



Top new CNCF projects to look  
out for

What will you learn in  
this talk?

# Who am I?

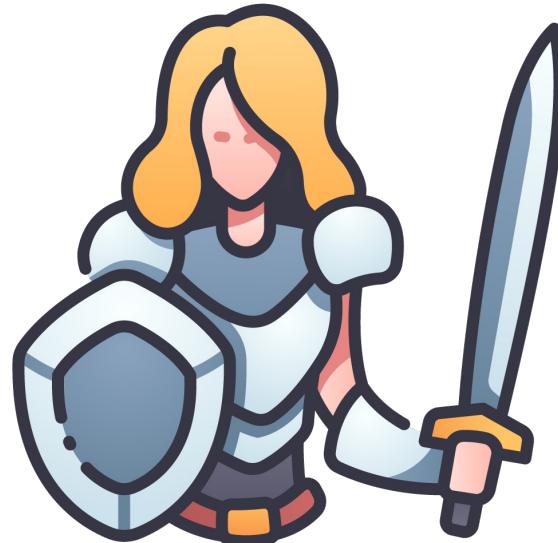
@AnnieTalvasto  
CMO at VSHN

- CNCF Ambassador
- Azure MVP
  
- Kubernetes & CNCF meetup co-organizer
- Startup-coach
- Co-host of Cloudgossip podcast - [cloudgossip.net](http://cloudgossip.net)



# Agenda

- Introduction
- Considerations
- Projects
- Wrap up



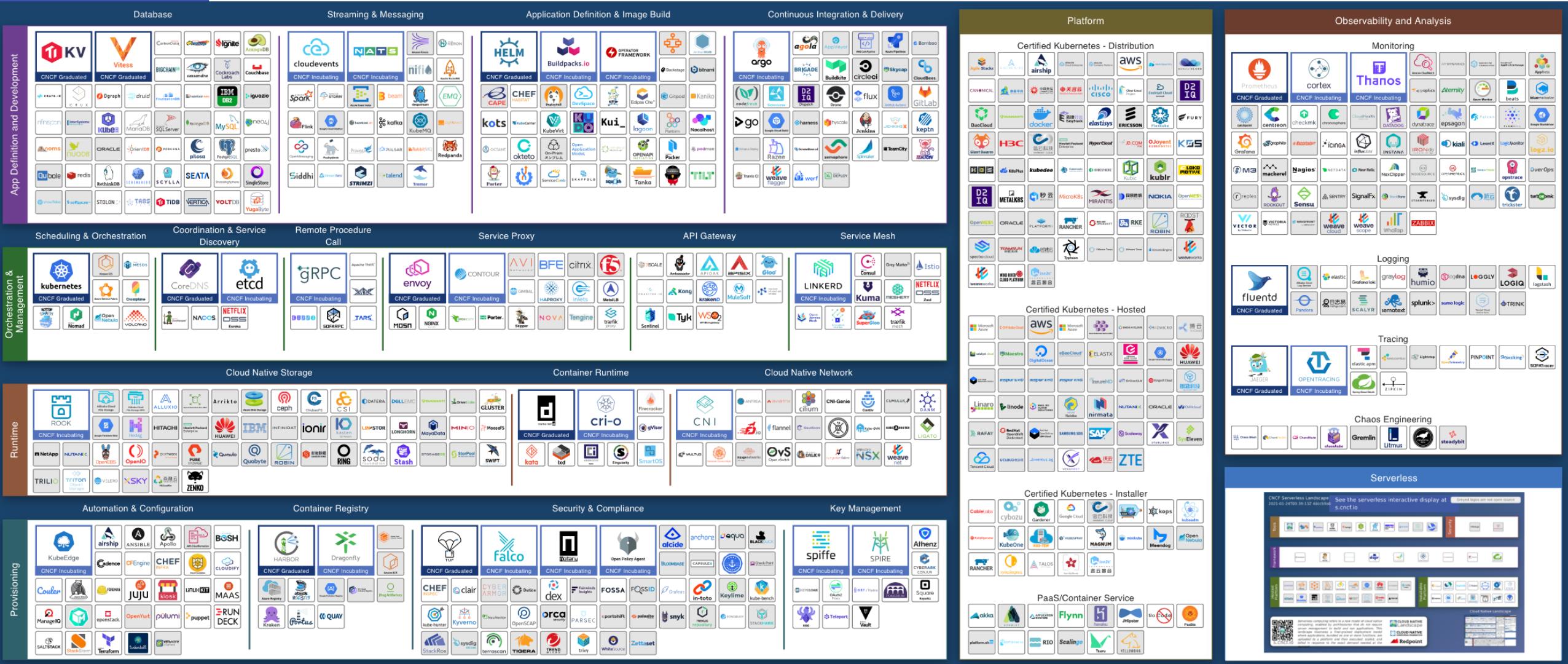


# CLOUD NATIVE COMPUTING FOUNDATION

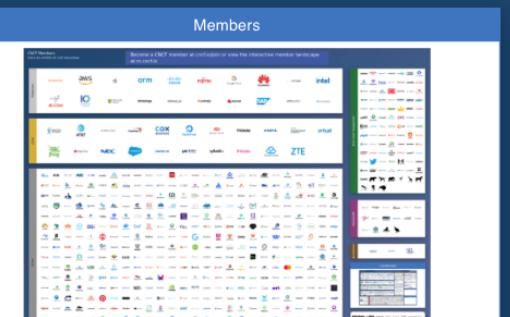
Building sustainable ecosystems  
for cloud native software.



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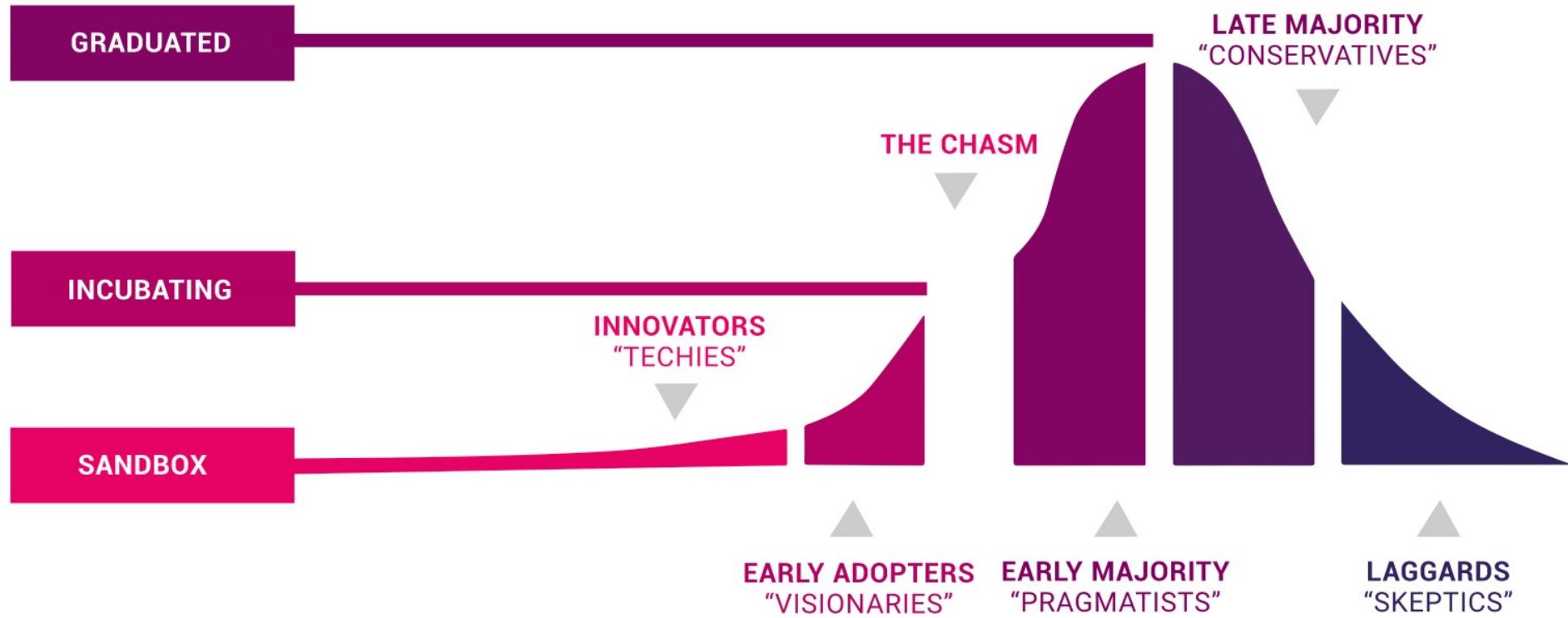


This landscape is intended as a map through the previously uncharted terrain of cloud native technologies. There are many routes to deploying a cloud native application, with CNCF Projects representing a particularly well-traveled path.



# Project levels

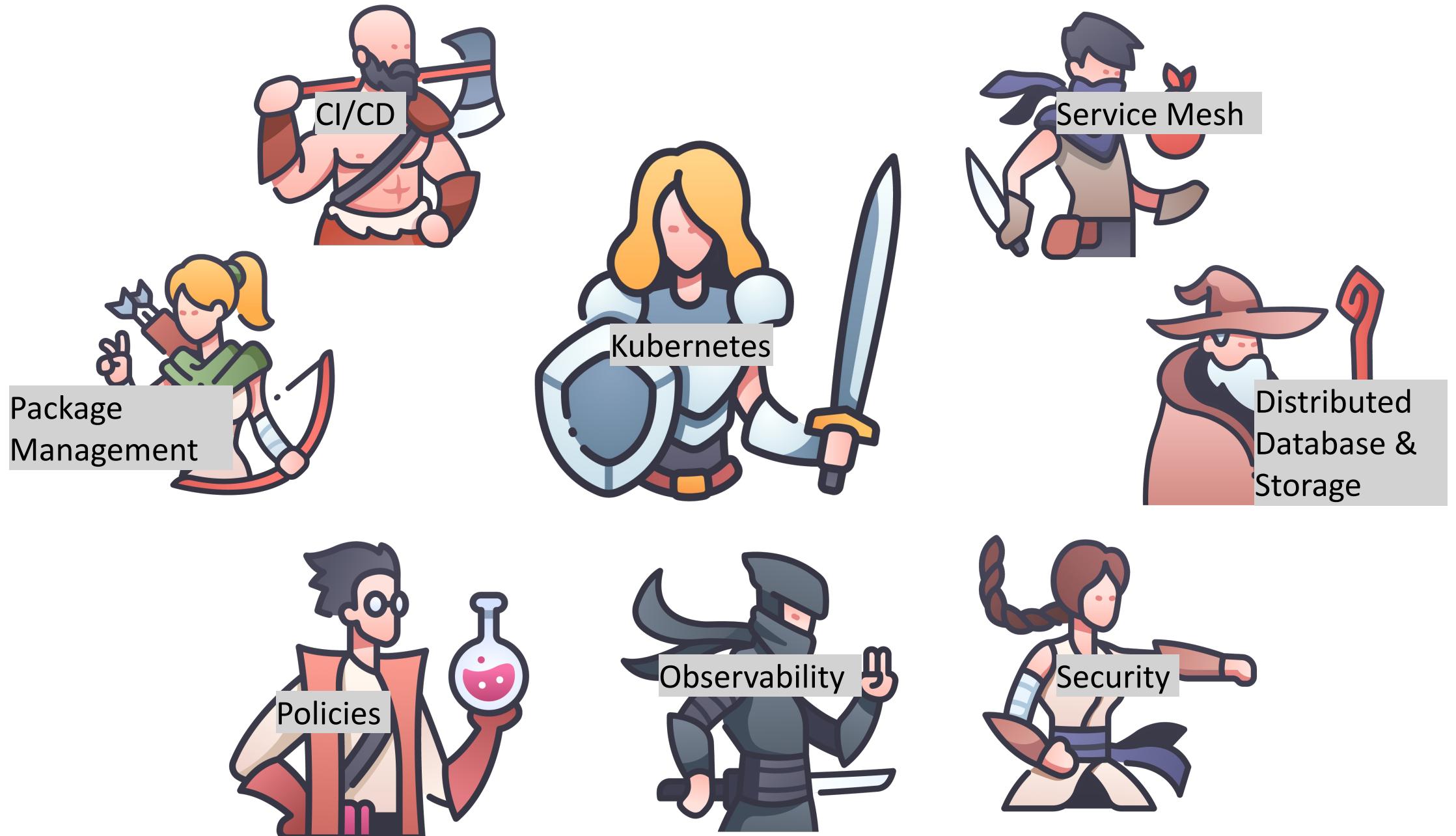




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I cannot predict  
the future,  
unfortunately





# Considerations

- Think about the ideal platform
- Design the platform
- Design the delivery process
- Find the right Kubernetes features and addons





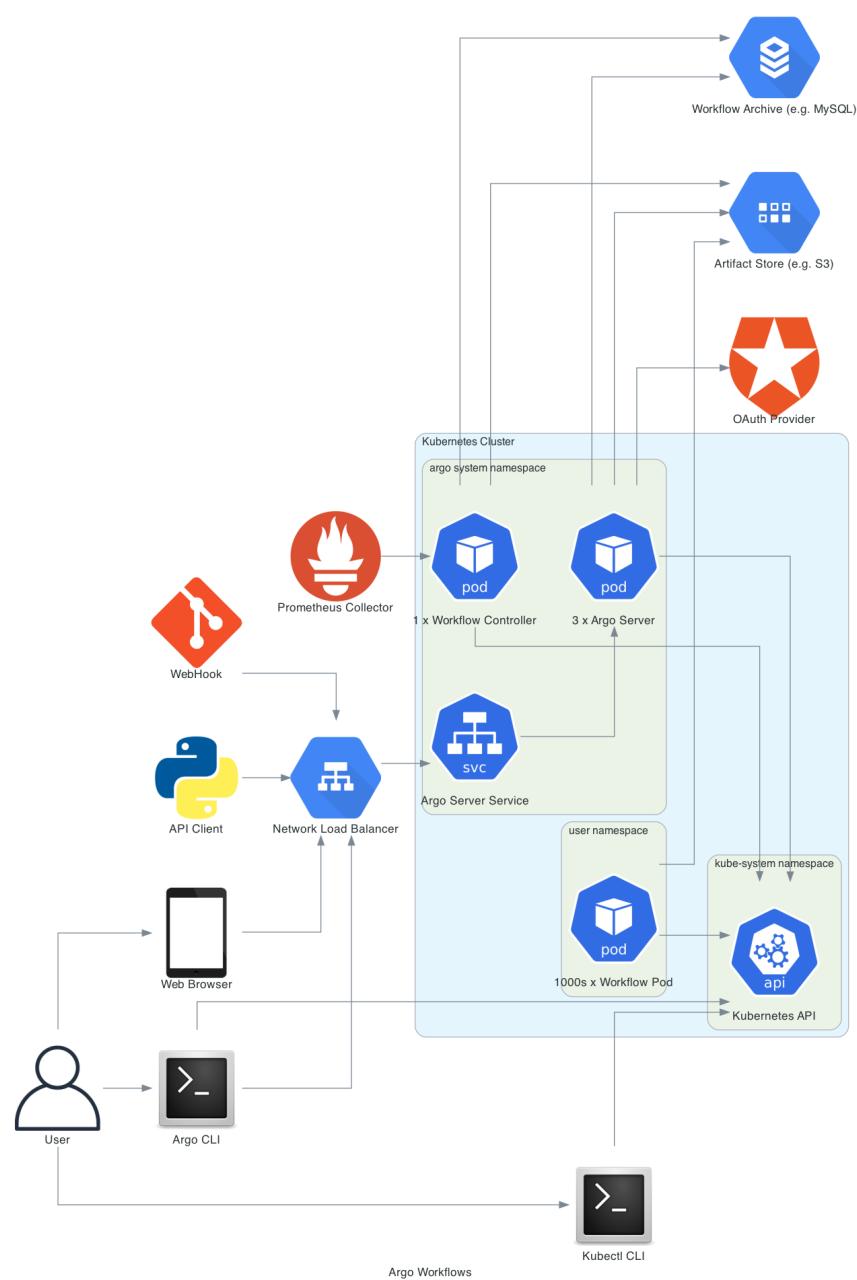
# Argo

Get work done with Kubernetes



# What is Argo?

- Argo Workflows
- Argo CD
- Argo Rollouts
- Argo Events



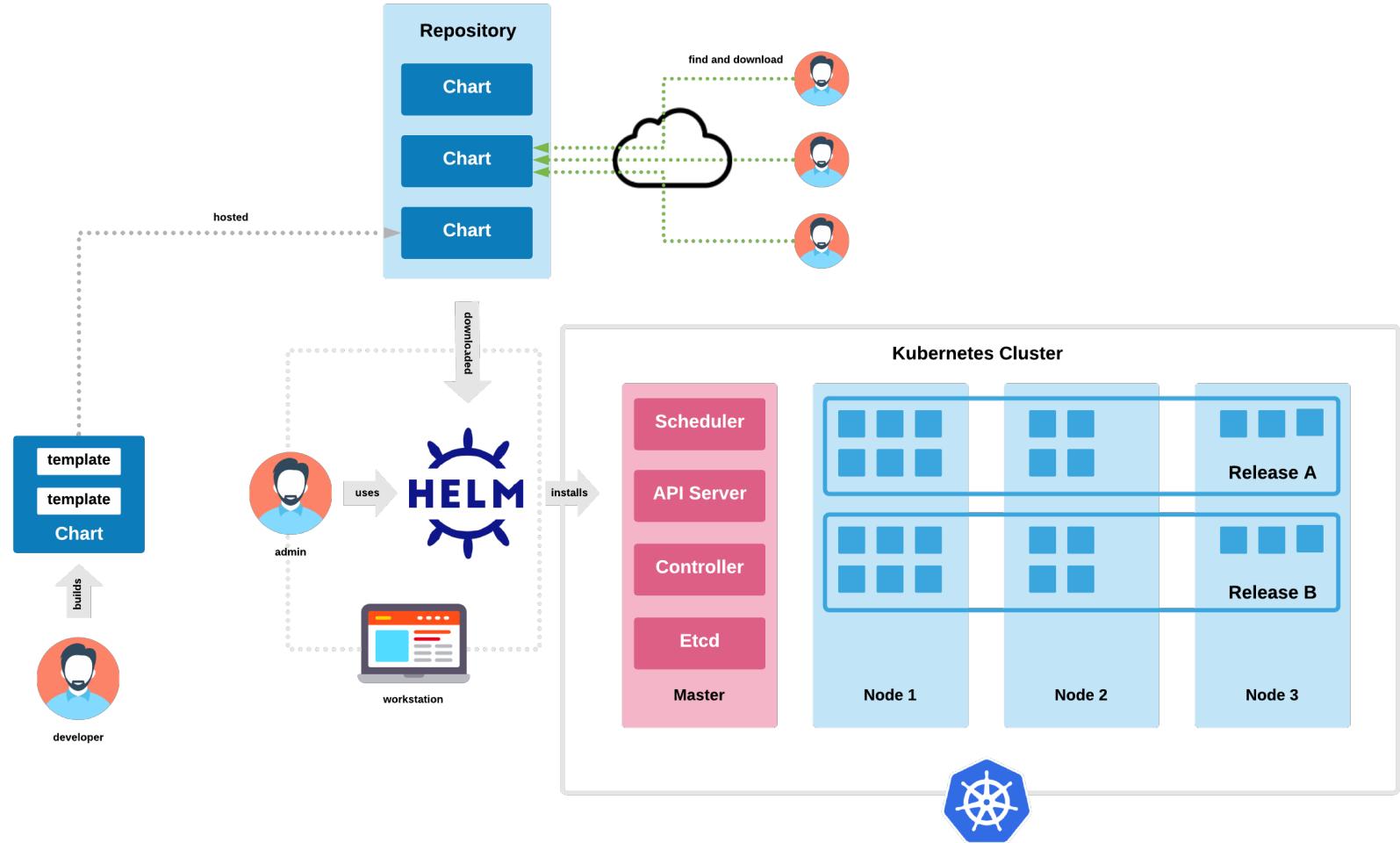
# Helm

The package manager for  
Kubernetes.



# What is Helm?

- Manage complexity
- Easy updates
- Simple sharing
- Rollbacks



Source: <https://cloudacademy.com/course/introduction-to-helm-1034/helm-architecture/>

# Linkerd

Power your metrics and alerting with the leading open-source monitoring solution.

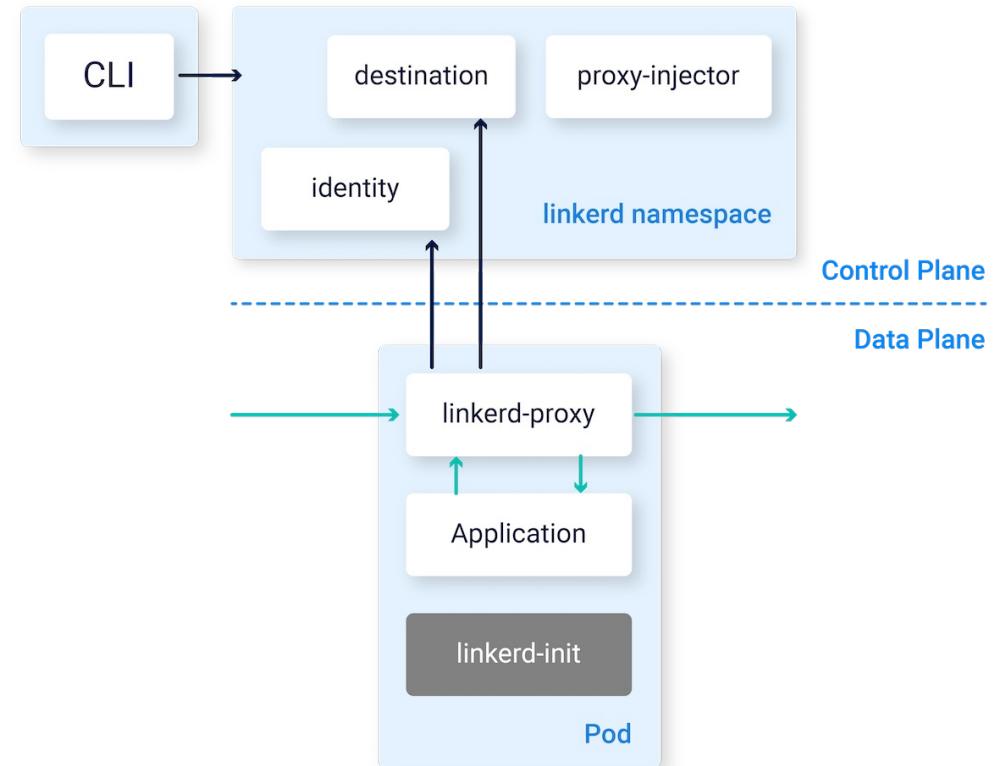


# LINKERD

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# What is Linkerd?

- Thriving open source community
- Simple, minimalist design
- Deep Runtime Diagnostics
- Ultralight and ultra fast
- Installs in seconds with zero config
- Actionable service metrics



Source: <https://linkerd.io/2.14/reference/architecture/>

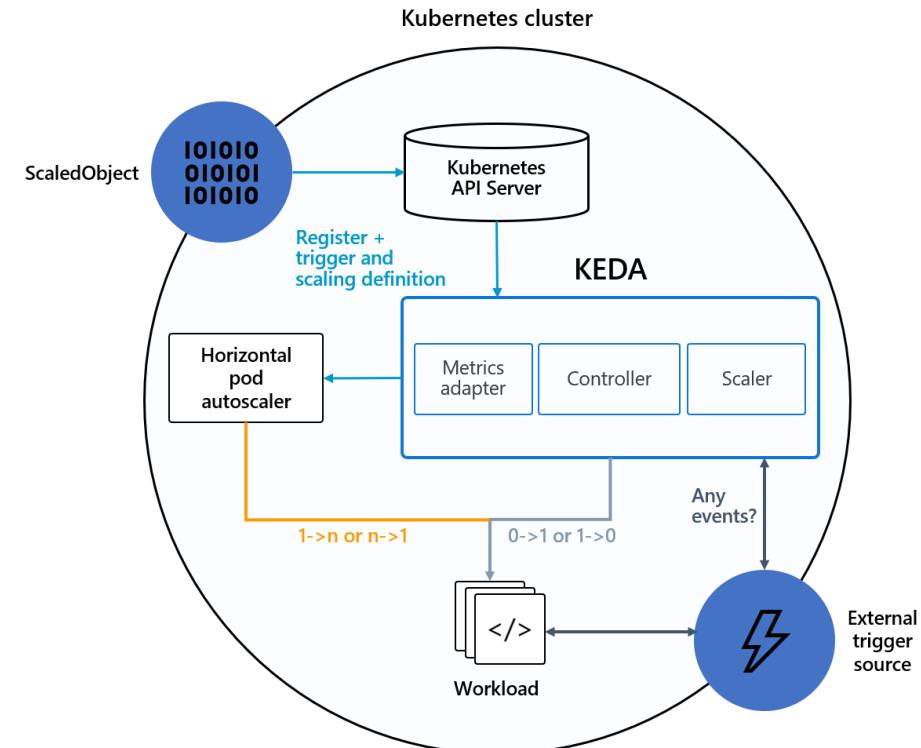
# Keda

Kubernetes Event-driven  
Autoscaling. Application  
autoscaling made simple.



# What is Keda?

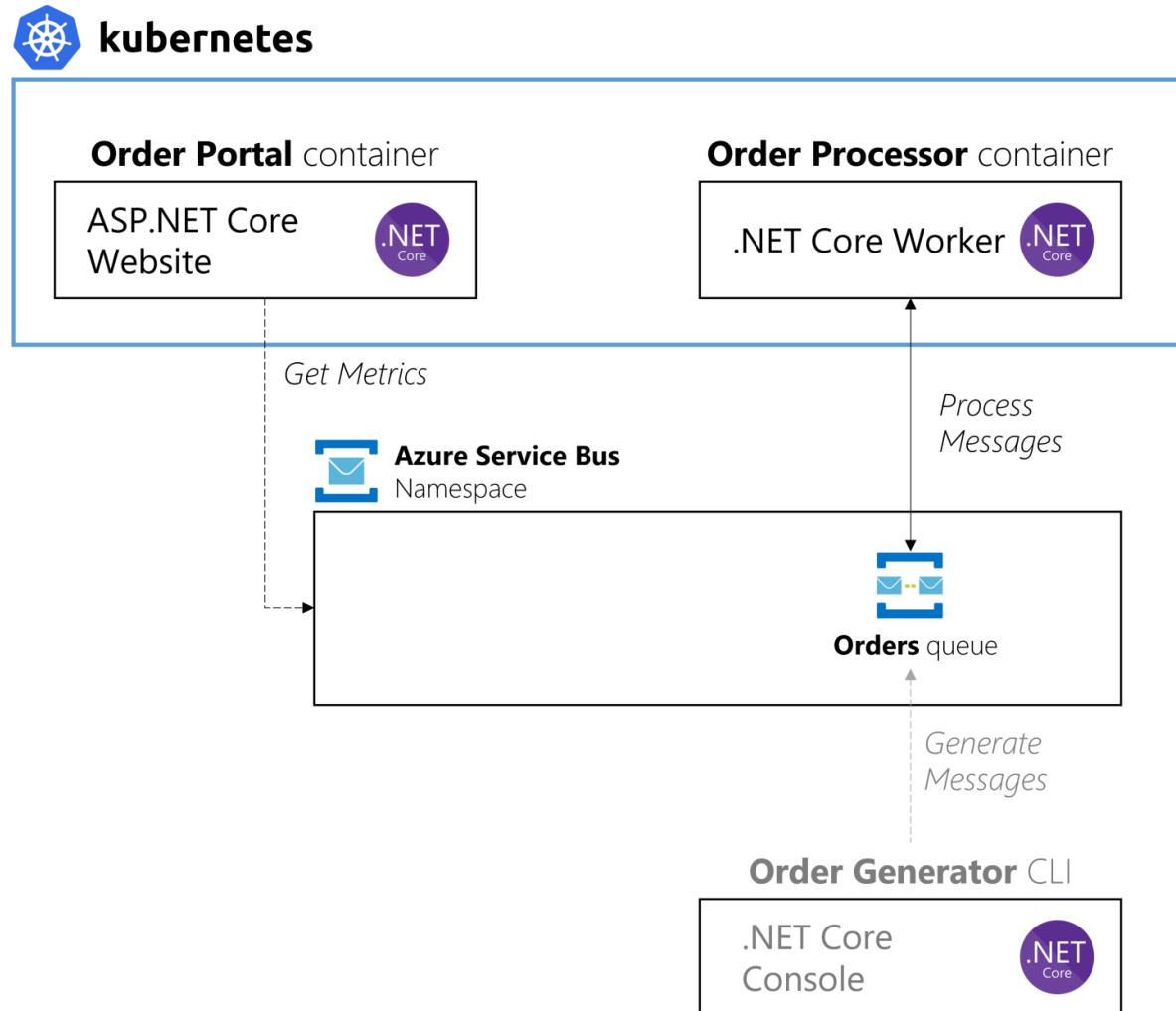
- Default Kubernetes Scaling is not well suited for event driven applications, kubernetes is more for resource based scaling (CPU and memory).
- Keda: Event driven scale controlling that can run inside any kubernetes cluster.



Source: <https://keda.sh/docs/2.10/concepts/>

# Demo

KEDA:  
Scaling .NET  
Core worker  
with Azure  
Service Bus



# Falco

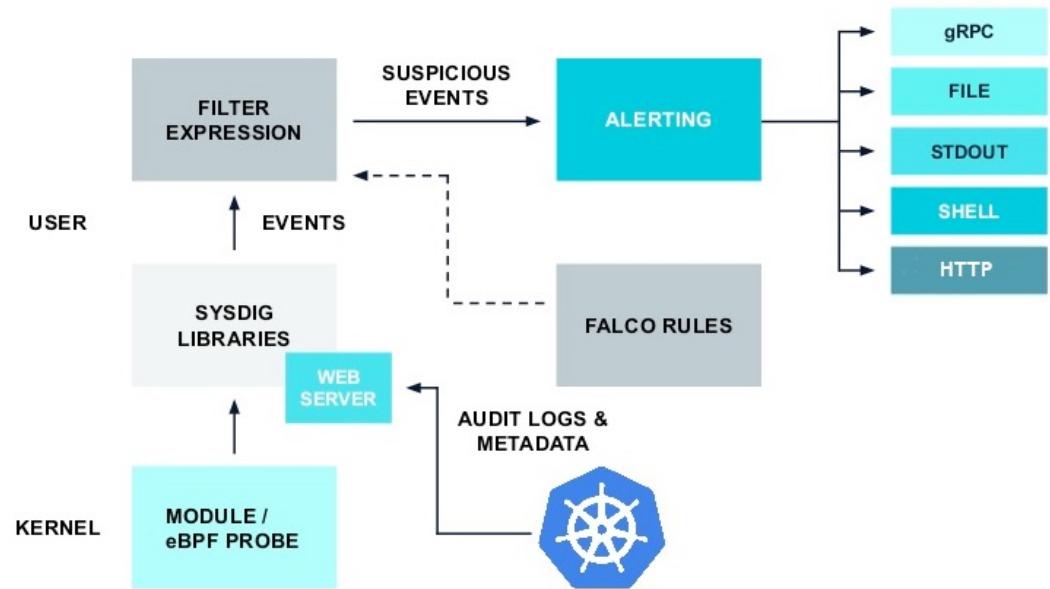
Falco, the cloud-native runtime security project, is the de facto Kubernetes threat detection engine



# What is Falco?

- Runtime security tool
- Uses system calls to secure and monitor a system
- Falco ships with a default set of rules that check the kernel for unusual behavior

## Falco extended architecture



Source: <https://falco.org/blog/extend-falco-outputs-with-falcosidekick/>

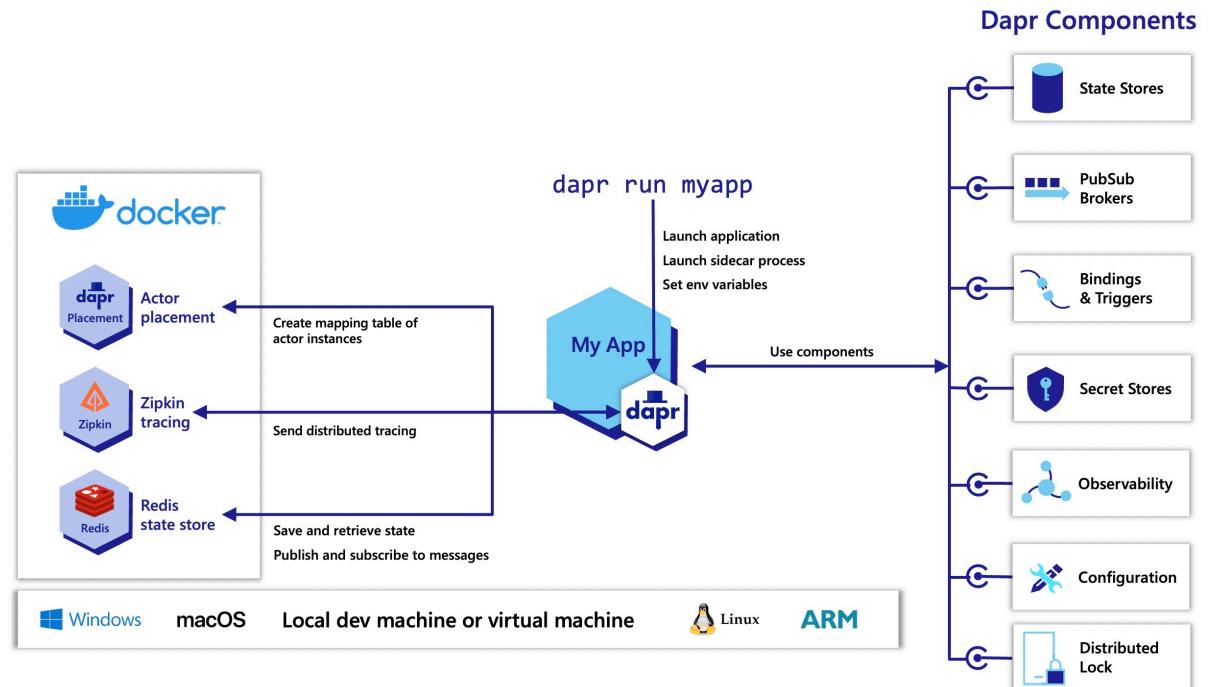
# Dapr

APIs for building portable and  
reliable microservices



# What is Dapr?

- State management
- Service Invocation
- Publish-Subscribe Messaging
- Bindings
- Secrets Management
- Observability, Security



Source: <https://docs.dapr.io/concepts/overview/>

# Backstage

An open platform for building  
developer portals

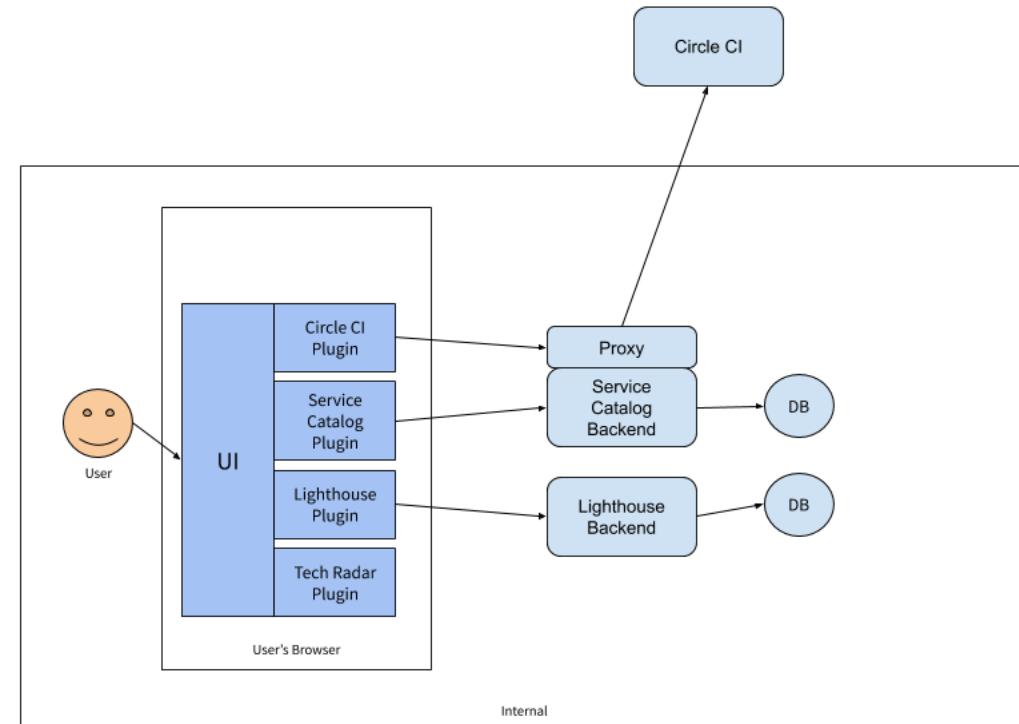


# Backstage

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# What is Backstage?

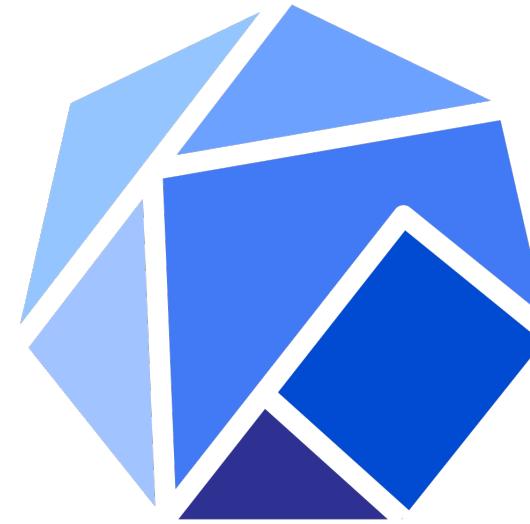
- Service Catalog
- Plugin System
- Visibility and Collaboration
- Developer Productivity
- Scalability
- Integration with CI/CD
- Community and Ecosystem



Source: <https://backstage.io/docs/overview/architecture-overview/>

# Kubeflow

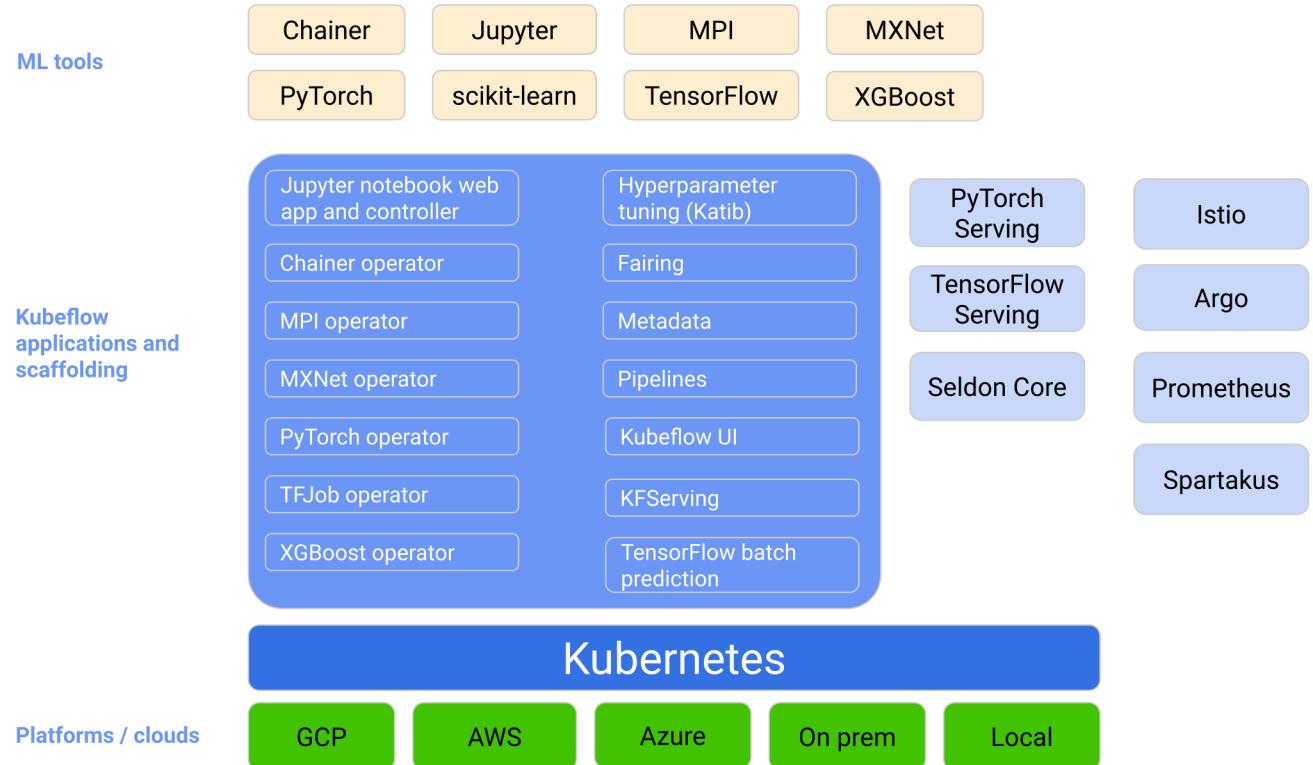
The machine learning  
toolkit for Kubernetes.



**Kubeflow**

# What is Kubeflow?

- End-to-End ML workflow
- Scalability and resource management
- Reproducibility and collaboration



Source: <https://www.kubeflow.org/docs/started/architecture/>

# wasmCloud

Build applications in any language  
and deploy them anywhere.

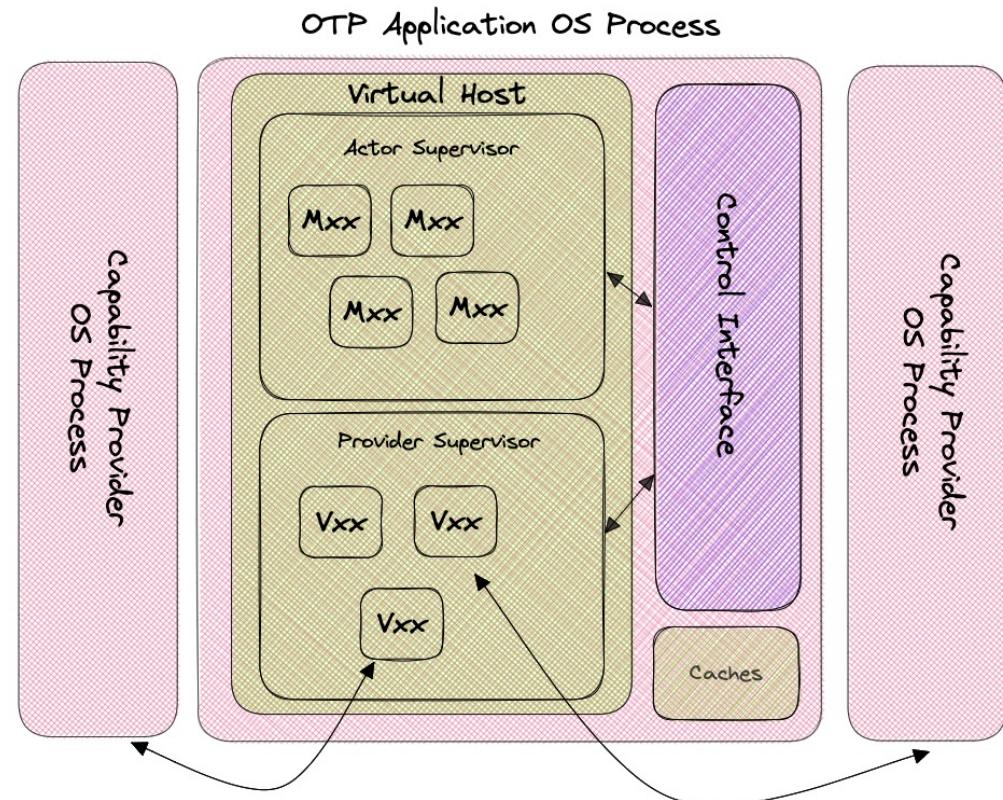


# wasmcloud

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# What is wasmCloud?

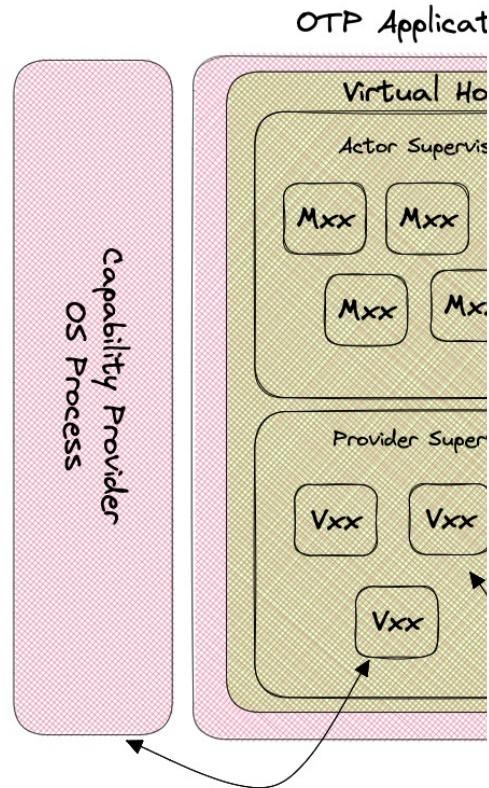
- Language agnostic
- Microservices and Serverless
- Capability Providers
- Security and Portability



Source: <https://wasmcloud.com/docs/hosts/elixir/architecture/>

# What is wasmCloud?

- Language agnostic
- Microservices and Serverless
- Capability Providers
- Security and Portability



Source: <https://wasmcloud.com>

## Filter By Type

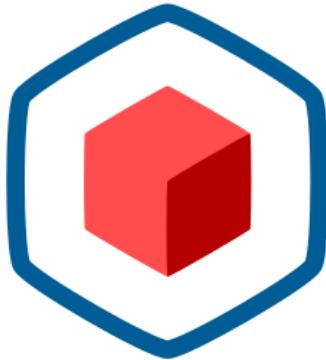
- AppDeveloperCon
- ArgoCon
- BackstageCon
- CiliumCon
- Cloud Native Telco Day
- Cloud Native Wasm Day
- Data on Kubernetes Day
- DBaaS DevDay
- EnvoyCon
- Event Reception
- Istio Day
- Kubernetes AI + HPC Day
- Kubernetes on Edge Day
- Multi-TenancyCon
- Observability Day

Content Experience Level

e/

# Confidential Containers

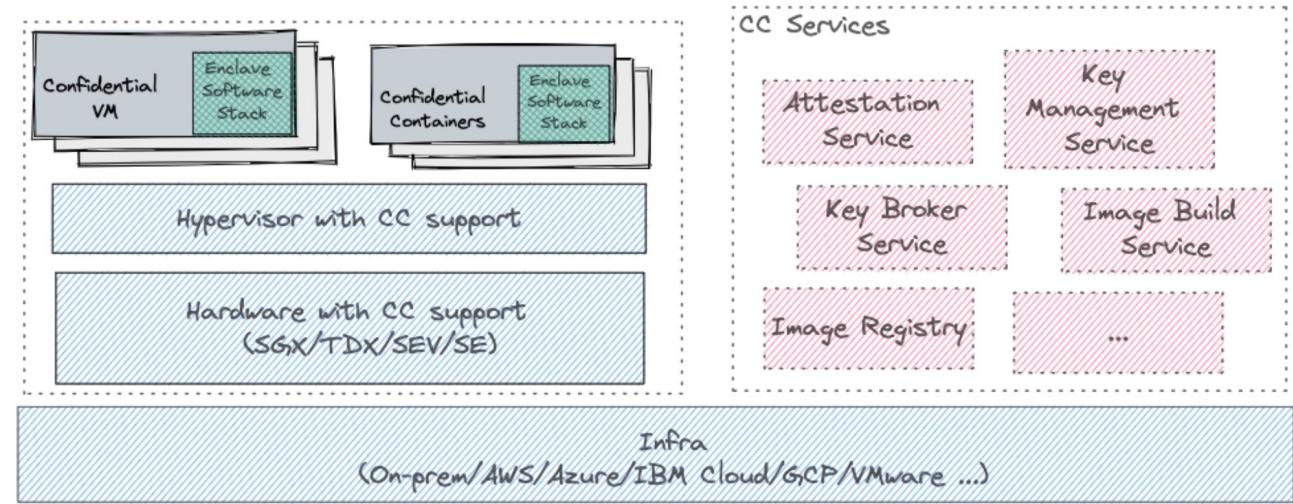
Open source community  
working to enable cloud  
native confidential  
computing



# CONFIDENTIAL CONTAINERS

# What is Confidential Containers?

- Data Encryption
- Isolation
- Secure Key Management
- Confidential Computing
- Compliance and regulation
- Secure Multi-tenancy
- Security
- Performance



Source: <https://github.com/confidential-containers/confidential-containers/blob/main/architecture.md/>

# k8up

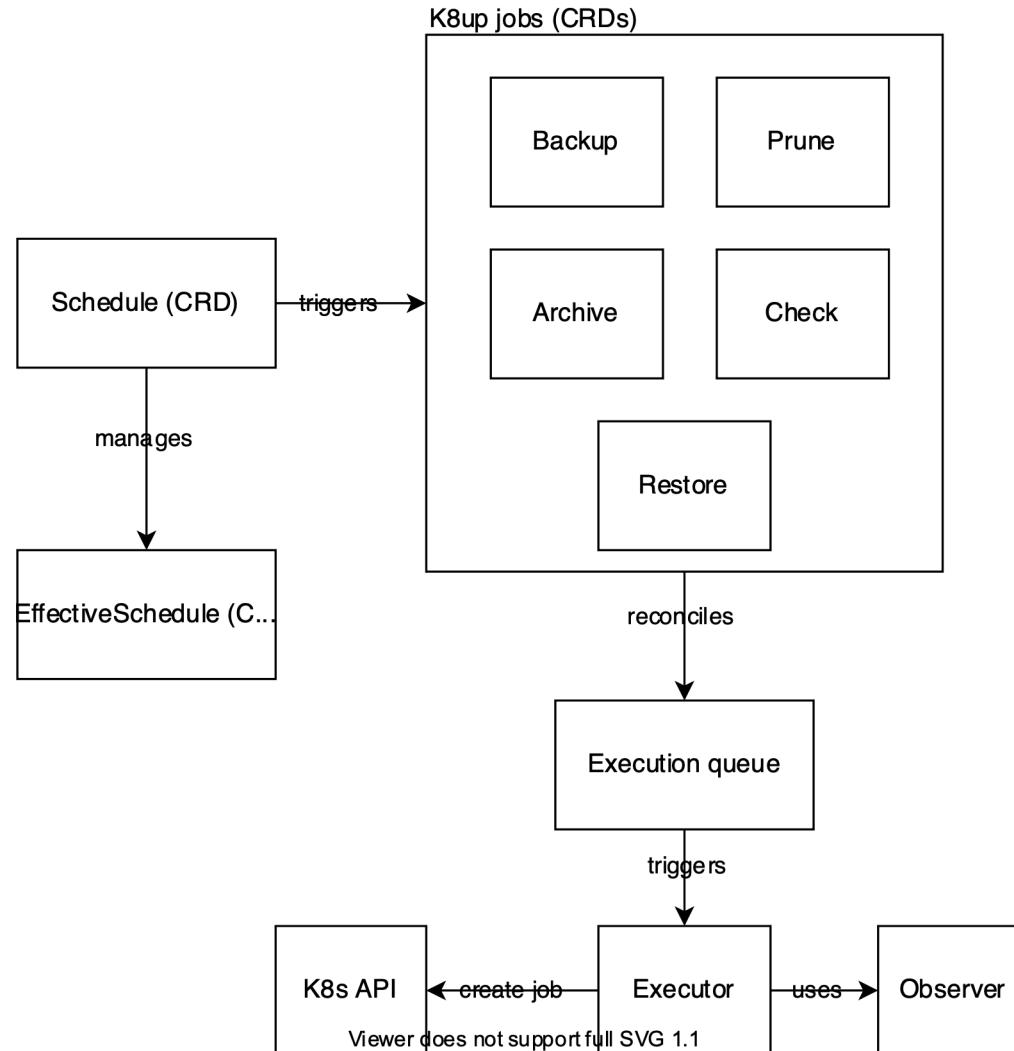
Kubernetes Backup  
Operator



# k8up

# What is k8up?

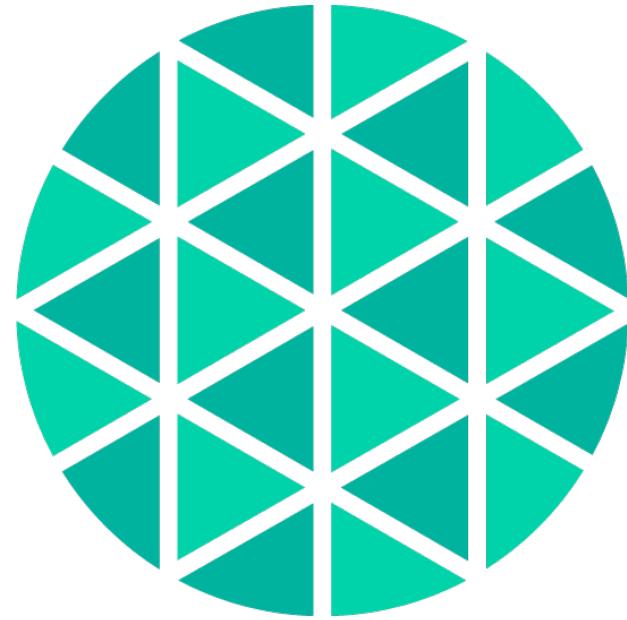
- Simplified backup process
- Application-aware backups
- Scheduled backup and pruning



Source: <https://k8up.io/k8up/1.2/explanations/architecture.html>

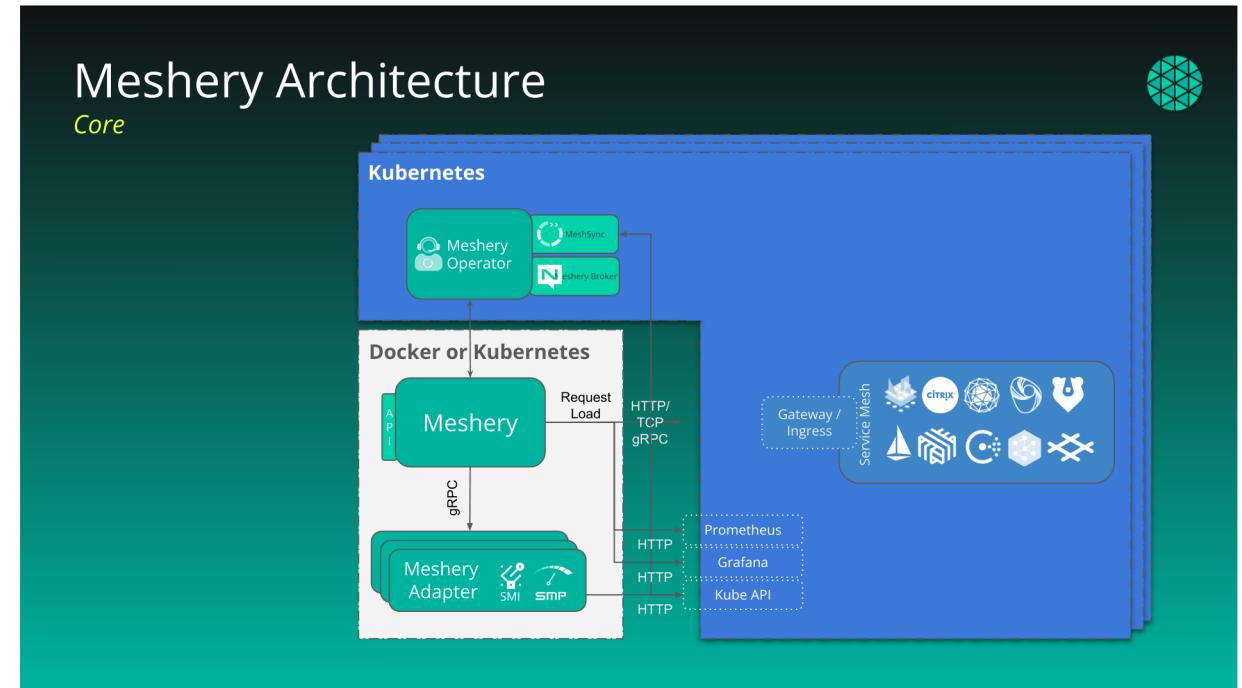
# Meshery

The extensible Kubernetes manager

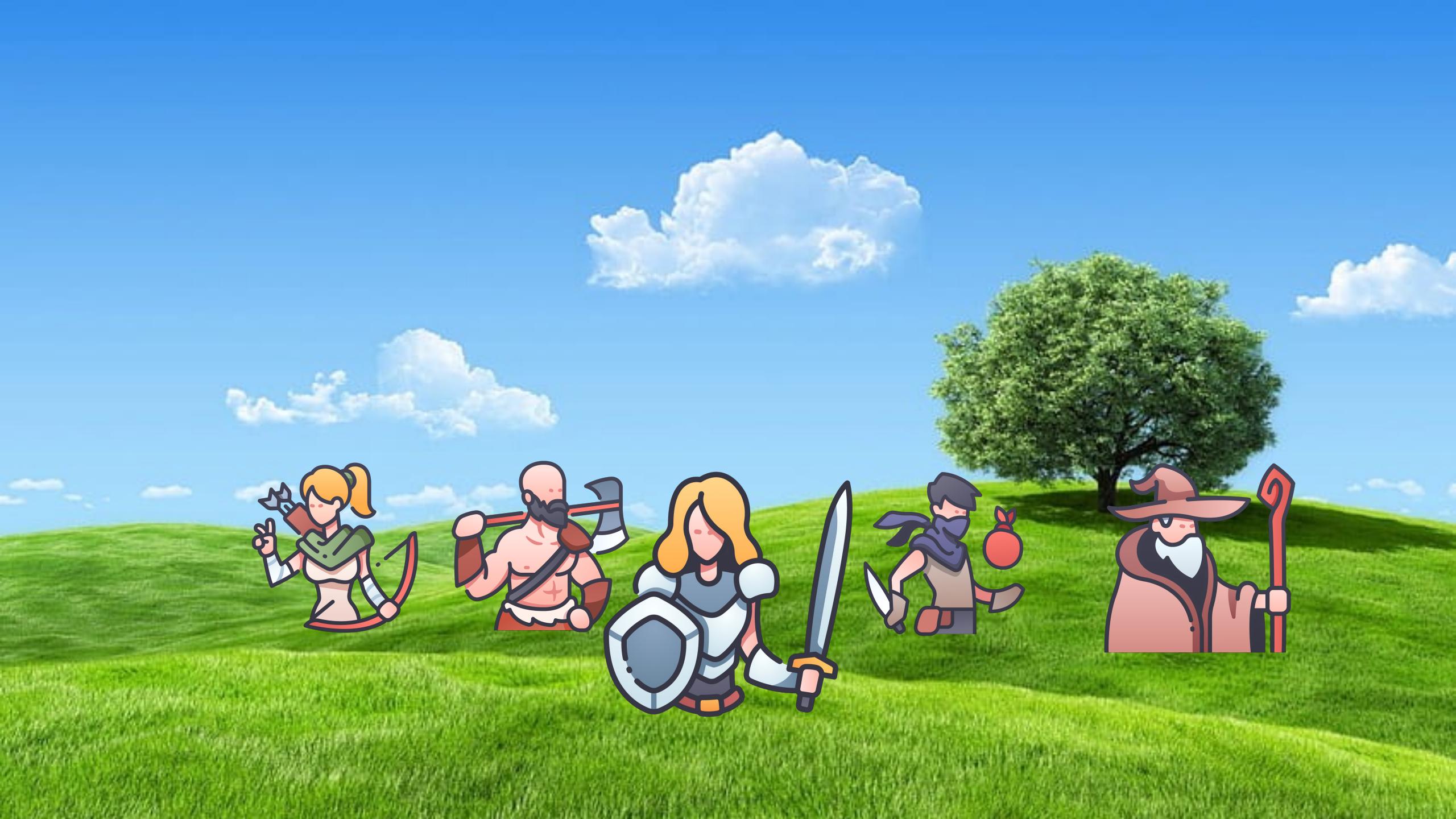


# What is Meshery?

- Cloud Native Performance Management
- Configuration Management
- Lifecycle Management
- Data plane intelligence
- Cloud Native Interoperability

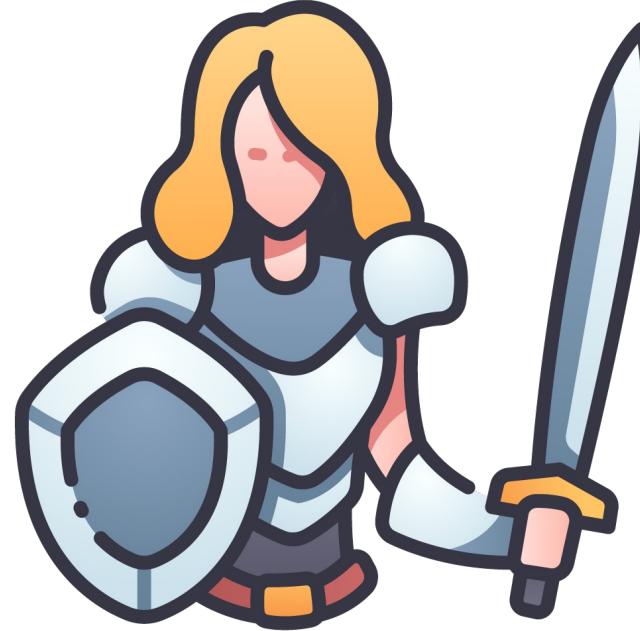


Source: <https://docs.meshery.io/concepts/architecture>



# Wrap up

- Argo
- Helm
- Prometheus
- Linkerd
- Falco
- Vitess
- Container d
- TUF
- Keda
- K8up
- Kubeflow
- Lens & k9s



# Learn more

Links and slides: [github.com/annietalvasto](https://github.com/annietalvasto)

CNCF landscape: <https://landscape.cncf.io>

CNCF Trail map:

<https://github.com/cncf/trailmap>

CNCF End User Technology Radar:

<https://radar.cncf.io>

CNCF annual survey

Session: Kubernetes in 2023

- <https://youtu.be/kGrpLKNi4ZI?si=Uk5um0j2awMnjlQd>

## Projects

Helm

Keda

Argo

Linkerd

Dapr

K8up

Falco

Kubeflow

Confidential containers

Meshery

wasmCloud

Backstage

[BACK TO EPISODES](#)

# Adventures in open source with Tom Kerkhove

JANUARY 14TH, 2021 | 46:06 | S2:E4

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## EPISODE SUMMARY

Today's guest on Cloud Gossip is Tom Kerkhove!

Tom works as an Azure Architect at Codit, he's a Github Star, CNCF Ambassador, Azure MVP and he's active as maintainer of Promitor and Keda.

Tom is going to talk to us about how the world of Open-Source projects works, the importance of supporting them, and his personal experience as a maintainer.

## EPISODE NOTES

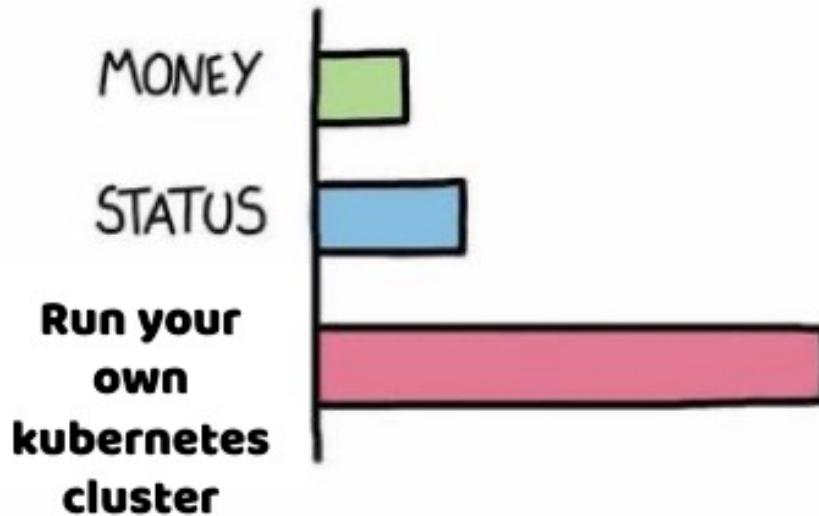
We're going to learn about KEDA and CNCF Sandbox projects, what they are and how they work, and learn about some of Tom's insights in the industry.

He's going to talk about how GitHub is helping the world of Open Source projects and how he uses the platform to engage with the users.



## WHAT GIVES PEOPLE FEELINGS OF POWER

Thank you!



@iannotanartist...

@AnnieTalvasto