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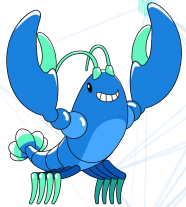


2.15 Feature Deep Dive

HAZL, Native Sidecars, Mesh Expansion

Flynn, Technical Evangelist for Linkerd

flynn@buoyant.io | @flynn on slack.linkerd.io



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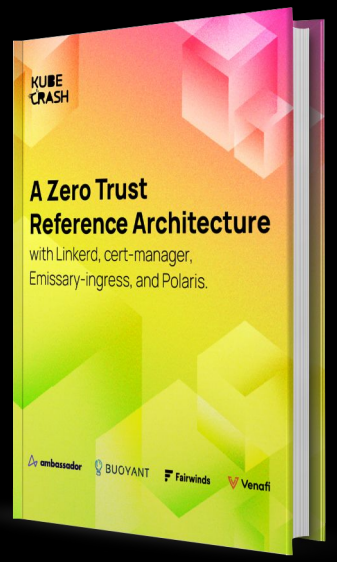
A Zero Trust Reference Architecture

with Linkerd, cert-manager, Emissary-ingress, and Polaris

60+ pages of highly technical open source content!

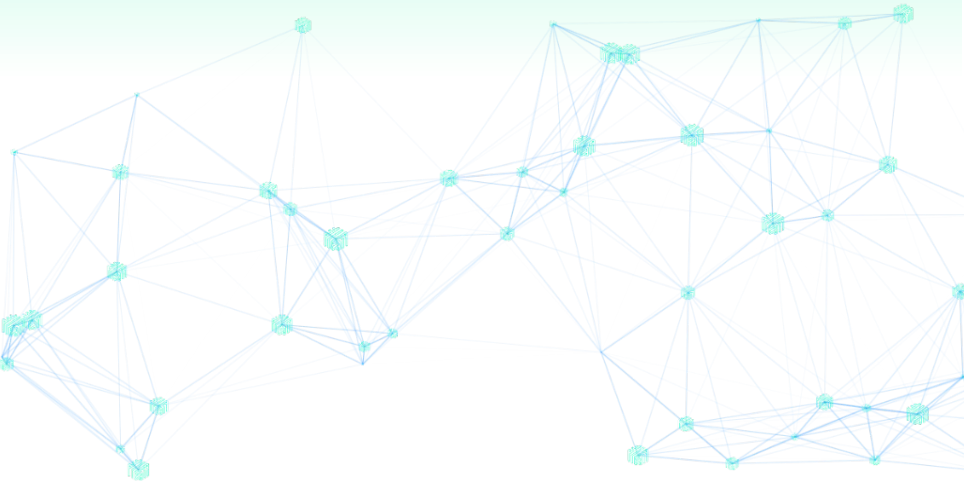
buoyant.io/**download/zero-trust-reference-architecture**

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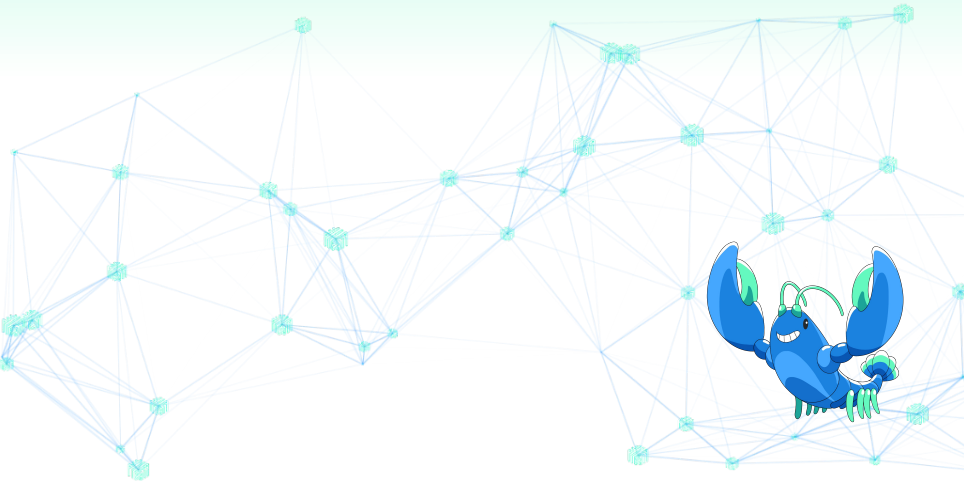
What's on the agenda?



- **Quick** discussion of the features, and then the
- **Demo!**

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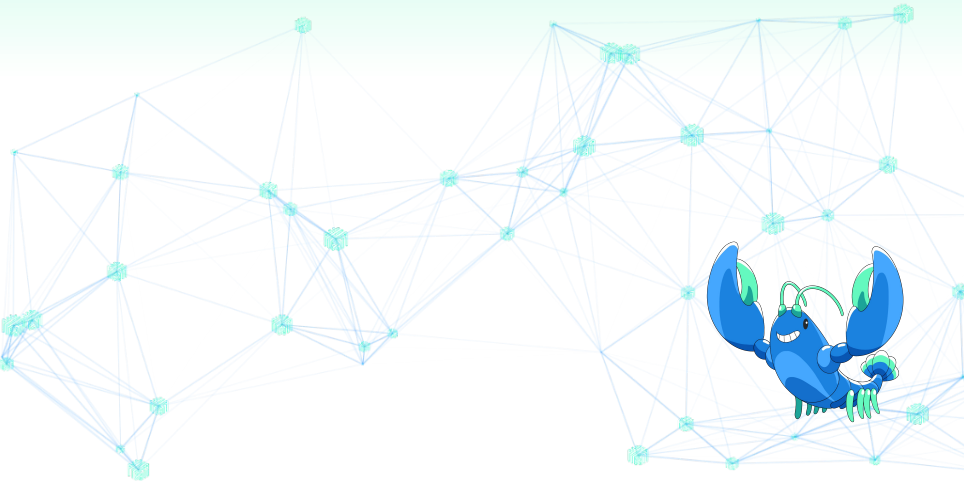
How do you follow along?



- https://github.com/BuoyantIO/service-mesh-academy/tree/main/2-15-features
- **For this demo, we will be using enterprise-2.15.2** because we're working with enterprise features!
- You'll need a free Buoyant ID from https://enterprise.buoyant.io/

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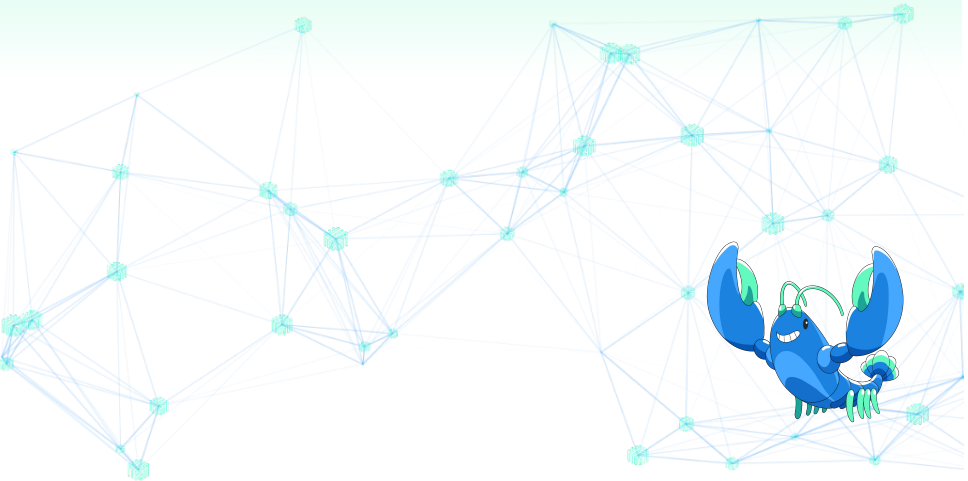
How do you follow along?



- **You will also need Kubernetes 1.29** because one of the features needs it!
- We'll show how to set this up with k3d.

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How do you follow along?



- **kubectl**
  `https://kubernetes.io/docs/tasks/tools/`
- **k3d**
  `https://k3d.io/`
- **step**
  `https://smallstep.com/docs/step-cli/`
- **bat**
  `https://github.com/sharkdp/bat`
- **helm**
  `https://helm.sh/docs/intro/quickstart`
- and Python.

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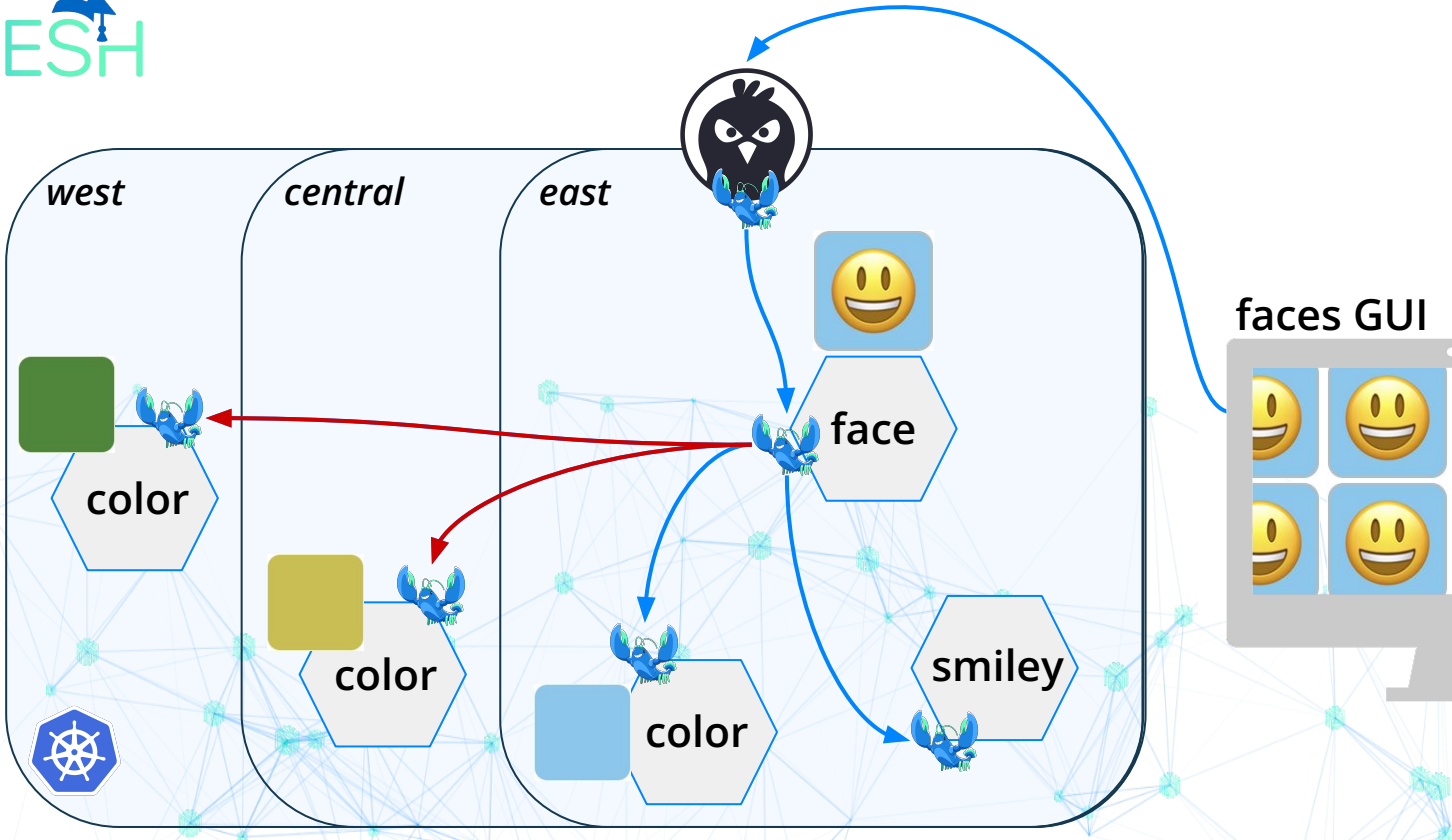
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HAZL

High **A**vailability **Z**one-aware **L**oadbalancer

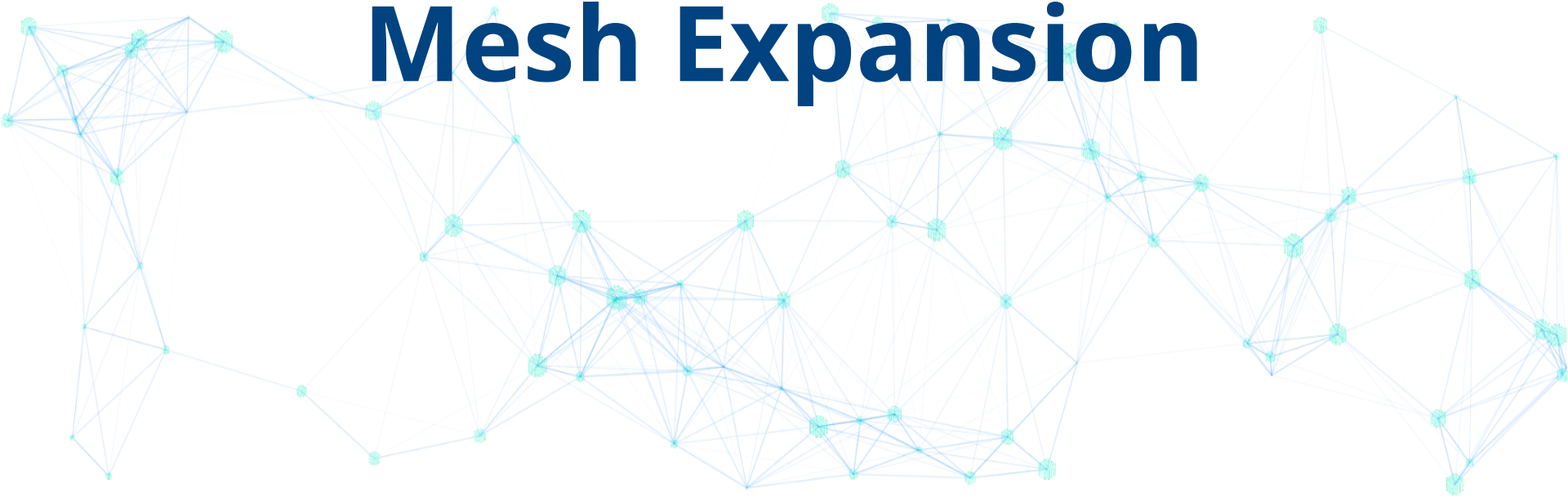
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Faces (https://github.com/BuoyantIO/faces-demo)

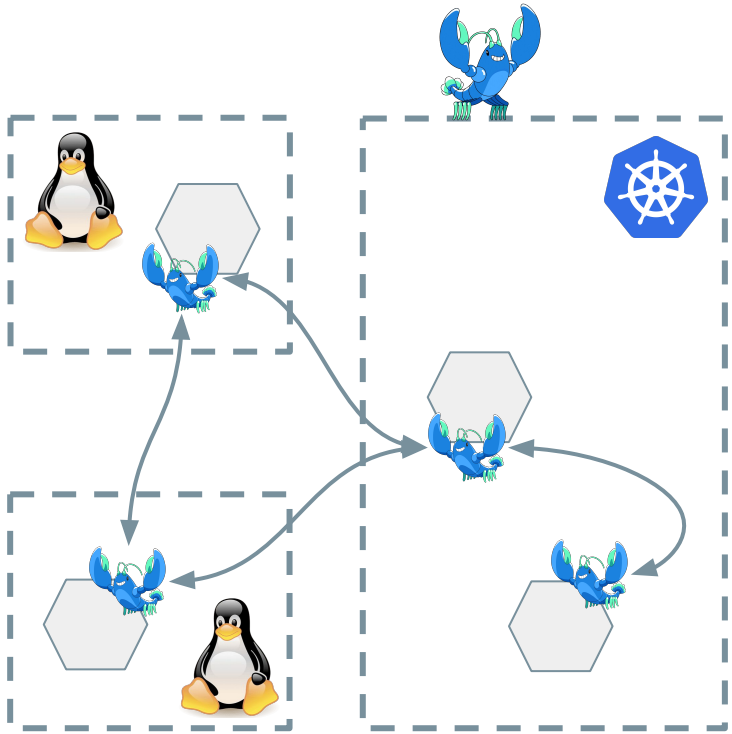
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Mesh Expansion



Mesh Expansion

- Bring the mesh outside the cluster, all the way to VMs or edge devices
- Benefits
  - Access to legacy workloads
  - Access to smaller devices (the Linkerd proxy is very lightweight)
- Implementation
  - Run Linkerd proxy with custom iptables rules
- Challenges
  - Root of trust in shared system
  - Network / DNS
  - Currently assumes Linux



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Native Sidecars

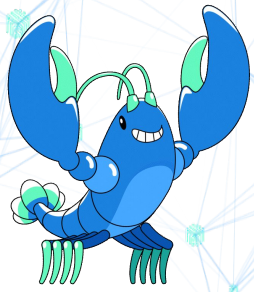


Native Sidecar Support

- KEP-753 “native sidecars” are finally broadly available in Kubernetes 1.29!
- Without this, if you try to run a Kubernetes Job (for example), it will never complete
  - The Linkerd proxy sidecar won’t exit
  - The Job never completes
  - Bad Things Happen™
- KEP-753 fixes that.
- Linkerd supports this as of 2.15.

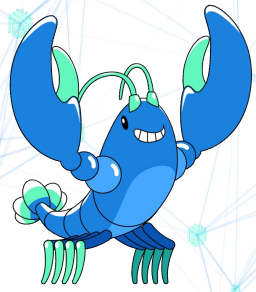
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DEMO 🤞



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Gotchas



Gotchas

- You can't (currently) configure when HAZL decides that it's OK to cross zones.
  - 2.15.1 would cross zones *much* more easily than 2.15.2.
- Each HAZL client makes its own decisions about when to cross zones.
  - This is a feature, but it's a little disorienting the first time you see it.
- Mesh expansion should be getting easier soon! but it's still a bit tricky to set up right now.
- Setting up the ControlPlane resource is a bit more manual than I'd like right now. Be careful with it!

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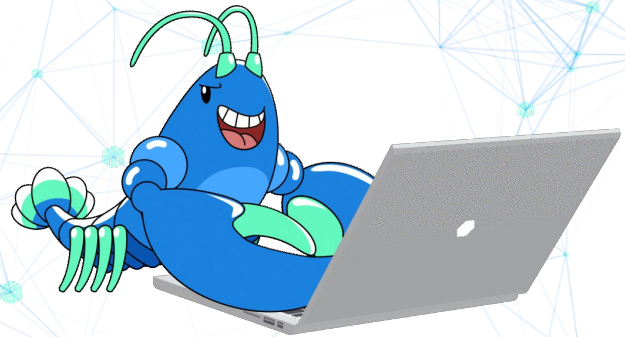
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Up Next on May 16

Linkerd outside of Kubernetes: the Easy Way

SIGN UP TODAY!
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Q&A



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Thanks much!



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