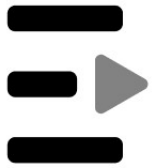

ephemeral.run

A full application environment
for every PR

INFRACLOUD OPENGOV

ephemeral.run

Vishal Biyani

CTO
InfraCloud

INFRACLOUD

Jono Spiro

Ops Team
OpenGov

OPENGOV

ephemeral.run

Agenda

- **Problem Statement**
  5 Minutes
- **Solution Overview**
  5 Minutes
- **Demo**
  15 Minutes
- **Numbers**
  5 Minutes
- **Roadmap Items**
  5 Minutes

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Who needs an ephemeral environment?

Inner/Outer Loop of Development

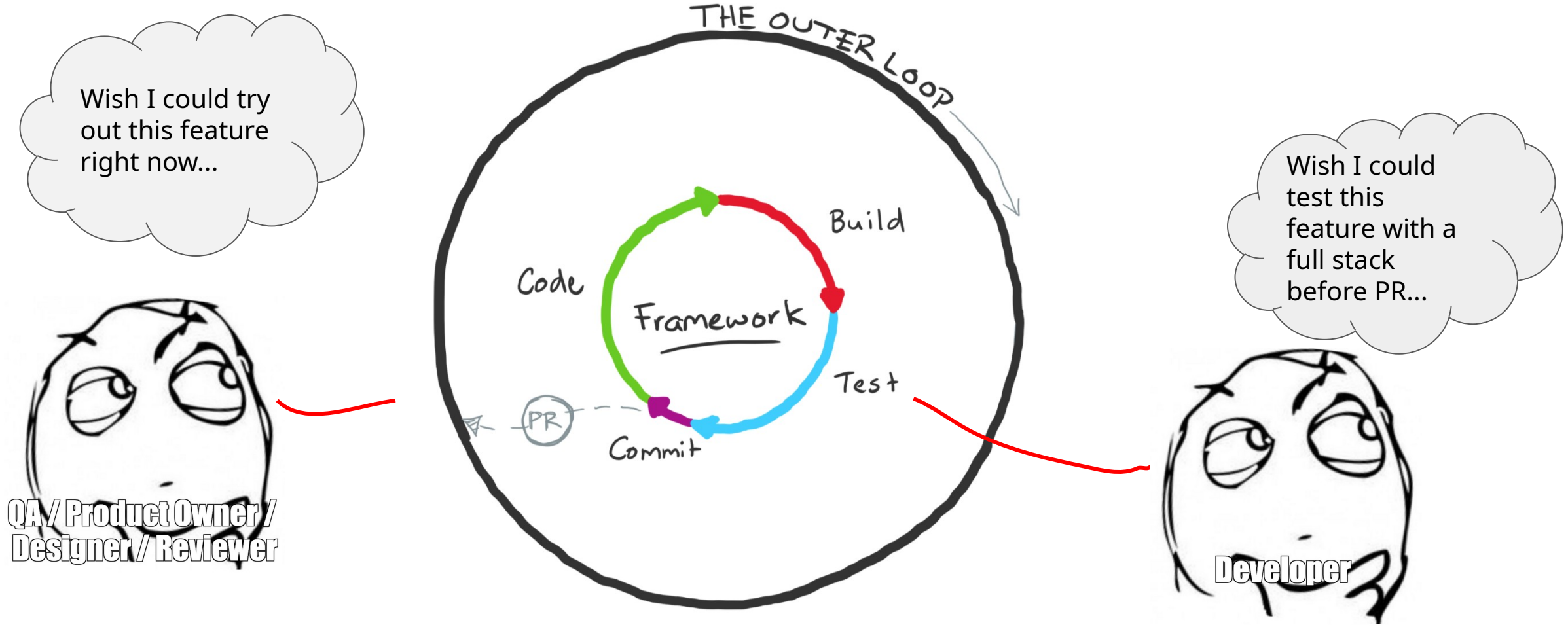

Image Source : https://mitchdenny.com/the-inner-loop/

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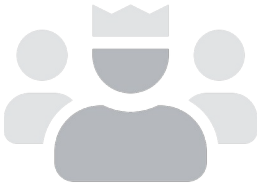
Evaluation criteria for an ephemeral environment

Cost Per Environment

User Experience



Complexity & Team Maturity

Quality Experience

Product Experience

Since *everything* in K8s must be nautically themed...

Production
is a battle group

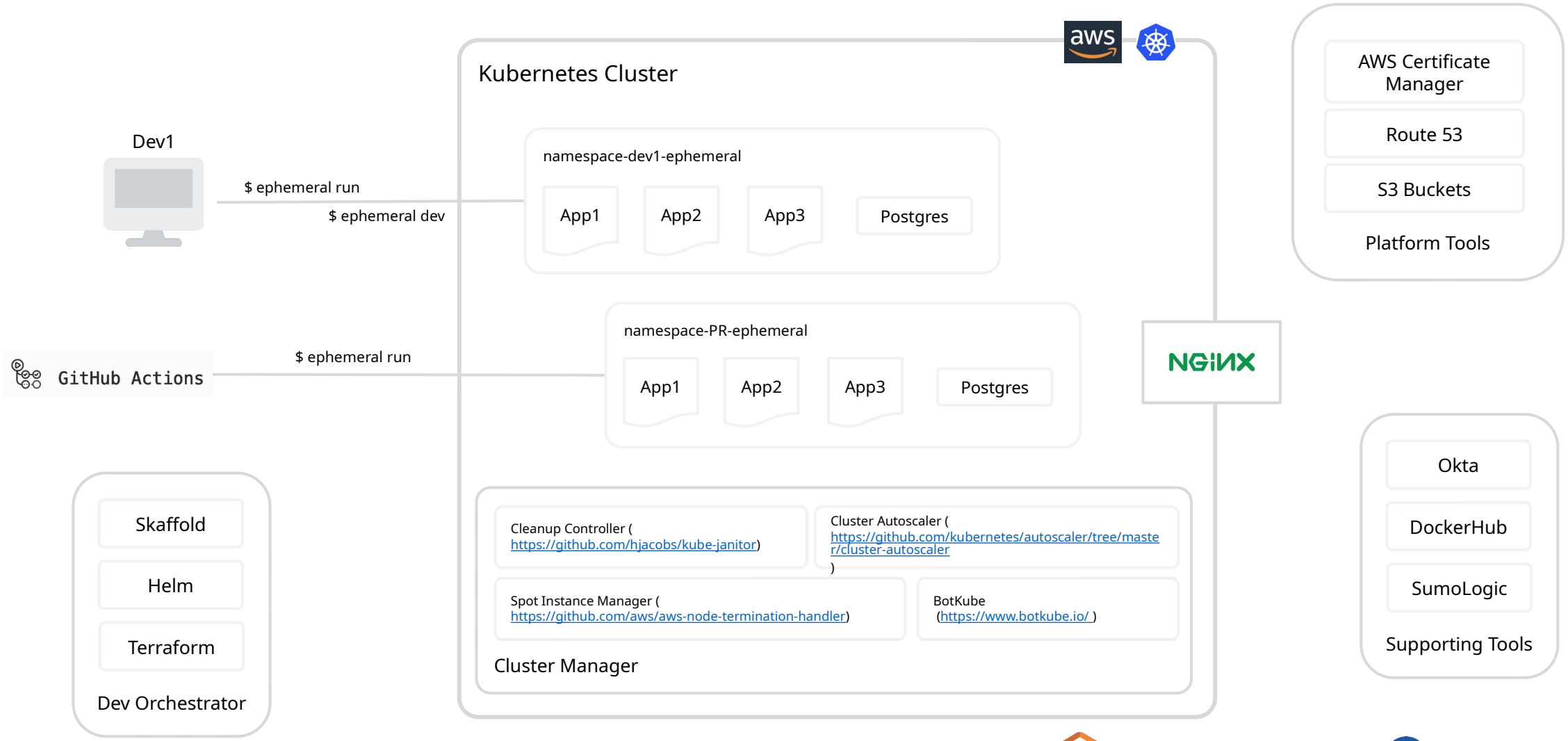
Existing solutions are sailing vessels

Where we're going, we want *speedboats*

Solution Overview

It’s *not* just skaffolding

Solution Overview



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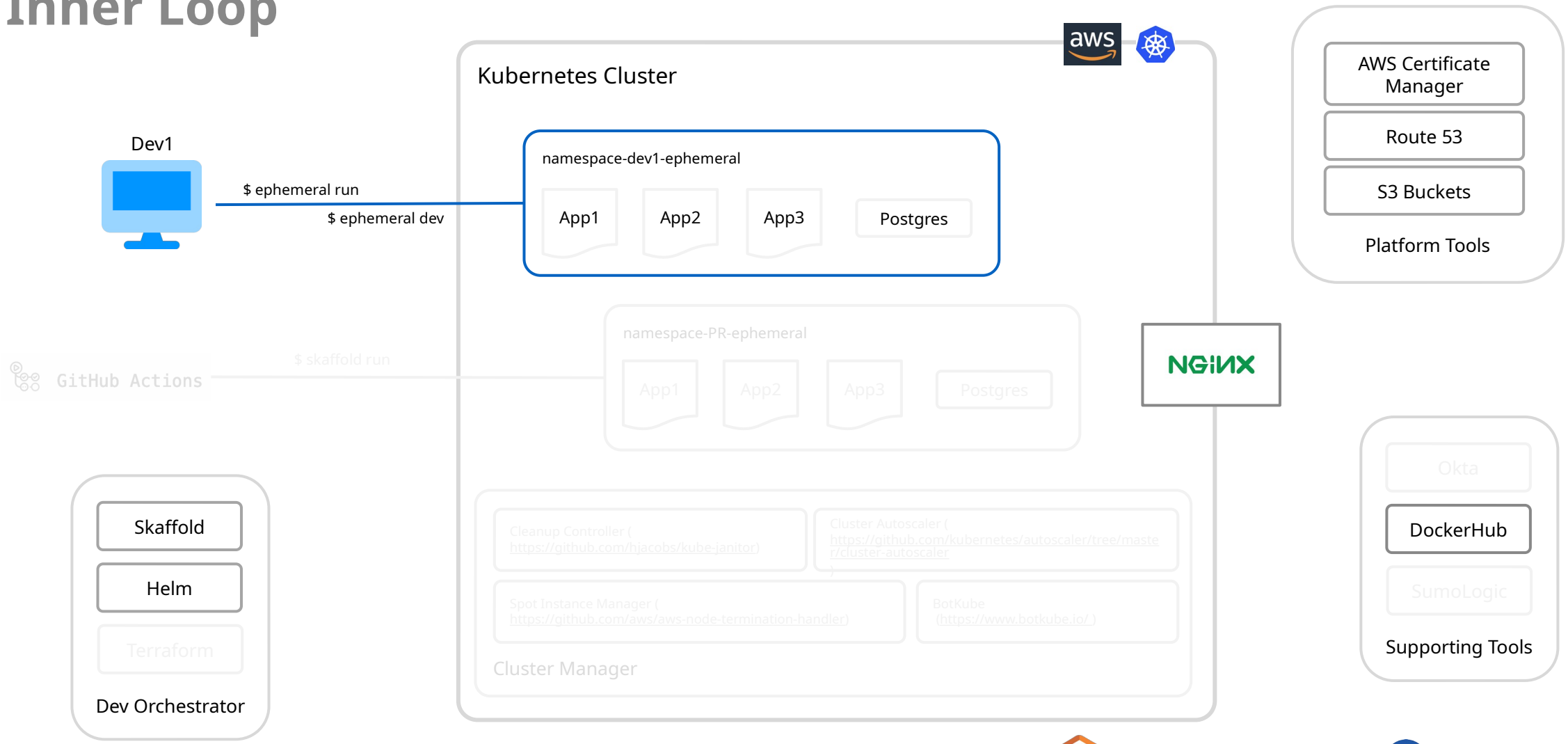
Solution Overview

Inner Loop



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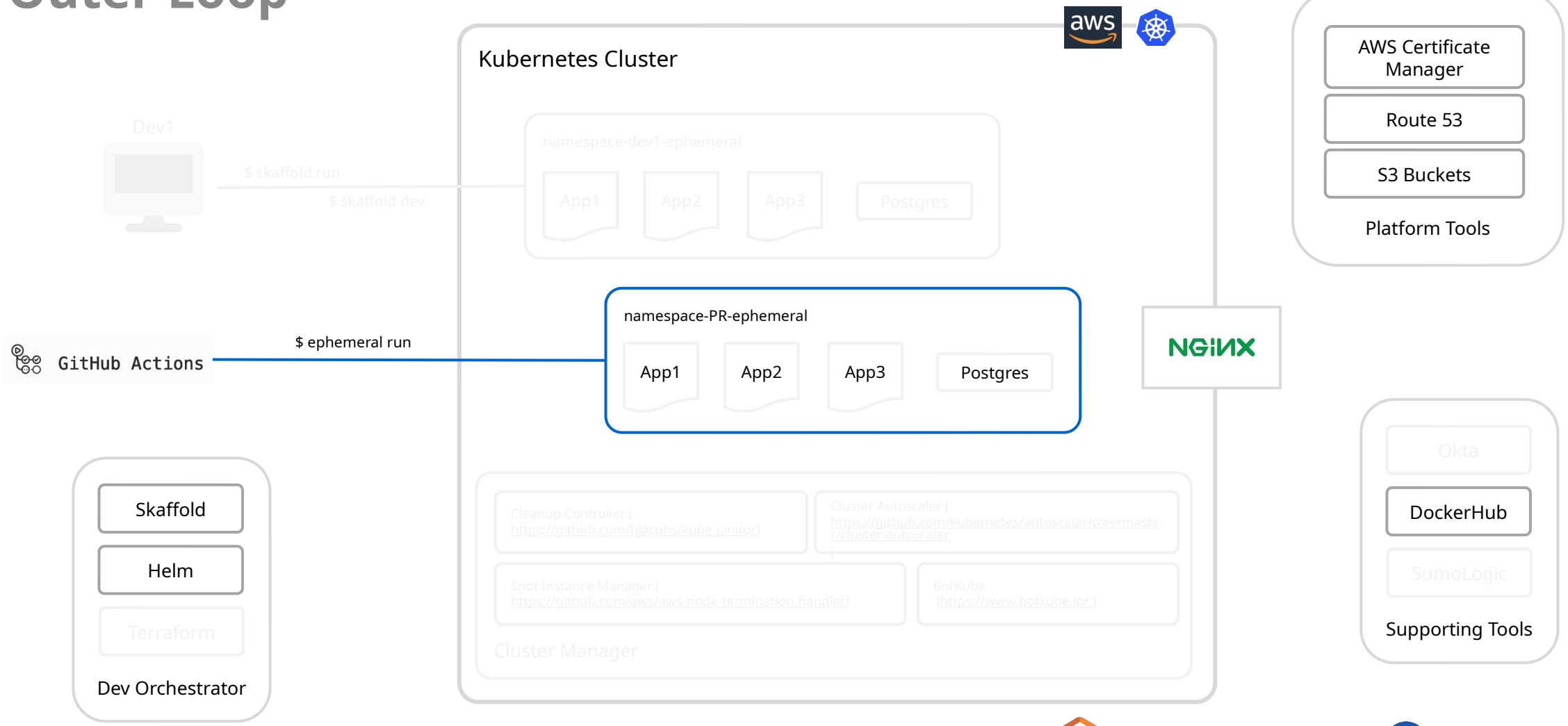
Solution Overview

Outer Loop



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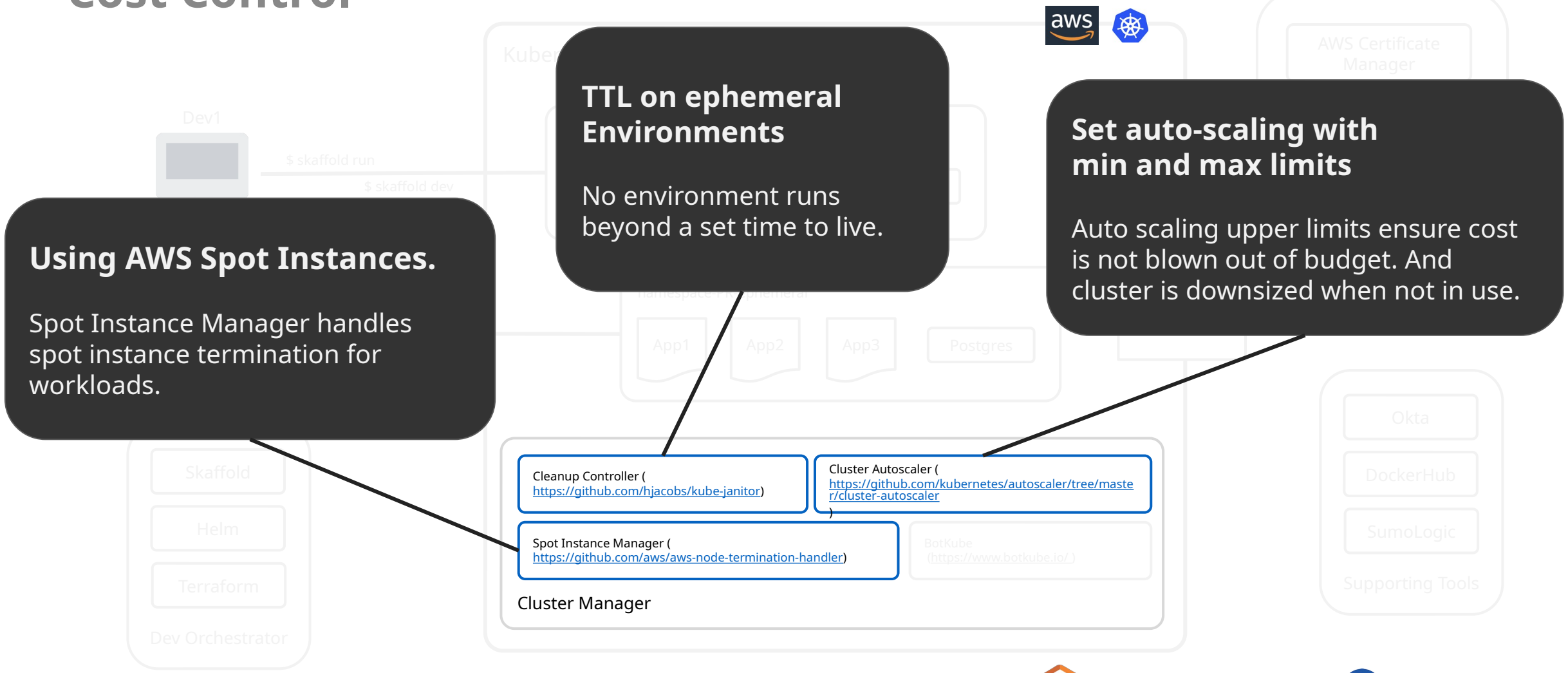
Solution Overview

Cost Control



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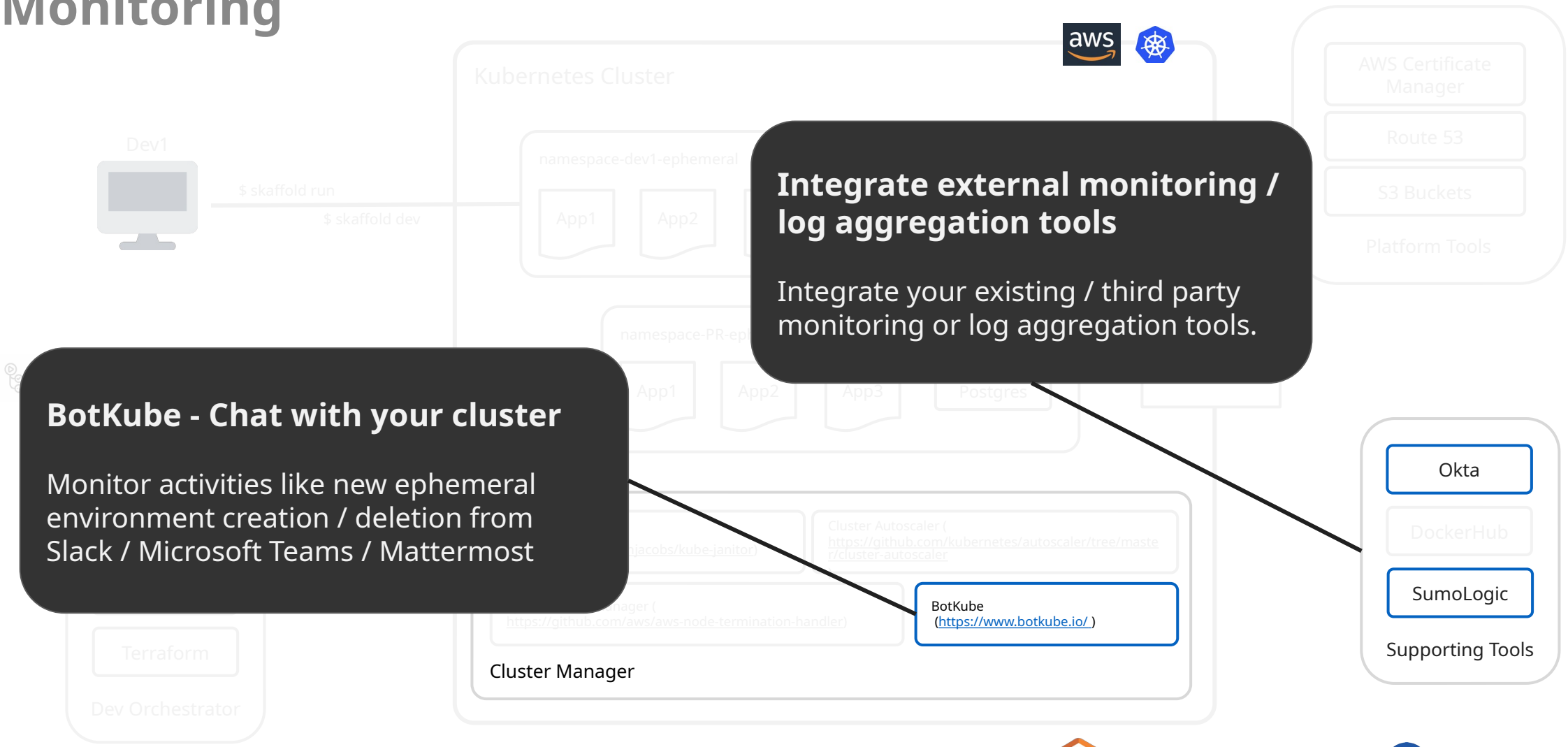
Solution Overview

Monitoring



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Repo

Structure

front-end Service Repo
github.com/OpenGov/front-end

On Code Change

- Build Docker Image

When tagged for deploy

- Dispatch Event to ephemeral.run repo

ephemeral.run Repo
github.com/OpenGov/ephemeral.run

For every deploy request

- Update values.yaml with image
- Deploy to Cluster
- Communicate details back to dispatching repo via Github Bot

Ephemeral AutoScaled TTLed Instance

namespace-dev1-ephemeral

Front End | Back end | Back end | DB

ephemeral.run (On Demand)

ephemeral.run

Demo

Numbers

Numbers

(>_<)

- In 2020, engineers started an average of *four* legacy Chef environments per month.
- These were limited, unreliable, took hours to start, and were not representative of production.
- Legacy environments cost $150/day/env, and *thousands* per month in fixed costs.

Numbers

(^_^)

- 10x usage: Engineers started *50* environments with ephemeral.run in the first month.
- 10x faster: Environments start in ~15 minutes, and can be updated in five minutes.
- 10x cheaper: $15/day/env (billed by the minute) and $200/month in fixed costs.
- Priceless: New defects discovered immediately, and for the first time, pre-merge.

Roadmap Items

Join the Project!

- A generic, fork-friendly framework with simplified configuration DSL/templates
- A loving and proactive @runbot (like GitHub's @dependabot)
- Suspend/Resume Compute
- Dynamic TTLs on cluster resources
- Local-to-remote telepresence
- CI integration
- Smarter Pod scheduling to optimize autoscaling
- BotKube integration and ChatOps
- Centralized Control Plane with UI
- Usage reporting and analytics
- Budgeting policies

Resources

Project and Reference Implementation
Fork us to try it, us for updates, and open an issue or PR to join us!
ephemeral.run (or github.com/OpenGov/ephemeral.run)

Follow our other projects on GitHub
@infracloudio – @vishal-biyani
@OpenGov – @jspiro

Discover what we're building with all this technology
infracloud.io
opengov.com

Work with us!
https://jobs.cncf.io/employers/406951-infracloud-technologies

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Q&A

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Thank You!