

Jug Summer Camp

-enjoy it-



La CNCF et son écosystème

Speaker : Julien Landuré - @jlandure



DERLI

GitHub



clever cloud



elastic

sonarsource

Saagie



BEGIN.



THE
APACHETM
SOFTWARE FOUNDATION





Open source
software stack
enables deployment
on any public,
private cloud or
hybrid cloud



#Container #Microservice #DevOps





The Linux Foundation is dedicated to building sustainable ecosystems around open source projects to accelerate technology development and industry adoption.

Today the Linux Foundation is much more than Linux



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

We are providing the application development framework for next generation web, mobile, serverless, and IoT applications.



CLOUD NATIVE
COMPUTING FOUNDATION



HYPERLEDGER





CLOUDFOUNDRY



CLOUD NATIVE
COMPUTING FOUNDATION



OPEN CONTAINER
INITIATIVE



Cloud & Containers



Projects



Press & relations



Help for documentation



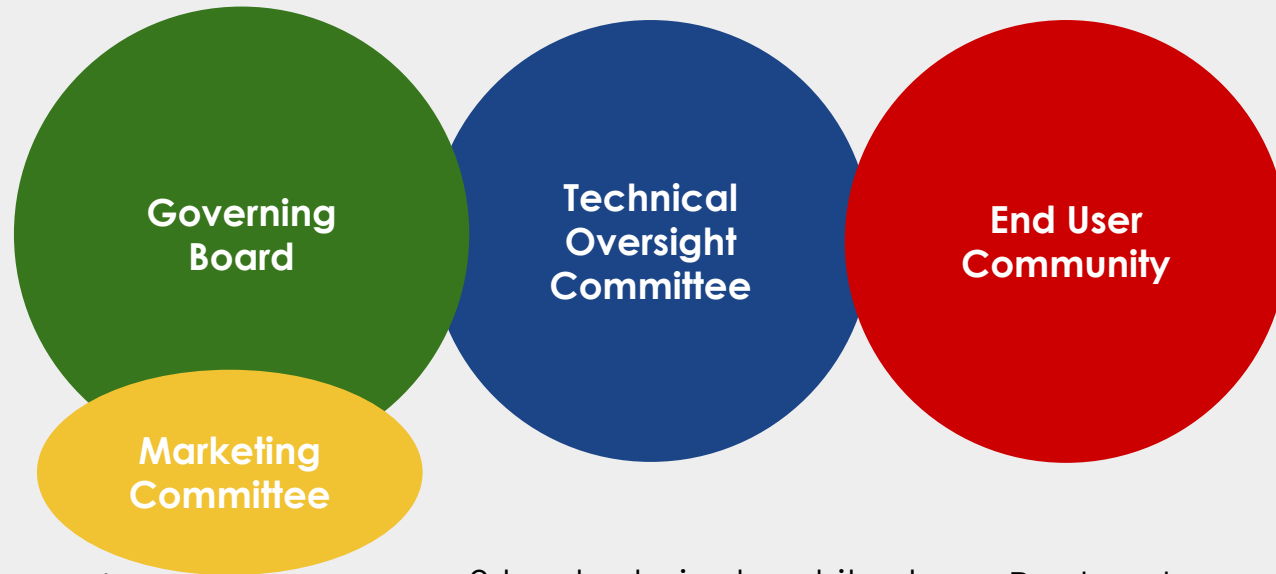
Training & Meetup



Events



CNCF Structure



- Mainly vendors
- Fund the organization
- Marketing and strategic direction

- 9 top technical architects
- Admit new projects
- Acts as a resource to projects

- Real end users of these technologies
- Communicate back requirements
- And good and bad experiences

300+ Members and Growing

Platinum Members



Gold Members



End User Members



End User Supporters

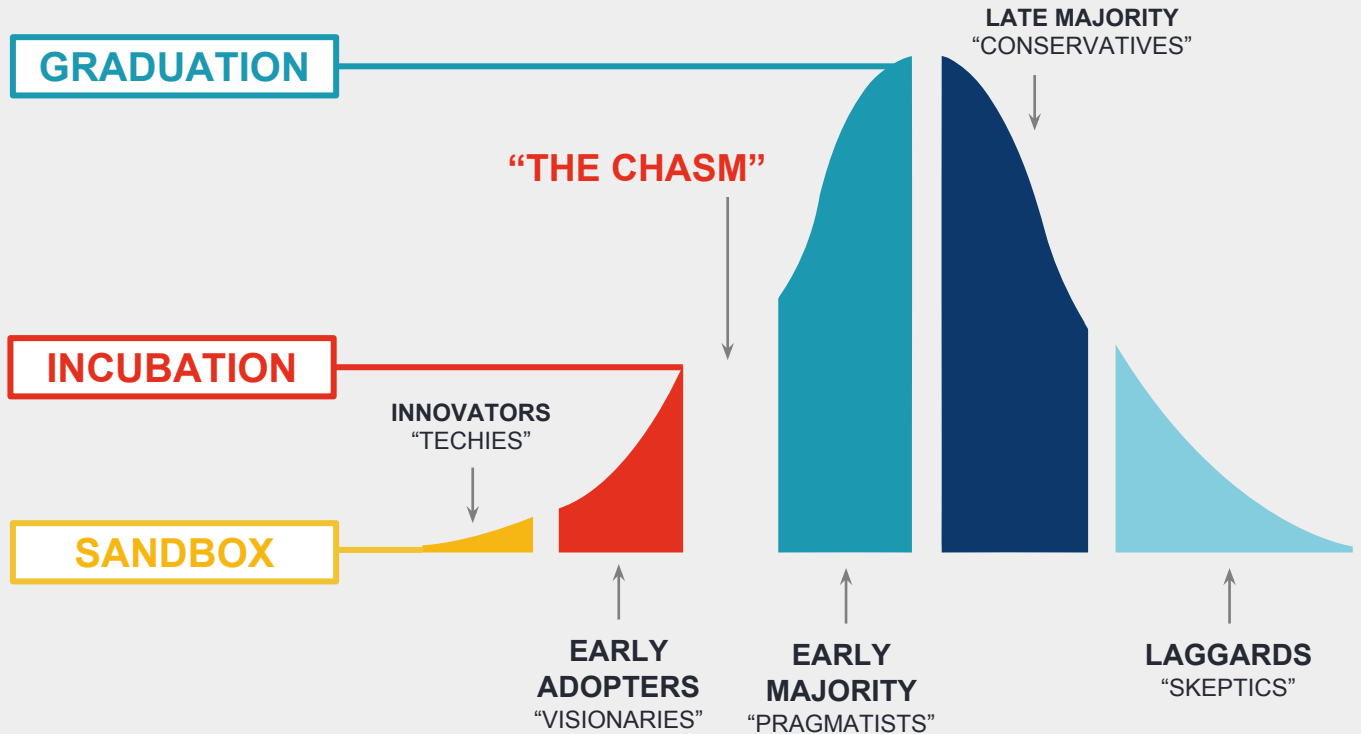
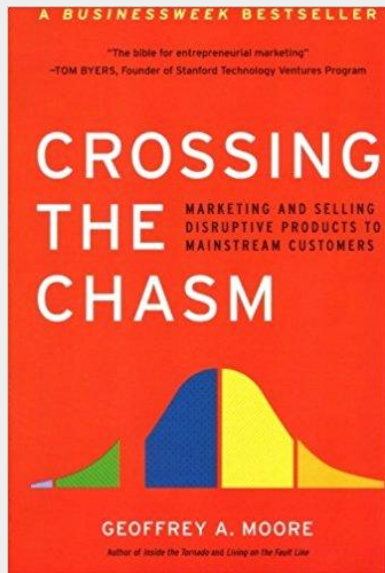


Academic/Nonprofit



Silver Members

CNCF Project Maturities



<> Code

! Issues 12

Pull requests 8

Projects 1

Insights

Branch: master ▾

toc / proposals / kubernetes.adoc

Find file

Copy path



rothgar Update kubernetes proposal doc

3cbb054 on 21 Mar 2017

2 contributors



45 lines (30 sloc) | 3.15 KB

Raw

Blame

History



Kubernetes Proposal

Name of project: Kubernetes

Description

Kubernetes is an open source system for managing [containerized applications](#) across multiple hosts, providing basic mechanisms for deployment, maintenance, and scaling of applications. Kubernetes will serve as a cluster manager for the CNCF ecosystem.

Sponsor / Advisor from TOC: Alexis Richardson

Unique Identifier: kubernetes

License: Apache License v2.0

Source control repositories: <https://github.com/kubernetes> (everything in the org)

Initial Committers: <https://github.com/orgs/kubernetes/teams/kubernetes-maintainers>

Sandbox



Rook
Storage



SPIFFE
Identity Spec



SPIRE
Identity



Open Policy
Agent
Policy



CloudEvents
Serverless



Telepresence
Tooling



Harbor
Registry



OpenMetrics
Metrics Spec



TiKV
Key/Value Store

Incubating



OpenTracing

Distributed Tracing API



Fluentd

Logging



gRPC

Remote Procedure Call



containerd

Container Runtime



rkt

Container Runtime



CNI

Networking API



Envoy

Service Mesh



Jaeger

Distributed Tracing



Notary

Security



TUF

Software Update Spec



Vitess

Storage



CoreDNS

Service Discovery



NATS

Messaging



Linkerd

Service Mesh



Helm

Package Management

Graduated



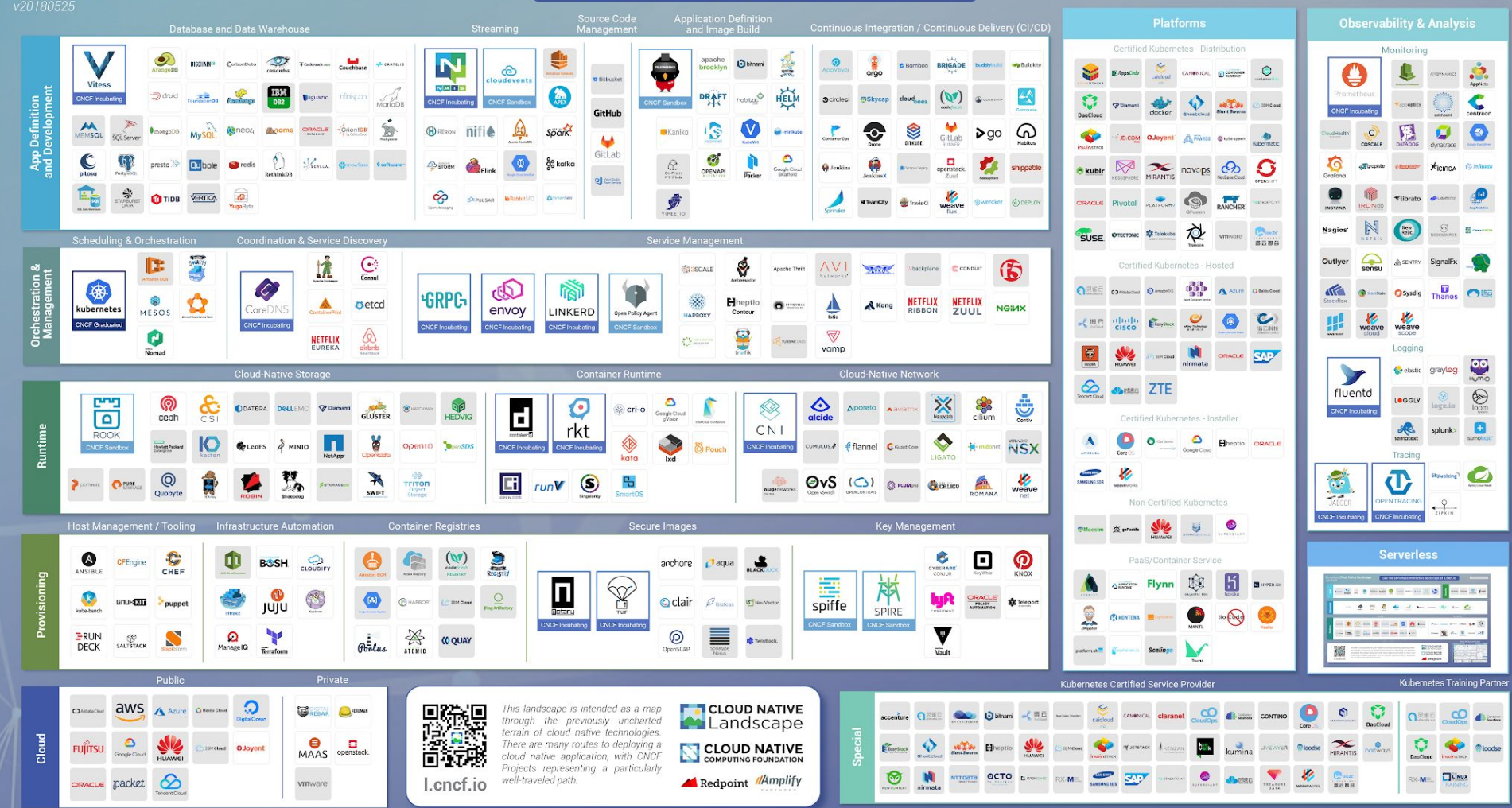
Kubernetes

Orchestration



Prometheus

Monitoring



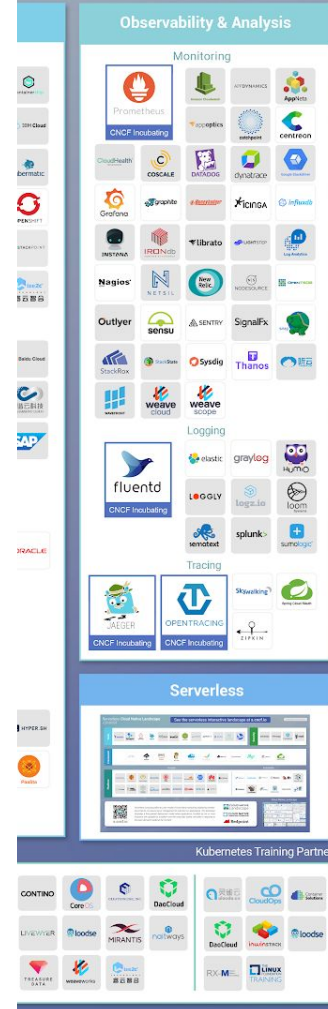
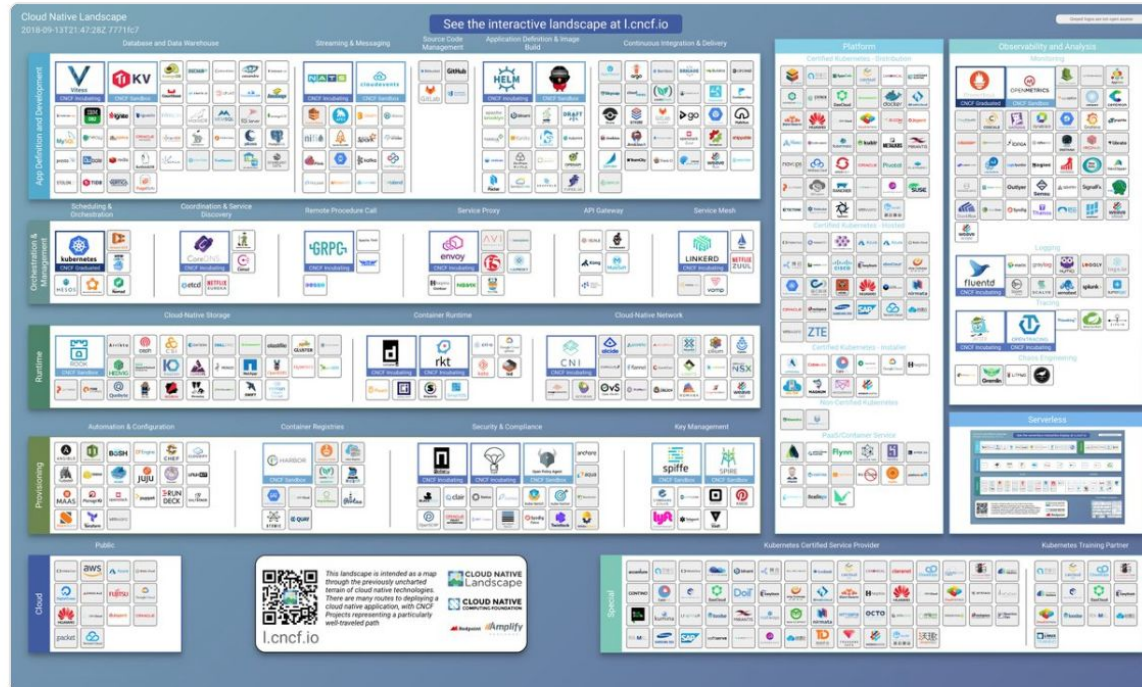
l.cncf.io



Dan Kohn
@dankohn1

Follow

The biggest ever improvement to the [@CloudNativeFdn](https://l.cncf.io) Interactive Landscape: we now dynamically generate the landscape in real-time in your browser rather than having a graphic artist do so manually once a month. landscape.cncf.io/format=landsca...



CLOUD NATIVE TRAIL MAP

The Cloud Native Landscape ([Landscape](https://landscape.cncf.io)) has a large number of options. This Cloud Native Trail Map is a recommended process for leveraging open source, cloud native technologies. At each step, you can choose a vendor-supported offering or do it yourself, and everything after step #3 is optional based on your circumstances.

HELP ALONG THE WAY

A. Training and Certification

Consider training offerings from CNCF and then take the exam to become a Certified Kubernetes Administrator or a Certified Kubernetes Application Developer cncf.io/training

B. Consulting Help

If you want assistance with Kubernetes and the surrounding ecosystem, consider leveraging a Kubernetes Certified Service Provider cncf.io/kcsp

C. Join CNCF's End User Community

For companies that don't offer cloud native services externally cncf.io/enduser

WHAT IS CLOUD NATIVE?

Cloud-native technologies, such as containers and microservices, empower organizations to develop and deploy scalable, agile applications and services in dynamic, distributed environments. By taking into account these characteristics, such systems are designed to be resilient, elastic, and loosely coupled, via manageable abstractions and declarative APIs, thereby enabling effective, reliable automation. This allows engineers to observe the applications and to safely make impactful changes, and results in processes and workflows that fully take advantage of these environments and minimize toil.

The Cloud Native Computing Foundation seeks to drive adoption of these techniques by fostering an ecosystem of open-source, vendor-neutral projects that align with these objectives, and which are portable to public, private, and hybrid clouds. We democratize the state-of-the-art patterns and practices to ensure innovations remain open and accessible for everyone.



1. CONTAINERIZATION

- Commonly done with Docker containers
- Any size application and dependencies (even PDP-11 code running on an emulator) can be containerized
- Over time, you should aspire towards splitting suitable applications and writing future functionality as microservices



3. ORCHESTRATION & APPLICATION DEFINITION

- Kubernetes is the market-leading orchestration solution
- You should select a Certified Kubernetes Distribution, Hosted Platform, or Installer: cncf.io/ck
- Helm Charts help you define, install, and upgrade even the most complex Kubernetes application



5. SERVICE MESH AND DISCOVERY

- CoreDNS is a fast and flexible tool that is useful for service discovery
- Envoy and Linkerd each enable service mesh architectures
- They offer health checking, routing, and load balancing



7. DISTRIBUTED DATABASE

When you need more resiliency and scalability than you can get from a single database, Vitess is a good option for running MySQL at scale through sharding.



9. CONTAINER RUNTIME

You can use alternative container runtimes. The most common, all of which are OCI-compliant, are containerd, rkt and CRI-O.



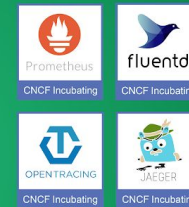
2. CI/CD

- Setup Continuous Integration/Continuous Delivery (CI/CD) so that changes to your source code automatically result in a new container being built, tested, and deployed to staging and eventually, perhaps, to production
- Setup automated rollouts, roll backs and testing



4. OBSERVABILITY & ANALYSIS

- Pick solutions for monitoring, logging and tracing
- Consider CNCF projects Prometheus for monitoring, Fluentd for logging and Jaeger for Tracing
- For tracing, look for an OpenTracing-compatible implementation like Jaeger



6. NETWORKING

To enable more flexible networking, use a CNI-compliant network project like Calico, Flannel, or Weave Net.



8. MESSAGING

When you need higher performance than JSON-RPC, consider using gRPC. NATS is publish/subscribe message-oriented middleware.



10. SOFTWARE DISTRIBUTION

If you need to do secure software distribution, evaluate Notary, an implementation of The Update Framework.



DevStats

Issue Velocity / Issues age by SIG and repository groups ▾



🕒 now-1y to now-1w

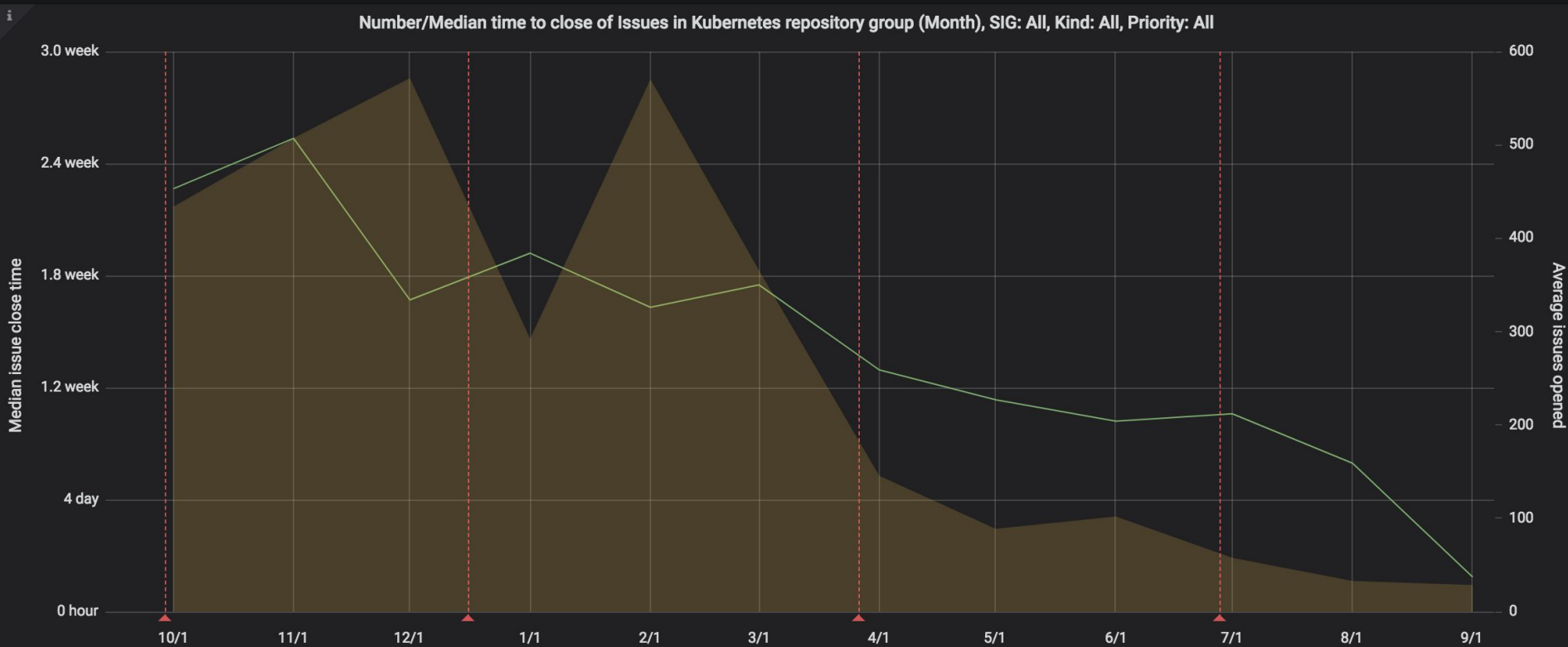


Current median time to close for issues created last Month for repository group Kubernetes...

23 hours 50 minutes 23 seconds

Number of closed issues opened last Month for repository group Kubernetes, SIG: All, Kind:...

37



cncf.ci

Project	Build		Release	Deployments					
	Status			AWS	Azure	GCE	IBM Cloud	Bare Metal (Packet)	OpenStack
 Kubernetes Orchestration	✓ SUCCESS		v1.11.2	✓ SUCCESS	✓ SUCCESS	✓ SUCCESS	✓ SUCCESS	✓ SUCCESS	✓ SUCCESS
	✓ SUCCESS		03a6d0b	! FAILED	! FAILED	! FAILED	! FAILED	! FAILED	✓ SUCCESS
 Prometheus Monitoring	✓ SUCCESS		v2.3.2	✓ SUCCESS	✓ SUCCESS	✓ SUCCESS	✓ SUCCESS	✓ SUCCESS	✓ SUCCESS
	✓ SUCCESS		068eaa5	! FAILED	! FAILED	! FAILED	! FAILED	! FAILED	✓ SUCCESS
 CoreDNS Service Discovery	✓ SUCCESS		v1.2.2	✓ SUCCESS	✓ SUCCESS	✓ SUCCESS	✓ SUCCESS	✓ SUCCESS	✓ SUCCESS
	✓ SUCCESS		0bf8b81	! FAILED	! FAILED	! FAILED	! FAILED	! FAILED	✓ SUCCESS
 Fluentd Logging	✓ SUCCESS		v1.2.5	✓ SUCCESS	✓ SUCCESS	✓ SUCCESS	✓ SUCCESS	✓ SUCCESS	✓ SUCCESS
	✓ SUCCESS		0337300	! FAILED	! FAILED	! FAILED	! FAILED	! FAILED	✓ SUCCESS
 Linkerd Service Mesh	✓ SUCCESS		1.4.6	✓ SUCCESS	✓ SUCCESS	✓ SUCCESS	✓ SUCCESS	✓ SUCCESS	✓ SUCCESS
	✓ SUCCESS		7bd1ba7	! FAILED	! FAILED	! FAILED	! FAILED	! FAILED	✓ SUCCESS
 Envoy Service Mesh	✓ SUCCESS		v1.7.1	✓ SUCCESS	✓ SUCCESS	✓ SUCCESS	✓ SUCCESS	✓ SUCCESS	✓ SUCCESS
	initial INITIAL		260798f	! FAILED	! FAILED	! FAILED	! FAILED	! FAILED	! FAILED

CNCF serves as the vendor-neutral home for many of the fastest-growing projects on GitHub, including Kubernetes, Prometheus and Envoy, fostering collaboration between the industry's top developers, end users, and vendors.



40,086

of contributors to
CNCF projects



43,652

Registered for free
Kubernetes EdX
course



67

Certified
Kubernetes
Distributions and
Platforms

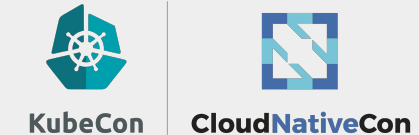


78,539

CNCF Meetup
members

CloudNativeCon + KubeCon

- China
 - Shanghai: November 13-15, 2018
- North America
 - Seattle: December 10-13, 2018
- 2019
 - Barcelona: May 20-23, 2019
 - Shanghai: June 26-28, 2019
 - San Diego: November 18-21, 2019



Meetups



**Cloud Native Computing
Foundation (CNCF)**

Membres
79 696

Groupes
155

Pays
36



Ambassadors

Store

Certifications : CKA, CKAD

Infrastructure Lab

Mailing-lists

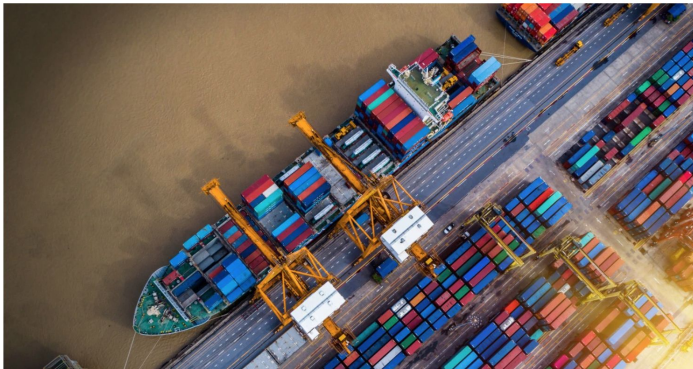
Serverless WG

Slack

Google takes a step back from running the Kubernetes development infrastructure

Frederic Lardinois @fredericl / Aug 29, 2018

Comment



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Prometheus Monitoring Platform "Graduates" from the Cloud Native Computing Foundation (CNCF)

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RELATED CONTENT

[PCF Platform Monitoring with Prometheus and Grafana](#) Apr 22, 2018

On August 9th, 2018, the Cloud Native Computing Foundation (CNCF) announced open source monitoring toolkit, Prometheus, has [graduated](#) from its incubation status. In order to achieve this rating, projects must demonstrate growth, documentation, organized governance processes, commitment to community sustainability and inclusivity.

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Merci !



Speaker : Julien Landuré - @jlandure



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