



CLOUD NATIVE
COMPUTING FOUNDATION

CNCF

COIMBATORE

MeetUp



21 SEPT 2024



9.30 AM - 12.30 PM



CLOUD NATIVE
COMMUNITY GROUPS
COIMBATORE



Agenda

- What is CNCF?
- Platform Engineering with Backstage & Crossplane
- Scaling without limits - The serverless way
- Implementing Delivery strategies with ArgoCD & K8s
- Open forum & Networking

CNCF Cloud Native Definition

Cloud native practices empower organizations to develop, build, and deploy workloads in computing environments (public, private, hybrid cloud) to meet their organizational needs at scale in a programmatic and repeatable manner.

It is characterized by loosely coupled systems that interoperate in a manner that is secure, resilient, manageable, sustainable, and observable.

Cloud native technologies and architectures typically consist of some combination of containers, service meshes, multi-tenancy, microservices, immutable infrastructure, serverless, and declarative APIs — this list is non-exhaustive.





Who is CNCF?

Founded in 2015, the CNCF hosts critical components of the global technology infrastructure. CNCF brings together the world's top developers, end users, and vendors and runs the largest open source developer conferences.

From Virtualization to Cloud Native

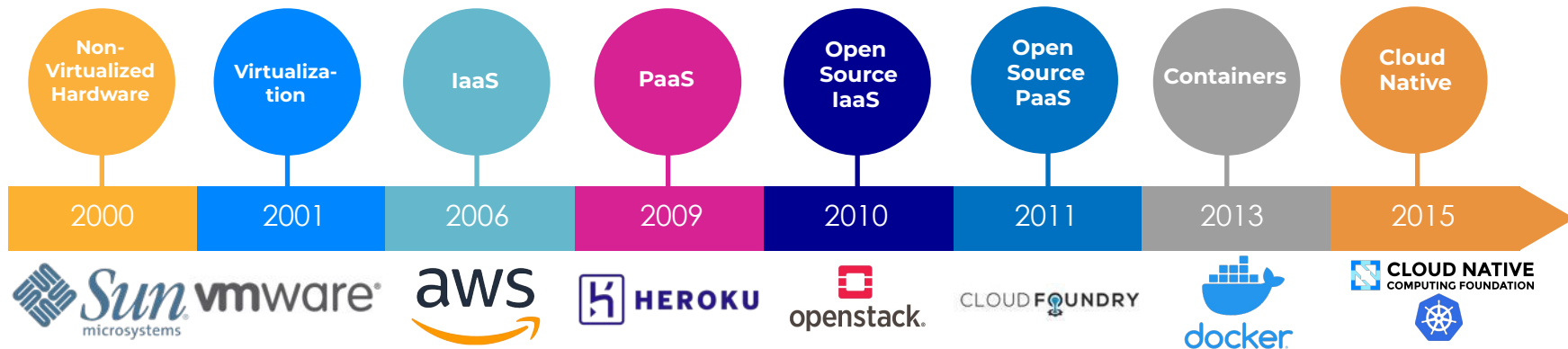


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kubernetes

- Cloud native computing uses an open source software stack to:
 - segment applications into *microservices*,
 - package each part into its own *container*
 - and dynamically *orchestrate* those containers to optimize resource utilization



CNCF is part of the Linux Foundation

The Linux Foundation is much more than Linux today



Security

We are helping global privacy and security through a program to encrypt the entire internet.



Networking

We are creating ecosystems around networking to improve agility in the evolving software-defined datacenter.



Cloud

We are creating a portability layer for the cloud, driving de facto standards and developing the orchestration layer for all clouds.



Automotive

We are creating the platform for infotainment in the auto industry that can be expanded into instrument clusters and telematics systems.



Blockchain

We are creating a permanent, secure distributed ledger that makes it easier to create cost-efficient, decentralized business networks.



Web

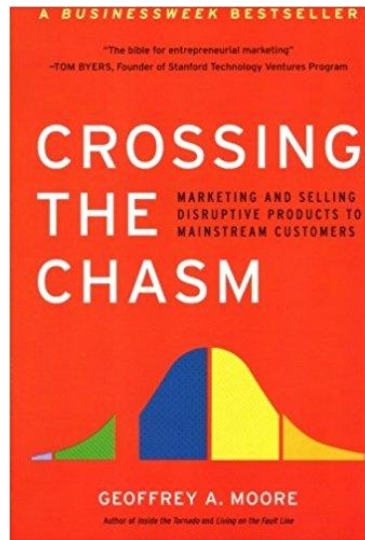
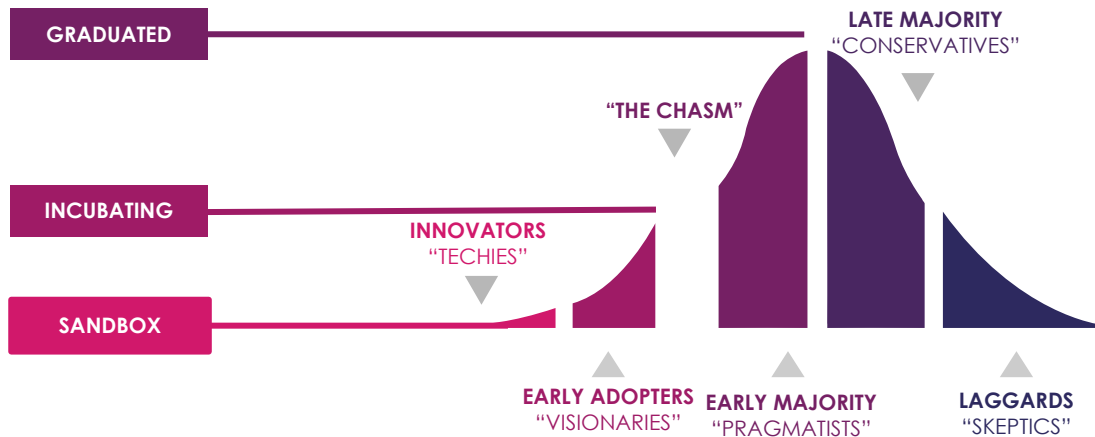
Node.js and other projects are the application development framework for next generation web, mobile, serverless, and IoT applications.



We are regularly adding projects; for the most up-to-date listing of all projects visit tldrprojects.org

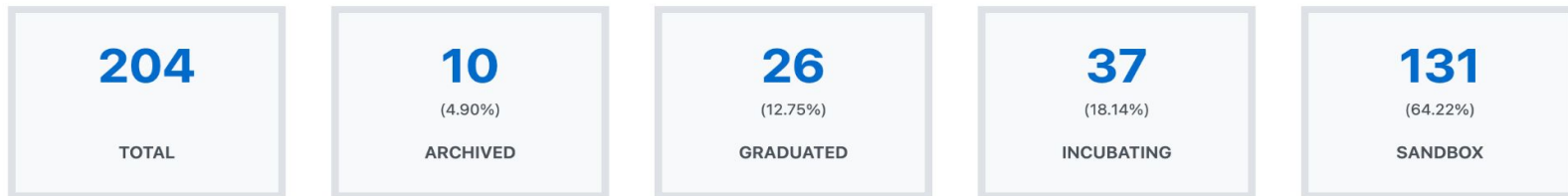


CNCF Project Maturities

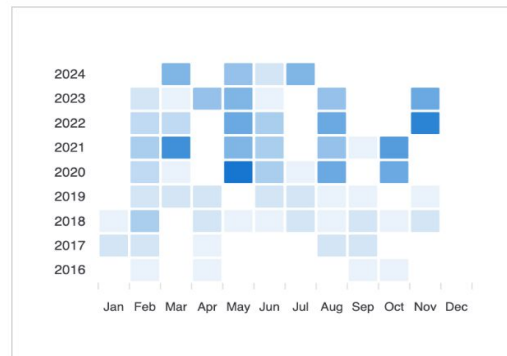
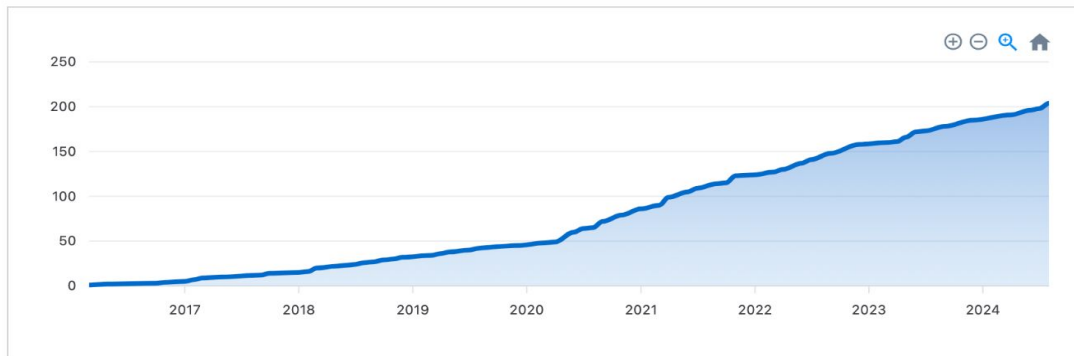


CNCF Project Statistics

Distribution by maturity



Accepted over time



Sandbox Projects



Incubating Projects



cortex



Crossplane



CubeFS



Dragonfly



EMISSARY INGRESS



in-toto



KARMADA



keptn



Knative



KubeEdge



KubeVirt



KubeVirt



Kyverno



LONGHORN



OpenKruise



OPERATOR FRAMEWORK



Graduated Projects



argo



cilium



cloudevents



containerd



CoreDNS



cri-o



envoy



etcd



fluentd



flux



HARBOR



HELM



Istio



JAEGER



KEDA



kubernetes



LINKERD



Open Policy Agent



Prometheus



ROOK



spiffe



SPIRE



TUF



Vitess

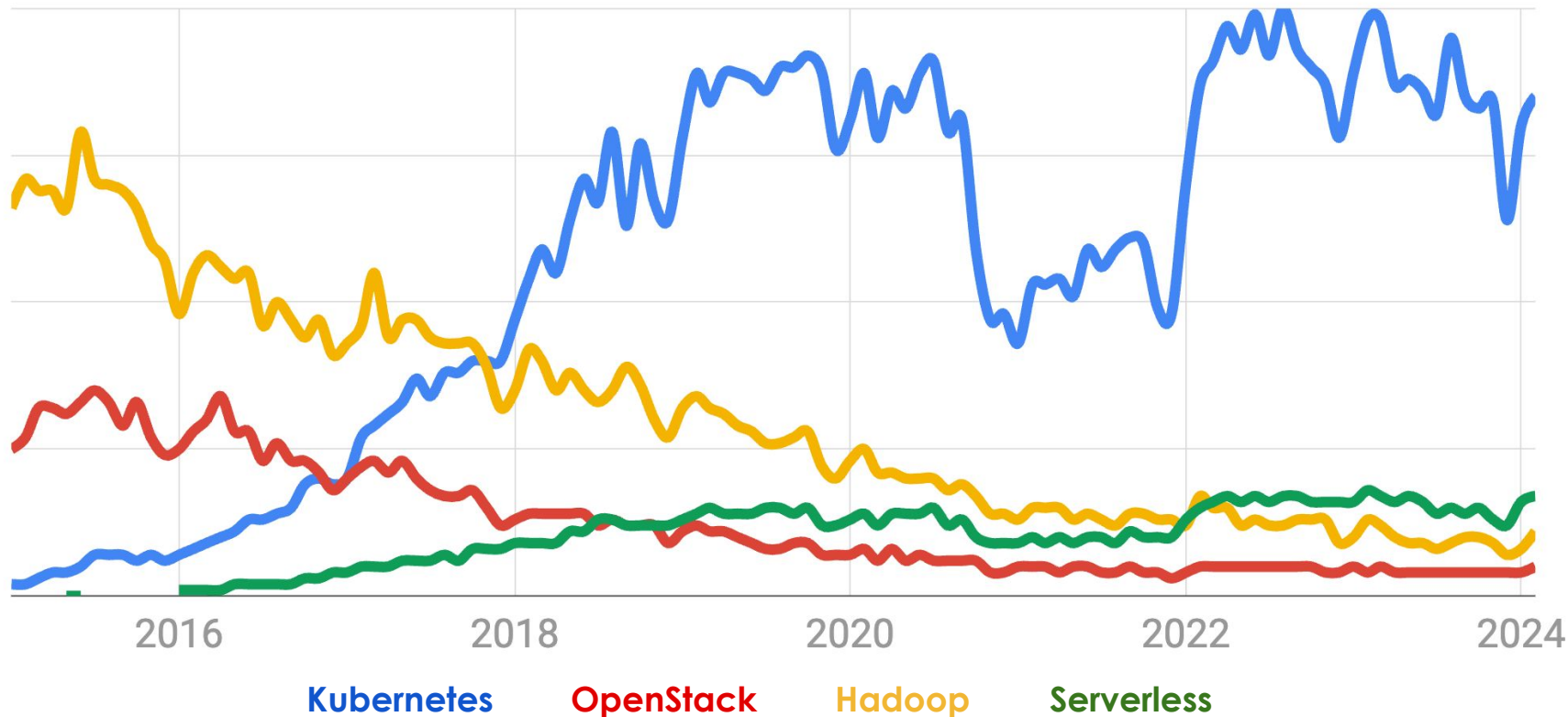


Why Organizations Are Adopting Cloud Native

1. Better **resource efficiency** lets you to run the same number of services on less servers
2. Improved **resiliency and availability**: despite failures of individual applications, machines, and even data centers
3. Cloud native allows **multi-cloud** (switching between public clouds or running on multiple ones) and **hybrid cloud** (moving workloads between your data center and the public cloud)
4. Cloud native infrastructure enables higher development velocity – improving your services faster – with lower risk



Kubernetes in Search Trends



Filters GROUP: Projects and products Members Certified partners and providers Serverless Wasm

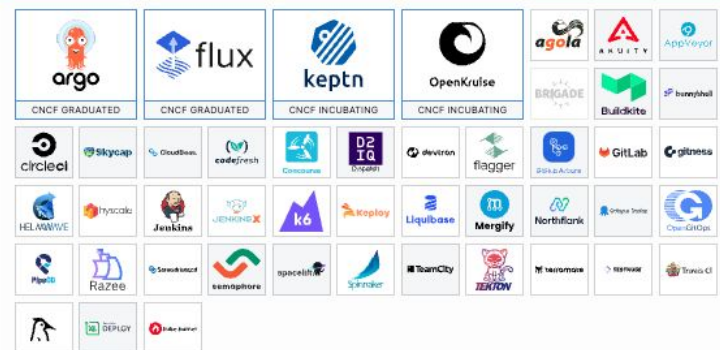
VIEW MODE: Grid Card ZOOM: - +

App Definition & Development

Application Definition & Image Build



Continuous Integration & Delivery



Database



Streaming & Messaging



Orchestration & Management

Scheduling & Orchestration



Service Mesh



Remote Proc

KubeCon + CloudNativeCon



KubeCon



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Marketing Amplification and Brand Awareness

Broaden your reach and awareness in the community with CNCF marketing programs.

As a member you can participate in:



CNCF Marketing Committee

Participate in the marketing committee monthly to engage with your peers in the cloud native space.



CNCF Online Programs

Showcase your organization's open source technology by educating new and existing community members about best practices, trends, and new technologies through webinars, videos, and livestreams.



CNCF Blog

Showcase your thought-leadership and industry commentary, as well as share technical walkthroughs for CNCF projects here.



Kubernetes Blogs + KubeWeekly

Both of these are community-driven efforts. CNCF members can submit cloud native stories and tutorials with the community.



KubeCon + CloudNativeCon

CNCF organizes the world's largest open source developer conferences focused on cloud native technologies.



Public Relations & Analyst Relations Support

CNCF supports members with bi-yearly analyst reports including Top Analysts by keyword, quotes, and research highlights.



Community Engagement

CNCF is a constellation of open source projects. Members of CNCF leverage many programs to engage with our project's ecosystems and share their stories. As a member you can participate in:



End User Case Studies

End User stories help elevate the technical conversations to business objectives and challenges. This program features real-world use cases and the impact these cloud-native projects are having on end users' businesses.



Ambassador Program

Become a cloud native advocate and be recognized for your expertise in the cloud native space. You will be empowered to educate local communities around the world to learn about CNCF projects and technologies.



Kubernetes.io Partner Placement

The kubernetes.io partner page includes separate lists for Certified Kubernetes, KCSP, and KTP partners. One CNCF member reports that 18% of their incoming leads start from kubernetes.io or cncf.io.



Kubernetes Community Days

Run a local event to bring together the cloud native community in your region. CNCF provides the platform, guidelines, and tooling to help make your event a success.



Linux Foundation Membership

The Linux Foundation (LF) is the organization of choice for building sustainable open source ecosystems. When you join CNCF, you also join the LF. This allows your organization to engage with the larger open source community, including representatives from more than 1,000 of the top technology companies around the world.





Thank you!





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