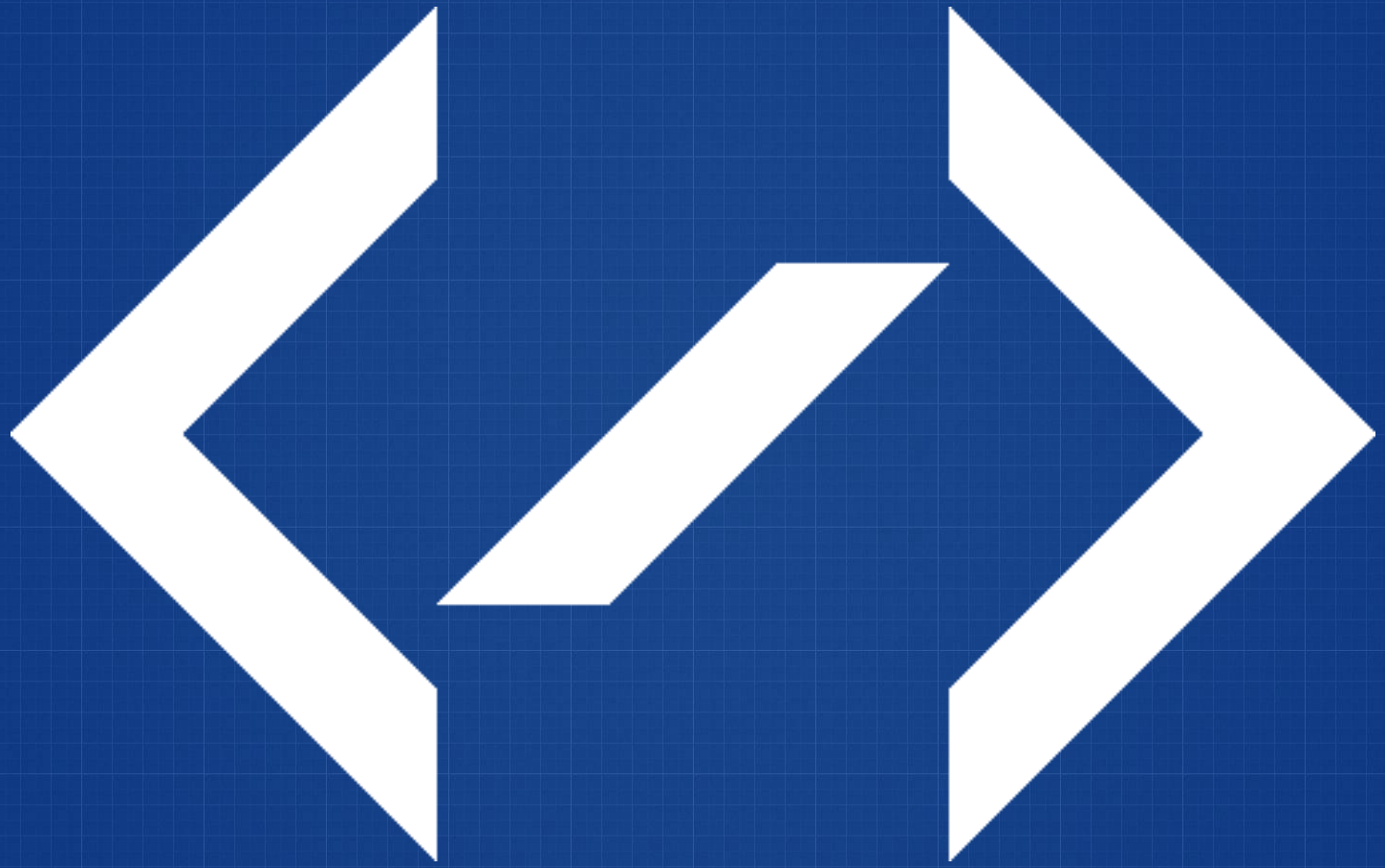
Authentication

Data & Analytics

Image Services

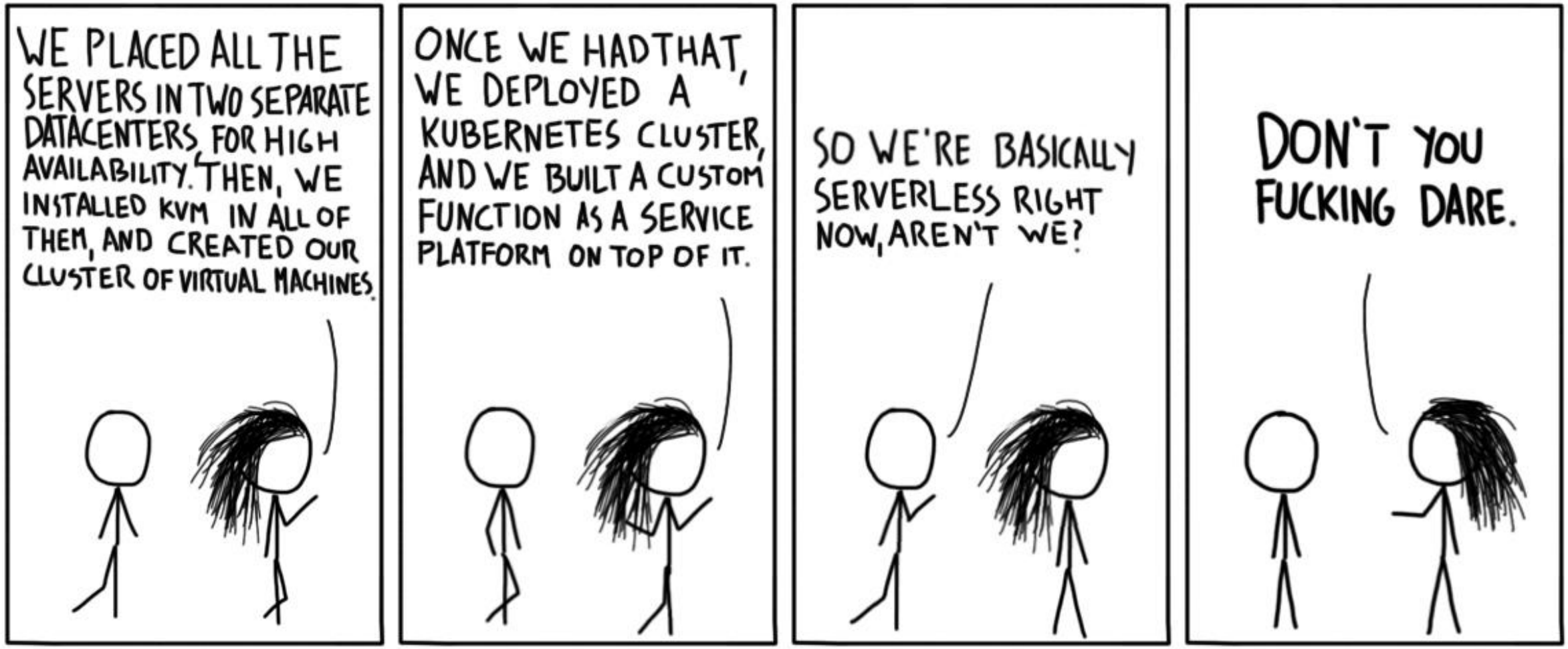
SaaS APIs

Tax & Payment



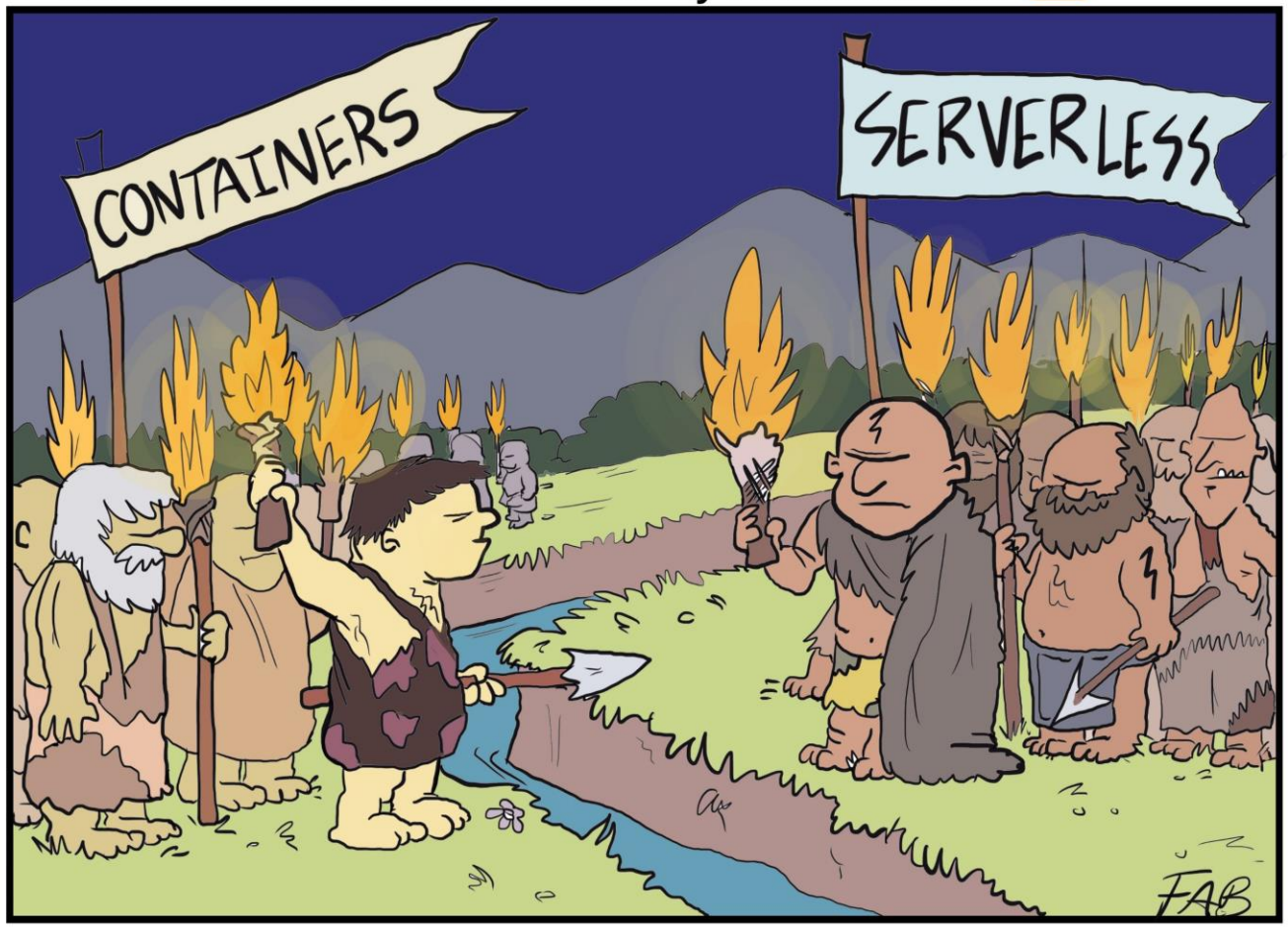
AWS Lambda Limitations

- Disk space restricted to 512 MB
- Default deployment package size is 50 MB
- Function execution timeout is 15 minutes
- Memory ranges from 128 to 3008 MB
- Maximum request & response call body payload size is 6 MB
- Request body can go up to 128 KB
- Concurrent executions are given a region to 1,000
- Functional and layer storage limited to 75 GB


WE PLACED ALL THE SERVERS IN TWO SEPARATE DATACENTERS FOR HIGH AVAILABILITY. THEN, WE INSTALLED KVM IN ALL OF THEM, AND CREATED OUR CLUSTER OF VIRTUAL MACHINES.
ONCE WE HAD THAT, WE DEPLOYED A KUBERNETES CLUSTER, AND WE BUILT A CUSTOM FUNCTION AS A SERVICE PLATFORM ON TOP OF IT.
SO WE'RE BASICALLY SERVERLESS RIGHT NOW, AREN'T WE?
DON'T YOU FUCKING DARE.
@sebiwicb

FaaS and Furious by Forrest Brazeal

A CLOUD GURU



The two tribes regarded each other suspiciously in the glow of their brightly blazing production environments.

Pros

- Less operations / maintenance.
- Built in scaling.
- High Availability.
- Resilient to DDoS attacks.
- Mitigates errors.
- Cost per Usage.

Cons

- Risk of Cloud Lock-In
- Cold Starts
- Denial of Wallet Attack (infinite scale = infinite costs)
- Less flexibility:
  - Execution Environment
  - Execution Time
  - Monitoring
- Local Development is difficult
- Higher costs.

Should you use serverless?

- Maybe
- It Depends
- Sometimes
- …

Links

- https://ok.commercetools.com/blueprint-architecture
- https://github.com/jluterek/serverless-blueprint
- https://serverless.com/

Thank you!

James Luterek

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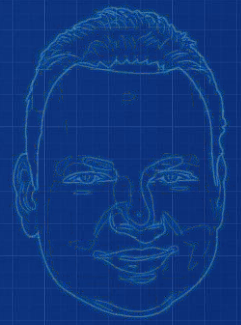

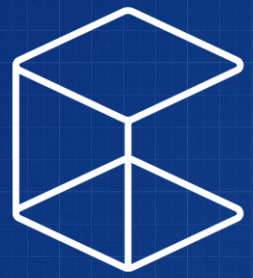

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