TRACK 03 - SESSION 0x

Introdction to CNCF world with Kubernetes

An introduciton to CNCF and demo using few CNCF graduated projects

ANSIL H

LEAD SRE @ CISCO

CNCF

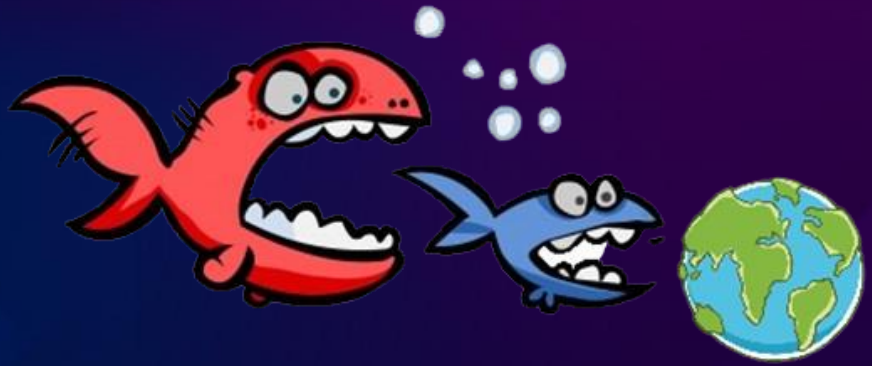
From https://www.cncf.io/

“CNCF is the open source, vendor-neutral hub of cloud native computing, hosting projects like Kubernetes and Prometheus to make cloud native universal and sustainable.”

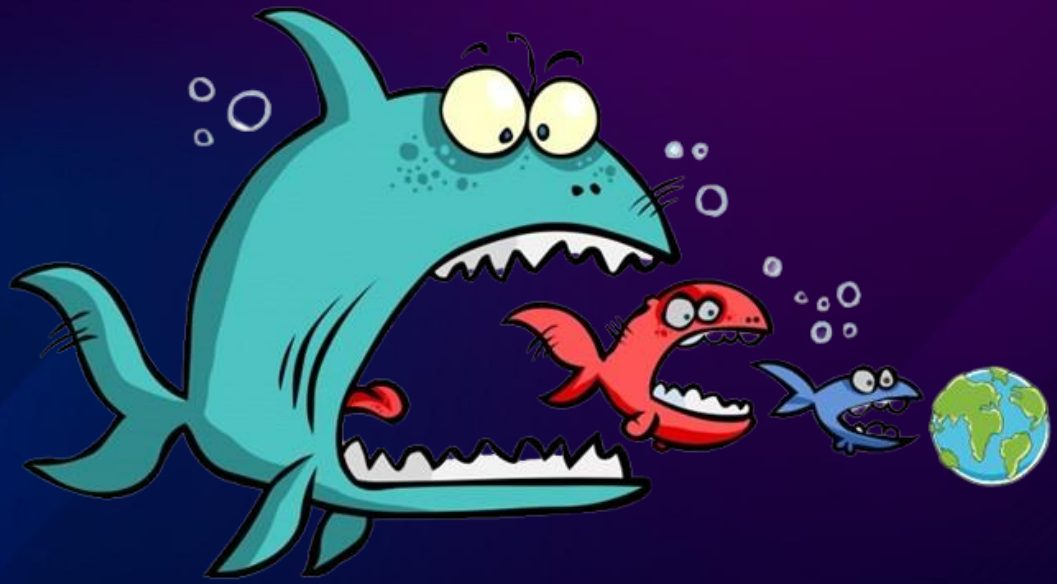
“As part of the Linux Foundation, CNCF provide support, oversight and direction for fast-growing, cloud native projects, including Kubernetes, Envoy, and Prometheus.”

Software is eating the World

Opensource is eating the software



Cloud is eating the Opensource



What Industry wants

No more confusion

- Guidance and Clarity
- Quality
- A Common set of tools for cloud native apps

Cloud Native

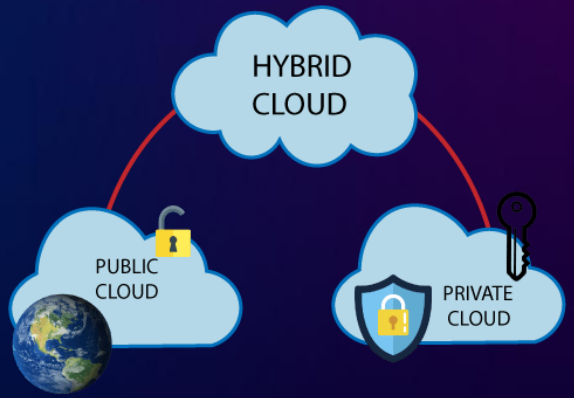
Software and Patterns for..

- Container based
- Microservice oriented
- Programmable infrastructure

Cloud Native

The “Cloud” in “Cloud Native” stands for all cloud providers, including Private , Public and Hybrid Cloud

The term “Native” means, “..designed for or built into..”



CNCF Cloud Native Definition v1.0

https://github.com/cncf/toc/blob/main/DEFINITION.md

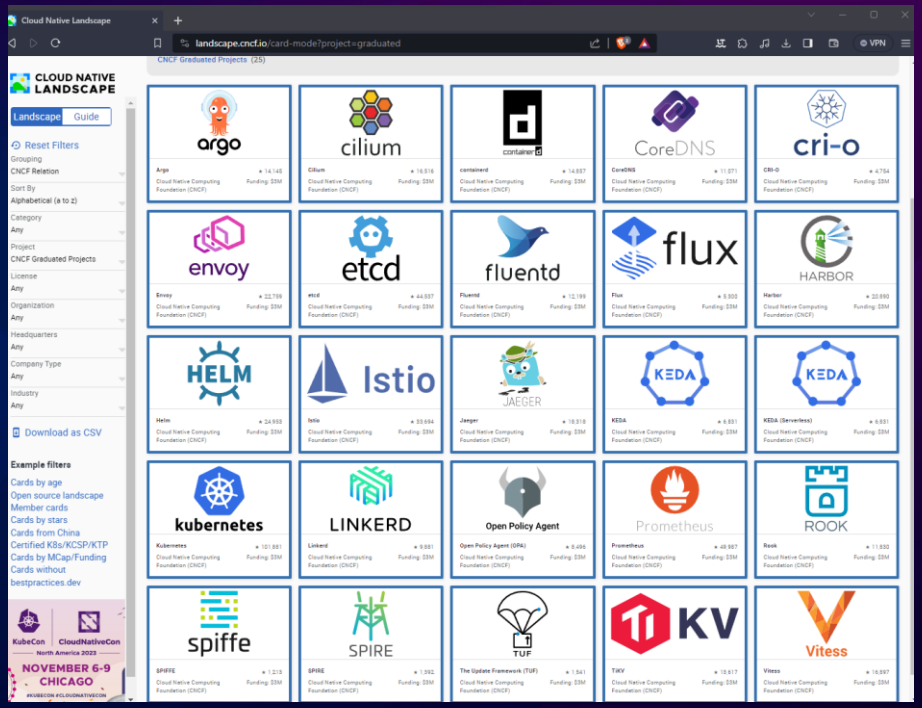
Cloud native technologies empower organizations to build and run scalable applications in modern, dynamic environments such as public, private, and hybrid clouds. Containers, service meshes, microservices, immutable infrastructure, and declarative APIs exemplify this approach.

These techniques enable loosely coupled systems that are resilient, manageable, and observable. Combined with robust automation, they allow engineers to make high-impact changes frequently and predictably with minimal toil.

The Cloud Native Computing Foundation seeks to drive adoption of this paradigm by fostering and sustaining an ecosystem of open source, vendor-neutral projects. We democratize state-of-the-art patterns to make these innovations accessible for everyone.

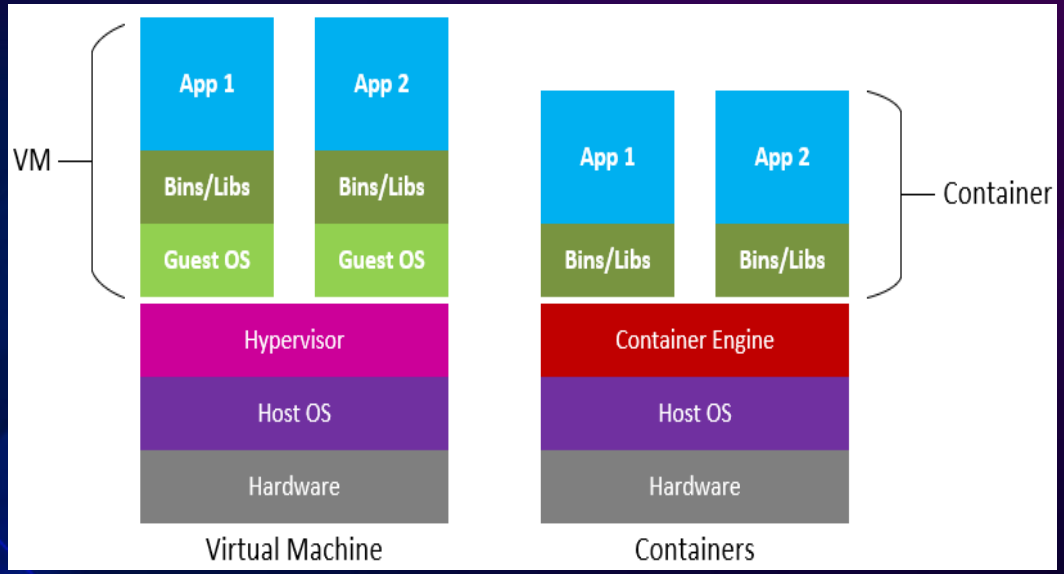
CNCF landscape

https://landscape.cncf.io/card-mode?project=graduated



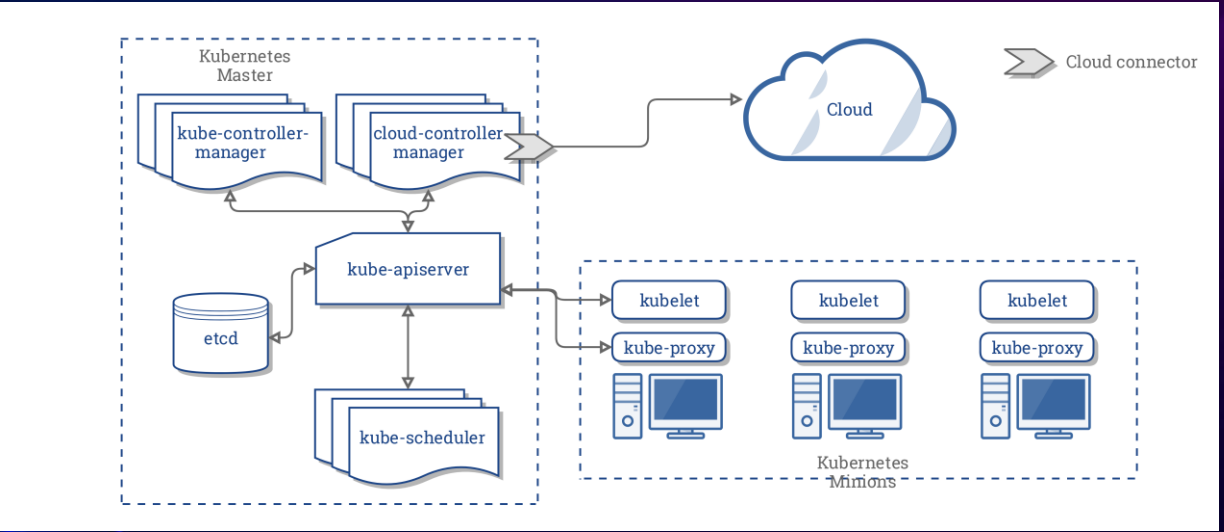
Containerd

An open and reliable container runtime



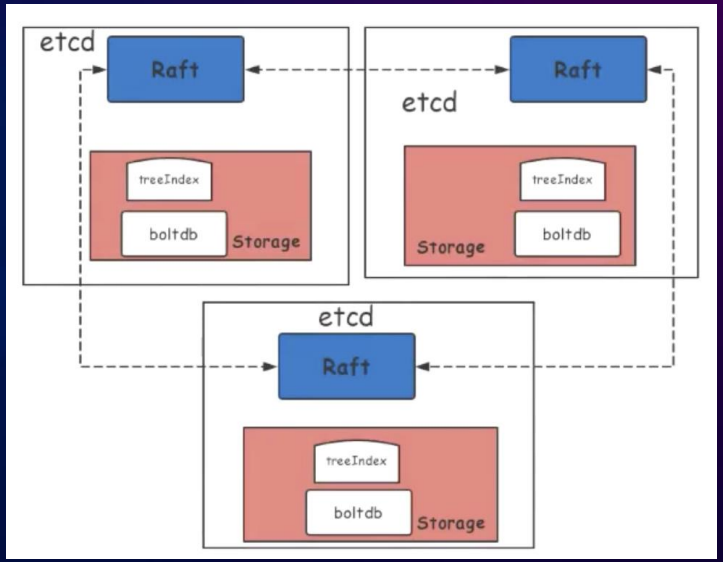
Kubernetes

Kubernetes is an open-source system for automating deployment, scaling, and management of containerized applications



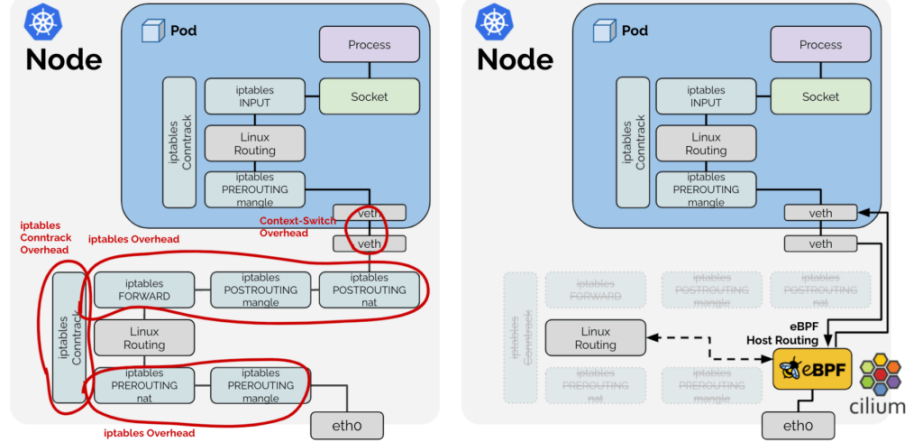
Etcd

Distributed reliable key-value store for the most critical data of a distributed system



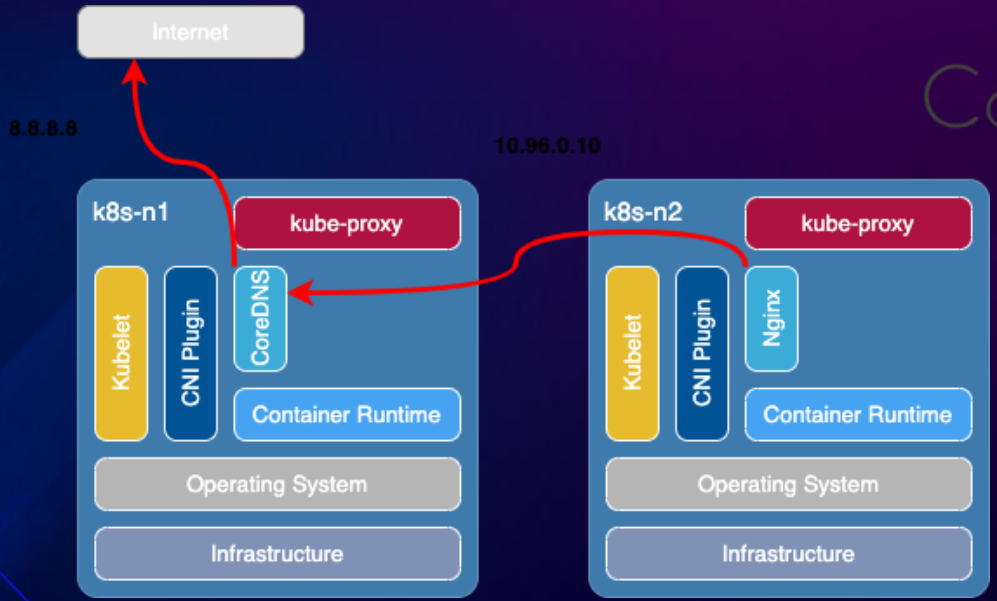
Cilium

eBPF-based Networking, Security, and Observability



CoreDNS

CoreDNS is a DNS server that chains plugins



Helm

The Kubernetes Package Manager

Demo

Thank you