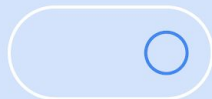
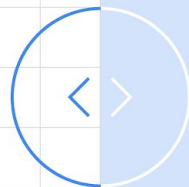




Cloud Run... everything you need without K8S

Serverless Days Paris
28th September 2021

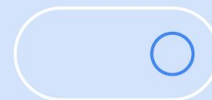
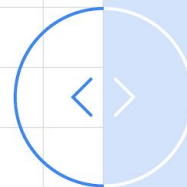




Julien Landuré

 @jlandure

Google Developer Expert - Cloud
CTO Group - Zenika
GDG Cloud Nantes & DevFest Organizer



Back to the future...

App Engine in 2010



Google
App Engine

App Engine

One of the first PaaS

Limited runtimes

Need specific libraries

Vendor lock in

Easy deployment

Custom domain name

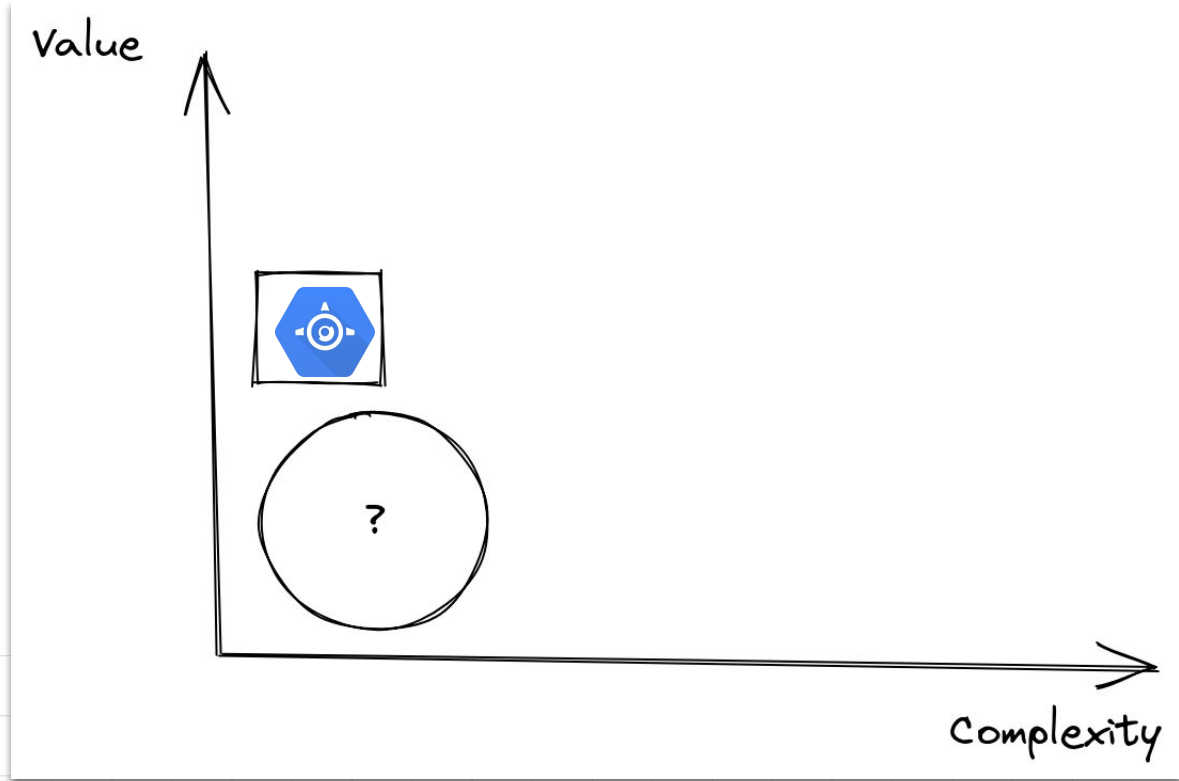
Traffic splitting between versions

Embed a stateful solution (datastore)

Automatic CDN

Scaling from 0 to N

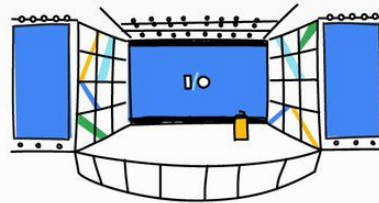
Value x Complexity



App Engine

2008

Introducing Google I/O and Google App Engine

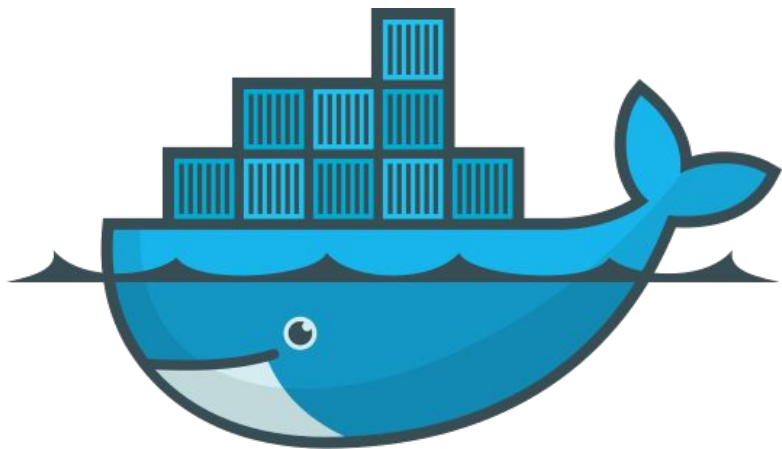


Happy 20th!



Containerization

Docker in 2016



docker

Docker

Universal package manager

Dockerfile syntax

Installation of Docker & CLI

Daemon options & linux concepts

Security

Open Source

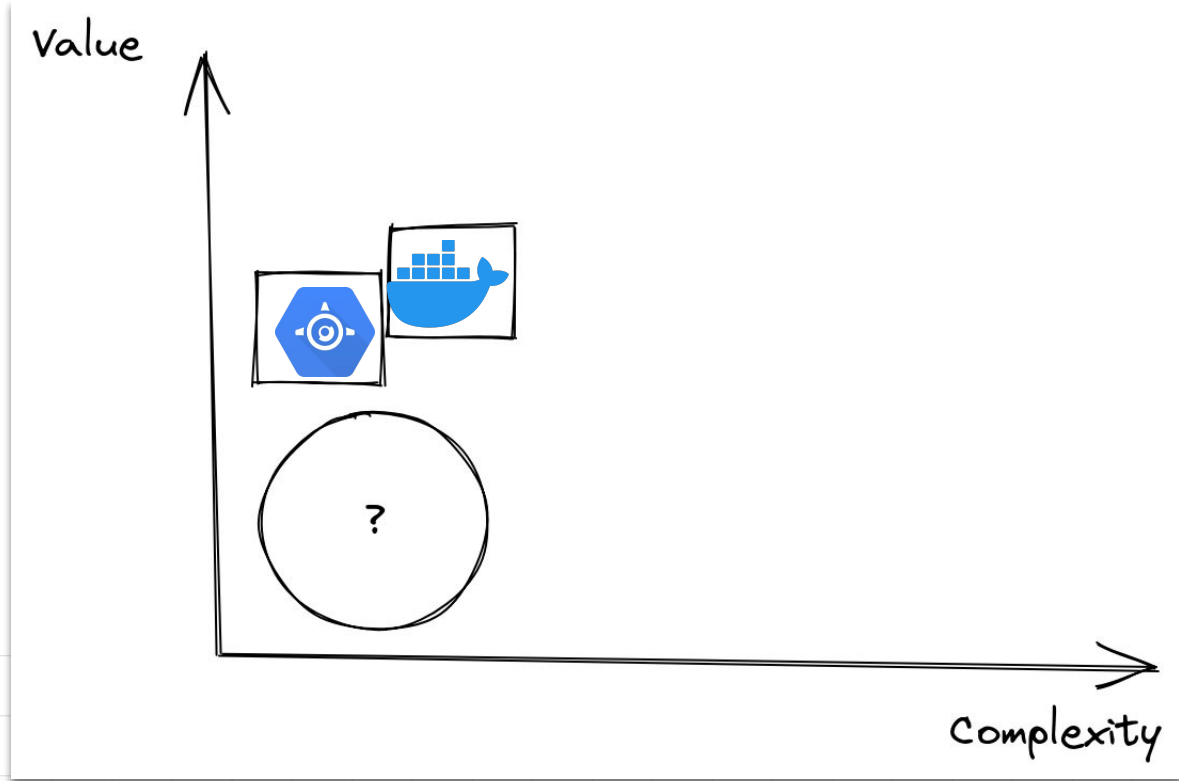
Reproducible & ephemeral concepts

Work with any runtime

Start containers quickly

Very Popular: many images & cloud
services available

Value x Complexity





#TuxTurns30

Join us in
celebrating
**30 years of
Linux**
1991 - 2021

2017: AKS & EKS

2016: Kubernetes
adoption by CNCF

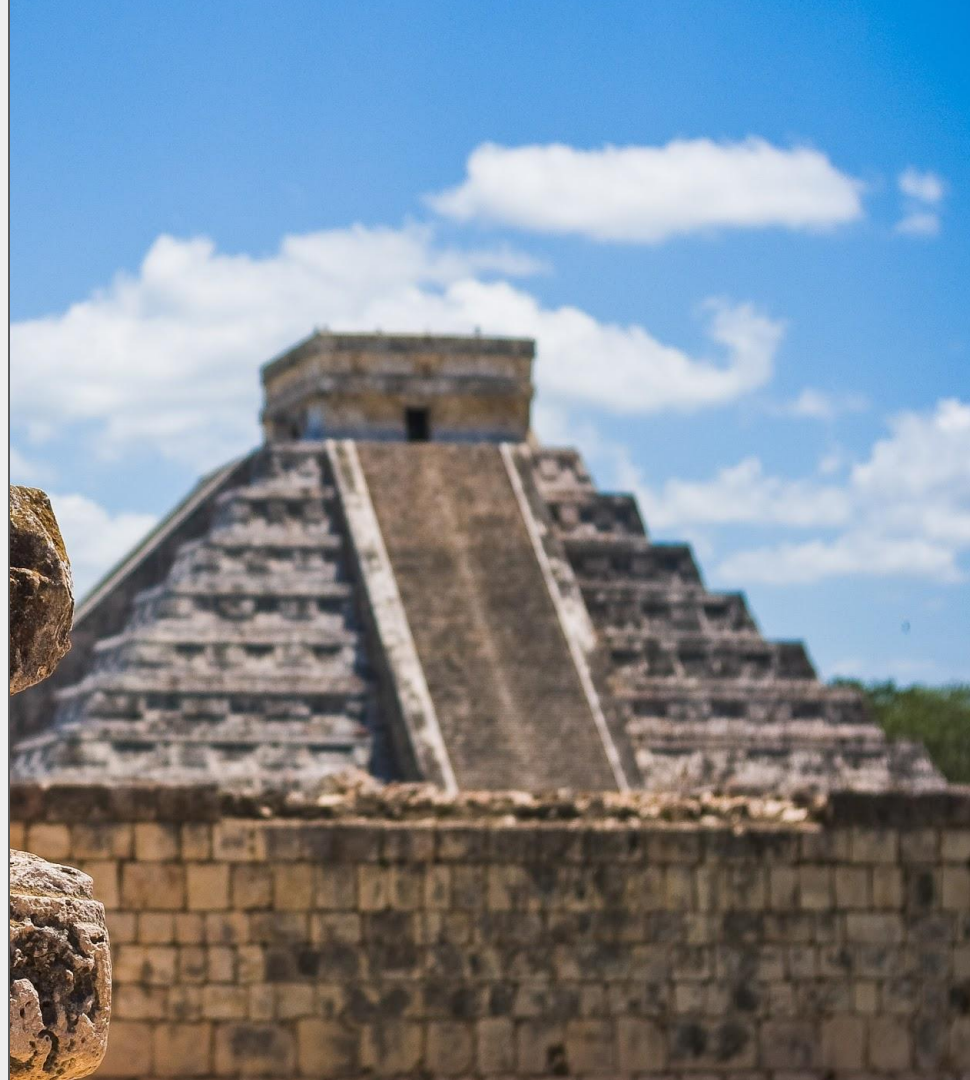
2015: GKE

2014: Kubernetes

2013: Docker

2008: LXC

2007: cgroups



Orchestration

Kubernetes in 2018



kubernetes

Kubernetes

Container orchestration at scale

New concepts: pods, services etc.

Yaml syntax

Popular: well documented

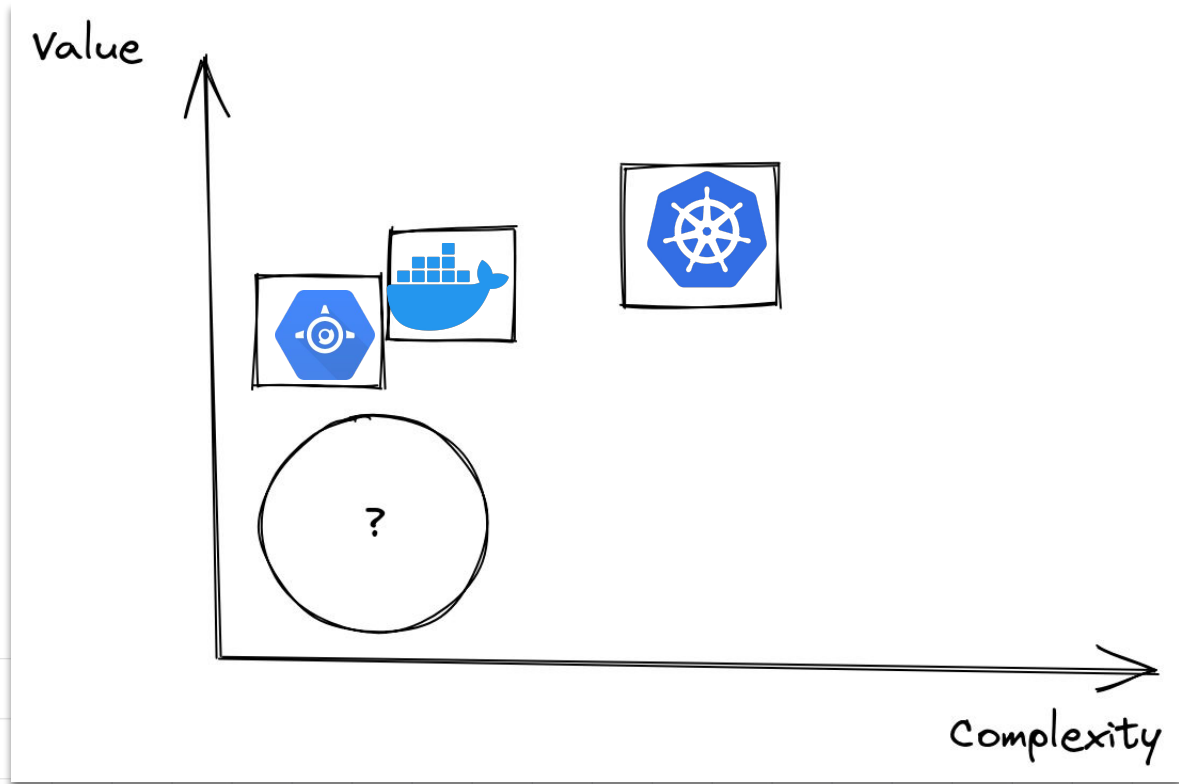
Supported by all cloud providers

Made to solve scaling issues

Pet vs Cattle

Desired State vs Actual State

Value x Complexity



Wait!

Kubernetes can do so much...

Kubernetes... again

Container orchestration at scale

Automated rollouts and rollbacks

Health checking

Load Balancing

Custom domain & traffic splitting

with Traefik

Service Mesh *with Istio*

Scale from 0 *with Knative or KEDA*

Runtime security *with Falco*

Upgrade components

Stateful objects

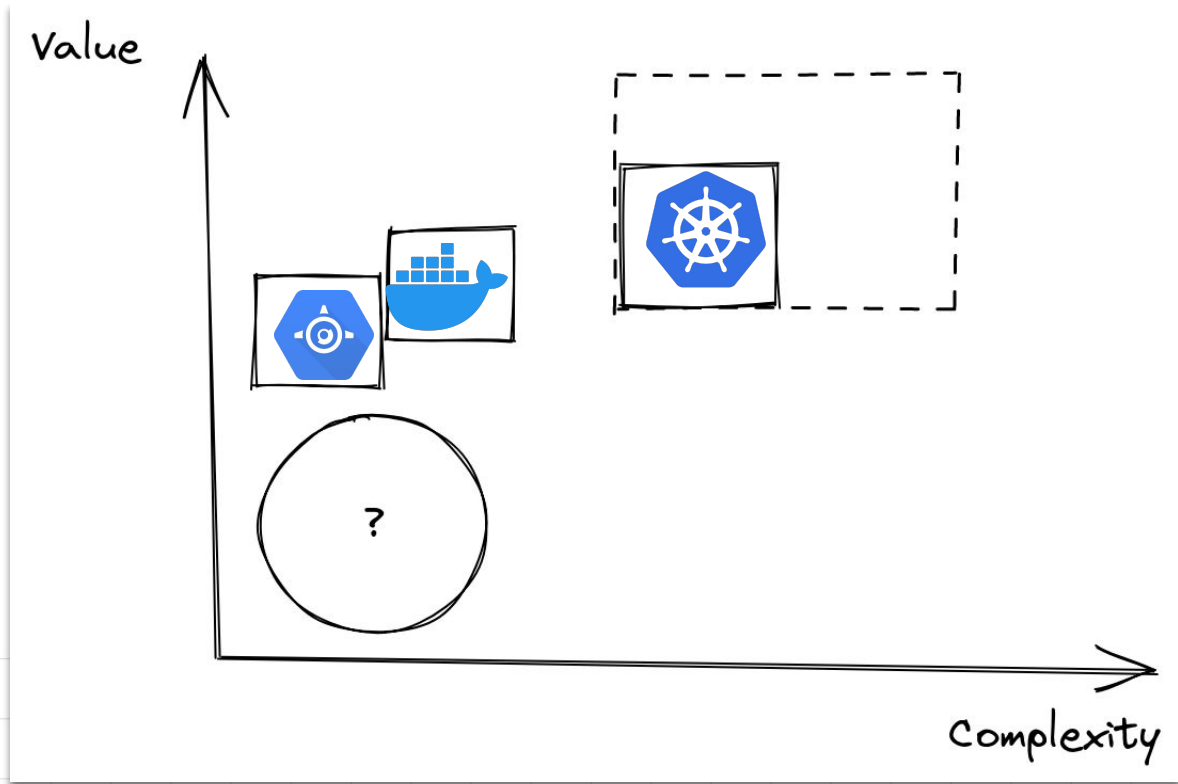
Backup

Security

IAM

Pricing

Value x Complexity



Kubernetes



Serverless

Cloud Run in 2019

Cloud Functions



App Engine



Cloud Run



Cloud Run

One of the first serverless container solution

HTTP only (gRPC)

Need IaC to deploy a complete infra

Container contract

- Listen on 0.0.0.0
- HTTP server must start < 4 min
- Request time < 60 min
- Stateless
- No background activity

Pricing Model

Easy deployment

Custom domain name

Traffic splitting between versions

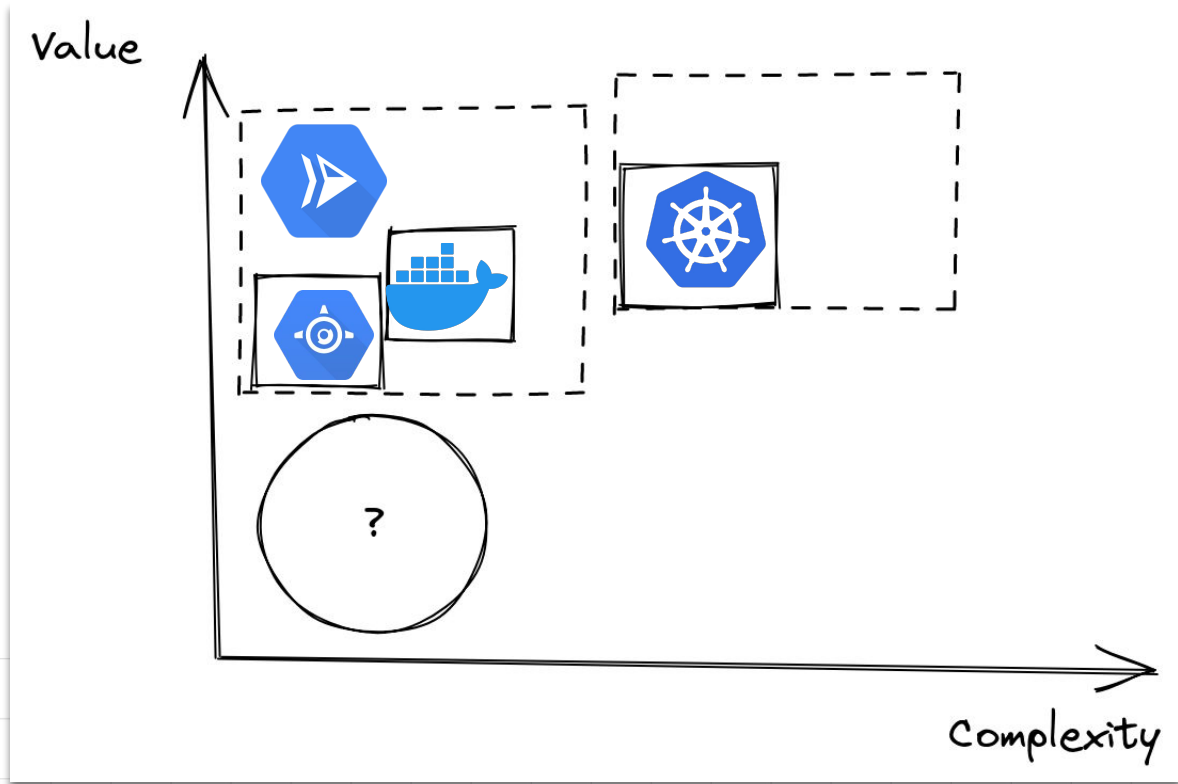
Portability of containers

Buildpacks available

Scaling from 0 to N

No vendor lock in with Knative

Value x Complexity

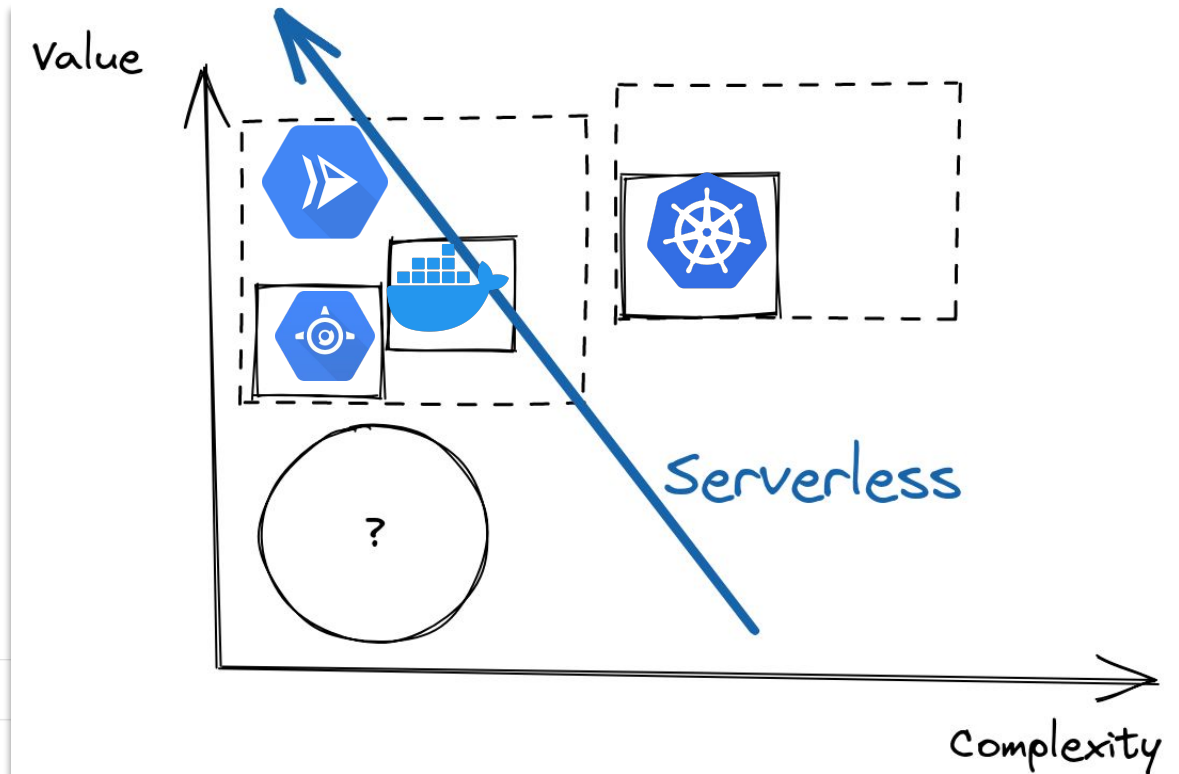


Serverless definition

Serverless computing refers to the concept of building and running applications that **do not require server management**. It describes a finer-grained deployment model where **applications, bundled as one or more functions**, are uploaded to a platform and then **executed, scaled, and billed in response to the exact demand needed at the moment**.

<https://github.com/cncf/wg-serverless/tree/master/whitepapers/serverless-overview>

Value x Complexity



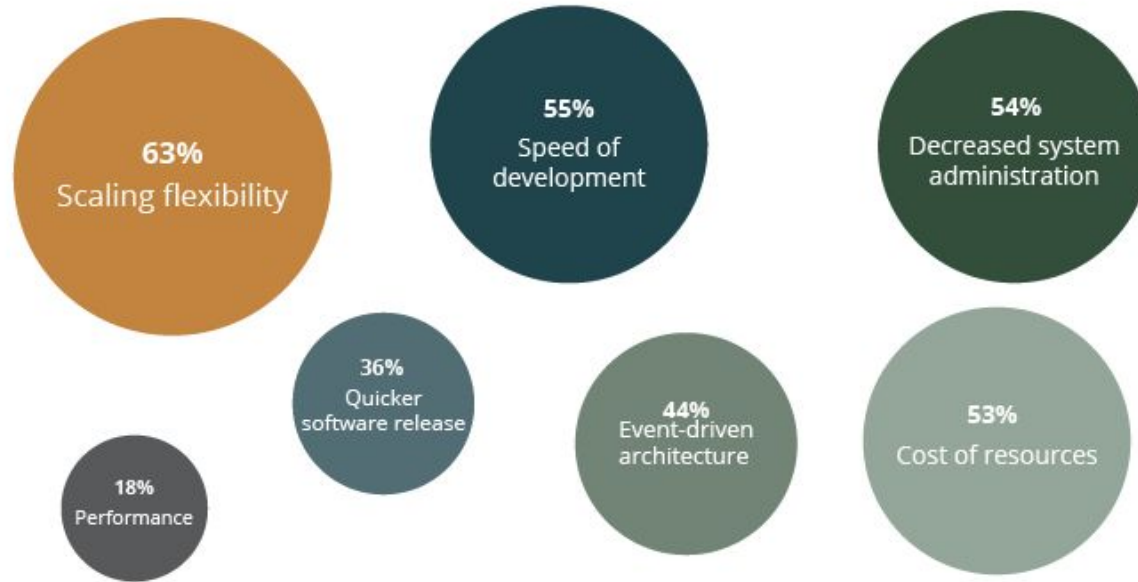
Demo



My point of view

- Cloud Run covers the majority of app use cases
- One of the TOP project Google Cloud
- Replacement of my beloved App Engine
- Interoperable (supported by Knative/eventing)
- Superior Dev Experience (local emulator & buildpacks)

Serverless trends



To sum up

- 👍 Kubernetes and Serverless can support each other
- 😲 Serverless Container Solution are coming!
“Behind the scenes, the core of App Builder is that it builds an Amazon ECS Cluster and uses Fargate to execute your containers.”
- 💪 The right tool to do the right thing
- 🤔 Find your way: more a Dev (Serverless World) or an Admin (K8S World)

Thank You!



Julien Landuré
 @jlandure

/serverless/ **DAYS**
PARIS

