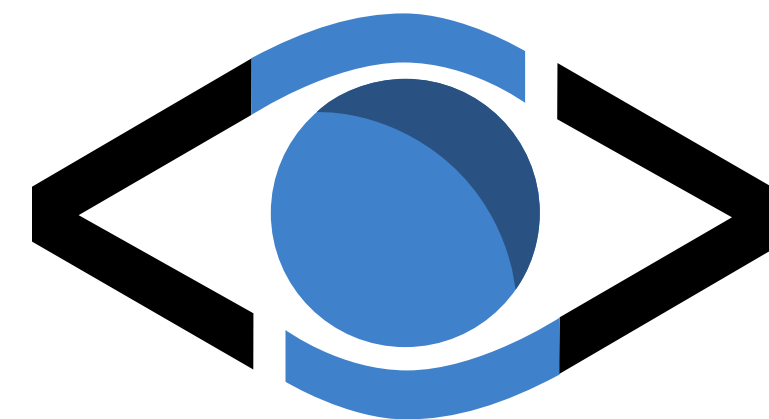# Cloud Native Computing Meetup

August 2020

vshn.ch

Adrian Kosmaczewski

Agenda

1. News from KubeCon + CloudNativeCon 2020
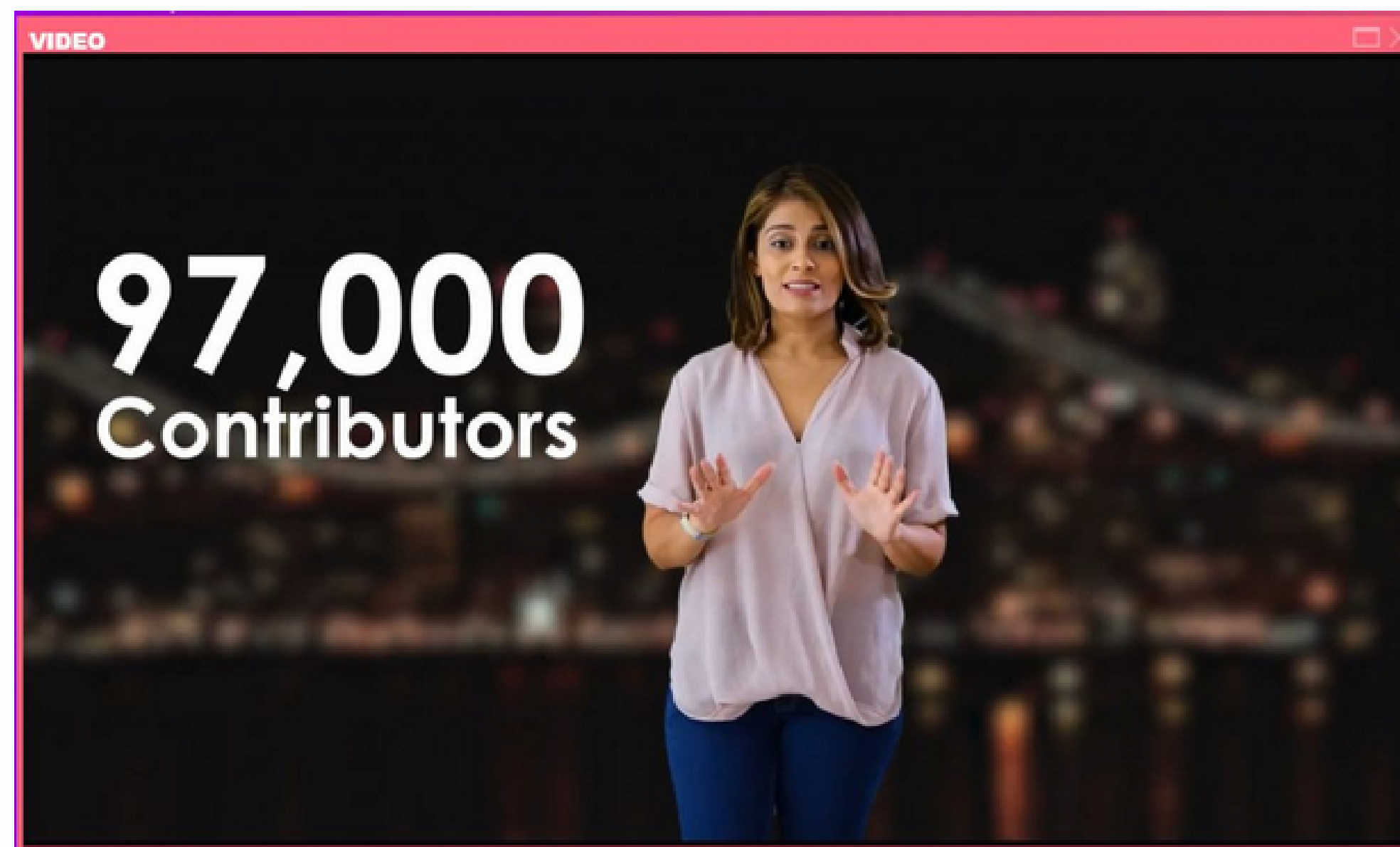
2. Project Syn update + demo!

1. News from KubeCon

CLOUD NATIVE / CULTURE / KUBERNETES

KubeCon EU: Cloud Native Developers Now an Army 6.5 Million Strong

18 Aug 2020 11:57am, by Joab Jackson

The field of cloud native computing continues to grow at a rapid clip. A recent survey commissioned by the Cloud Native Computing Foundation (CNCF) had found that there are now 6.5 million "cloud native" developers worldwide, up

ADTMAG
APPLICATION DEVELOPMENT TRENDS

AGILE ARCHITECT	AI	ALM/TESTING
CLOUD	DATA	DEVOPS
ENTERPRISE	IOT	JAVA
LOW CODE	MOBILE	OPEN SOURCE
SECURITY	WEB DEV	WATERS WORKS

NEWS

Red Hat Updates Dev Tools for Kubernetes Across Cloud-Native Toolchain

By John K. Waters   ▪ 08/18/2020

Red Hat threw a spotlight on a number of updates to several tools in its developer tools portfolio at the **KubeCon + CloudNativeCon EU 2020 Virtual** event, underway online this week, including its Teckton **OpenShift Pipelines** tool, the **CodeReady Workspaces** collaborative Kubernetes-native development solution, the **CodeReady Studio** Eclipse-based IDE, and its **odo** CLI tool for creating applications on the OpenShift Container Platform and Kubernetes. The releases emphasize automation and greater control over development pipelines, the company said, and helping developer teams "to adjust to needed application velocity without sacrificing build stability or tooling."

The IBM subsidiary, which has long been one of the leading providers of open-source solutions, touted its plan to provide tools and technologies to manage "sprawling cloud-native deployments of the future." These updates are intended to address a variety of developer challenges, the company said, from the command line to integrated development environments

"We've continued to balance investment in new and unique tools to simplify Kubernetes for developers, with a broad set of plugins to popular IDEs and CI/CD systems so teams aren't forced to change their toolset when they move to containers and Kubernetes for their deployed applications," said Brad Micklea, VP of Program and Advocacy in Red Hat's developer tools group, in a statement.

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theCUBE   **Coverage from SiliconANGLE's livestreaming video studio** ⓘ

CLOUD

Red Hat pushes the 'layers' of edge computing through new ways of deploying OpenShift

BY **TERYN O'BRIEN**

As the interest in cloud native computing has grown and with the implementation of the Cloud Native Computing Foundation (CNCF), which serves as the vendor-neutral home for many open-source projects, it's important to note CNCF is not just about Kubernetes projects or for building things in the cloud, but using the edge as well. And this is exactly what companies like Red Hat Inc. are
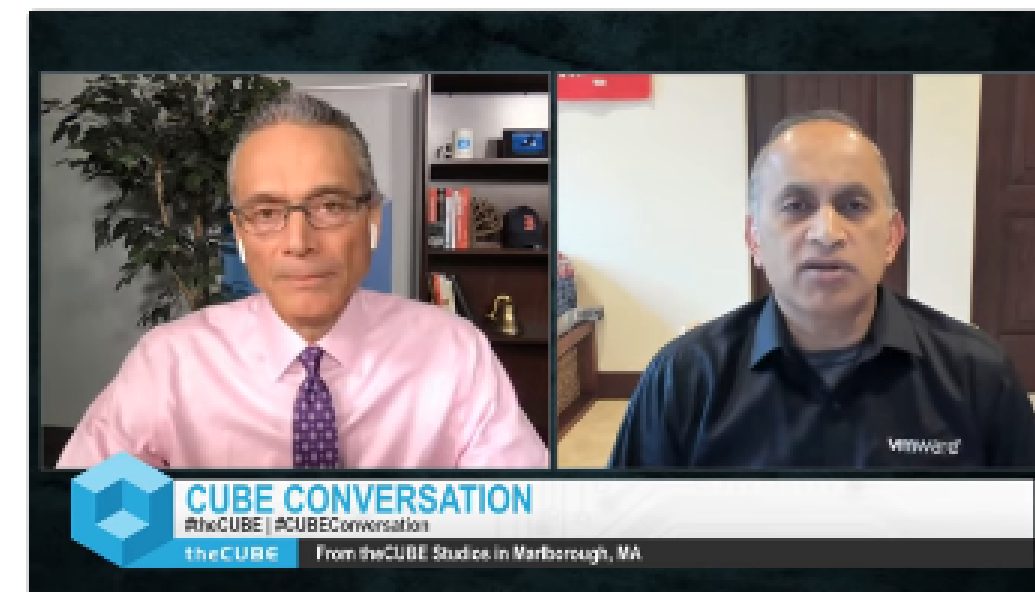
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Sanjay Poonen, VMware | CUBEconversations, March 2020

VIEW FULL VIDEO

LATEST FROM THECUBE

Ogmagod employs natural language processing to empower users with actionable intelligence

Open source shows its enterprise value as CNCF moves through its fifth year

IBM and Red Hat tighten forces to boost multicloud built on containers and ensure data protection

Red Hat brings paradigm shift to Kubernetes cluster management

Red Hat and Intuit Join Forces on Argo Project, Extending GitOps Community Innovation to Better Manage Multi-Cluster Cloud-Native Applications at Scale

Red Hat lends open source community-building leadership to Intuit's deep GitOps expertise; collaboration aims to further adoption of Argo in enterprise Kubernetes deployments

August 17, 2020 08:00 AM Eastern Daylight Time

RALEIGH, N.C. & MOUNTAIN VIEW, Calif.--(BUSINESS WIRE)--Red Hat, Inc., the world's leading provider of open source solutions, and Intuit Inc. today announced collaboration between the two companies on Argo CD, a declarative continuous delivery tool for Kubernetes deployments. Argo CD makes it easier to manage configurations, definitions and environments for both Kubernetes itself and the applications it hosts using Git as the source of truth. Argo CD, open sourced by Intuit in January 2018, is also an incubation-level project within the Cloud Native Computing Foundation (CNCF) and is currently deployed in production by many companies including Electronic Arts, Major League Baseball, Tesla, and Ticketmaster.

Argo CD and GitOps practices make it easier, safer and more repeatable for developers to deploy their applications to multiple Kubernetes clusters. Developers can automatically bring deployed applications to their desired state specified in version control systems, notably Git. GitOps practices also allow for maintaining full transparency through the version control system's audit capabilities and provide a straightforward mechanism to roll back to any desired version - even across multiple Kubernetes clusters. In addition, Argo CD increases visibility into the state of deployed applications, alerting developers if these workloads have deviated from their desired states. IT operations teams can also gain more consistent deployment of Kubernetes clusters by managing these deployments out of Git, just like developers would with applications.

Red Hat will work with Intuit and other community members to expand the Argo project to encompass a broader range of corporate and individual contributors. The company will also contribute development resources and leadership in building open source ecosystems and expanding projects into industry standards, evidenced by its work in the Linux kernel, Kubernetes, Fedora, the CNCF and more.

Red Hat and Intuit will also look to bring Argo into the OpenShift ecosystem, where it is already a popular community-supported extension. The collaboration will help to smooth the path to an enterprise-supported solution based on Argo and GitOps principles for OpenShift. Red Hat will also expand the multi-cluster management capabilities in Red Hat Advanced Cluster Management for Kubernetes in order to integrate with Argo. This will help to further strengthen OpenShift's leading configuration management and policy management capabilities across all Kubernetes infrastructure, on-premises and in public clouds.

RED HAT, INC.

Release Summary

Red Hat and Intuit collaborate to extend the Argo project community and fuel GitOps at scale.

› More News

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5 Interesting Announcements From KubeCon+CloudNativeCon Europe 2020

Janakiram MSV Senior Contributor ⓘ

Cloud

I cover Cloud Computing, Machine Learning, and Internet of Things

KubeCon+CloudNativeCon Europe 2020, the largest gathering of the Kubernetes and cloud native community, has gone virtual this year. The event was supposed to be held in Amsterdam in March 2020. Like most of the other industry conferences, it got postponed and eventually became a virtual event.

KubeCon + CloudNativeCon Europe 2020   CNCF

KubeCon+CloudNativeCon is the chosen platform for announcing new
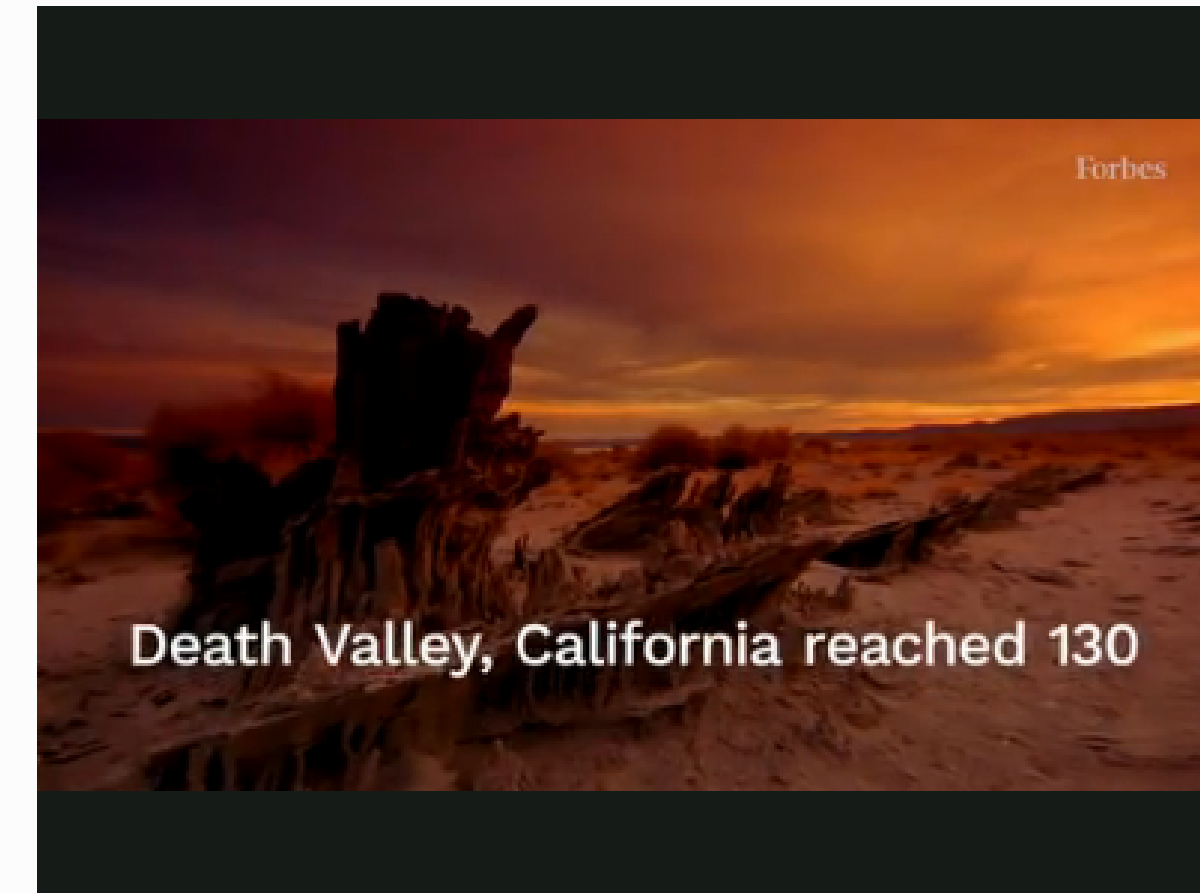
Death Valley, California reached 130

Related

TECH GENERAL

5 Key Takeaways from KubeCon + CloudNativeCon Europe 2020

Priya Jha   August 20, 2020

The CNCF hosted its flagship conference, Kubencon + CloudNativeCon EU 2020, virtually sharing the latest Kubernetes product updates and insights. Toolbox shares the top 5 takeaways from the event.

This week turned out to be a very exciting one for the cloud community as the Cloud Native Computing Foundation (CNCF) kicked off its largest flagship conference virtually after the pandemic postponed it from late March. KubeCon + CloudNativeCon Europe 2020 was held from August 17, 2020 to August 20, 2020 and gathered participants, experts, and leaders from the open-source and cloud-native communities to discuss the future of container industry and cloud technologies.

This year, the KubeCon conference brought 17 new members under its umbrella for cloud-native technology innovation including, Juniper Networks, Cloudreach, Anchnet, Netdata, Zerto. The event saw several major announcements from industry titans, including IBM's Red Hat, AWS, and Accurics. Here
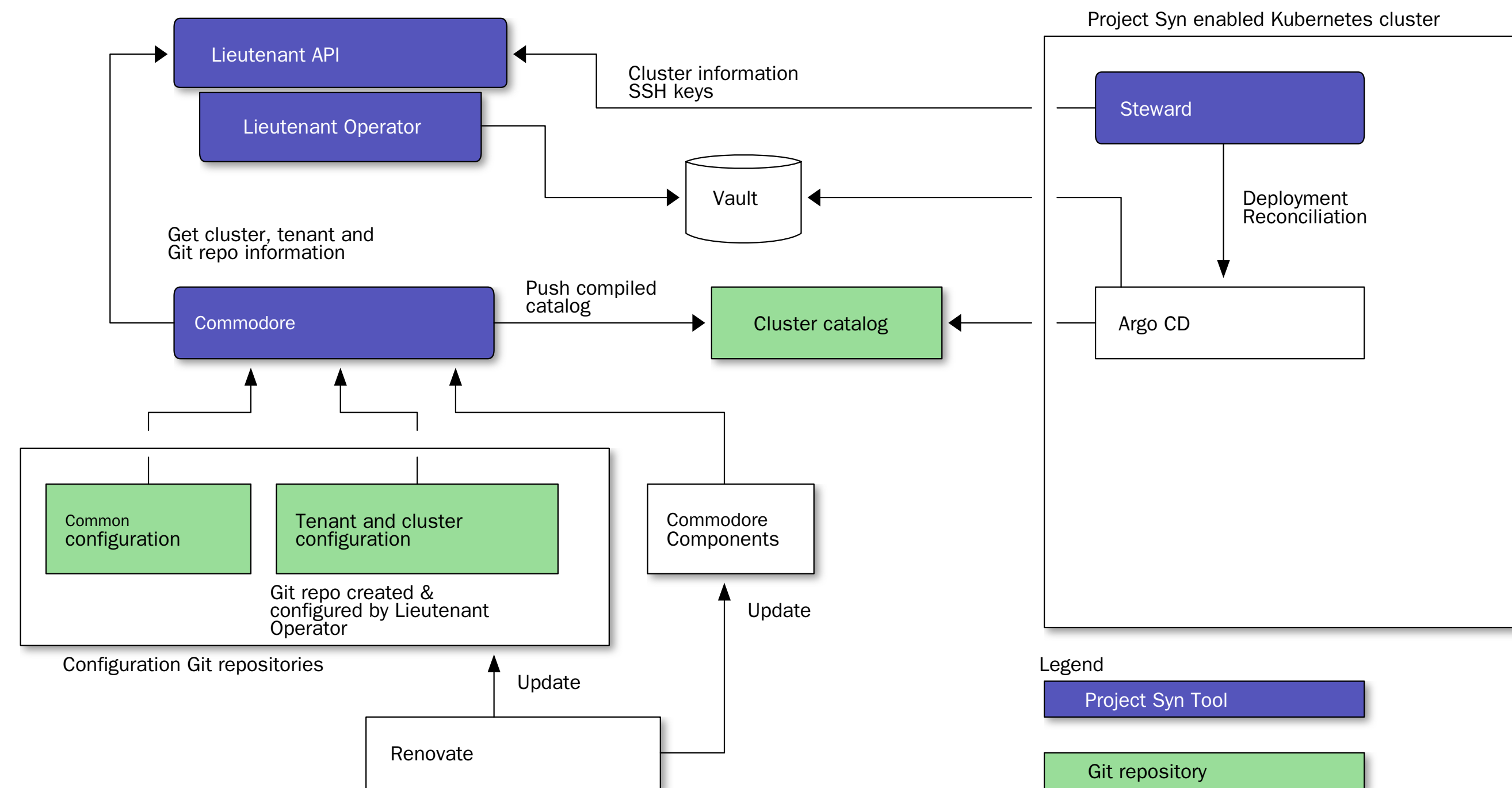
2. Project Syn Update

What is Project Syn?

Project Syn is a pre-integrated set of tools to provision, update, backup, observe and react/alert production applications on Kubernetes and in the cloud. It supports DevOps through full self-service and automation using containers, Kubernetes and GitOps.

Project Syn Features

- Multi-Cluster and Multi-Tenant Management

- Full GitOps Operations

- Configuration Management

- Reusable Components

- Automatically Maintained Components

- Secret Management

- Service Provisioning

Architecture

Lieutenant API

Lieutenant Operator

Cluster information
SSH keys

Steward

Vault

Deployment
Reconciliation

Get cluster, tenant and
Git repo information

Commodore

Push compiled
catalog

Cluster catalog

Argo CD

Project Syn enabled Kubernetes cluster

Common
configuration

Tenant and cluster
configuration

Commodore
Components

Git repo created &
configured by Lieutenant
Operator

Update

Configuration Git repositories

Update

Renovate

Update

Legend

Project Syn Tool

Git repository

SECOND BETA RELEASE OF PROJECT SYN TOOLS

23. Jul 2020

Project Syn   Technisches

Without further ado, we're announcing the release 0.2 of the Project Syn tools.

Since the first public release mid-March this year (read more about it in First Pre-Release of Project Syn Tools) we used the tools on a daily basis, in particular for the development of our new product „VSHN Syn Support". And of course we have incorporated all of that experience in the source code. The main features are now in place, and are getting better and better on a daily basis.

New Features and Improvements

When reading the announcement of a new version, engineers are always interested in new features and improvements. So these are the most important new additions since 0.1:

- Everything required for setting up a new cluster (GitOps repository, cluster config file in Tenant configuration, Vault secrets, and more) is now fully automated. One API call to register a new cluster and you're done.
- In parallel to the creation of clusters, we have also automated all steps required to decommission them (Repo deletion, Vault secret cleanup, and more). Just delete it and everything is gone (of course, there are preventive measures in place to not make this an Uh-oh moment).
- Commodore got a lot of improvements: for local development, and for developing new components with a comprehensive cookiecutter template

New in Beta 2

- Only one API call needed to synthesize a cluster

- Automatic cluster decommission

- New `cookiecutter` template for components

- Lots of new documentation!

Roadmap for 1.0

- More documentation: tutorials and how-to guides

- Improve the developer experience

- Cluster provisioning automation integration

- Automatic bootstrapping of clusters

- syn.tools/syn/about/roadmap.html

Project Syn Demo

- Deploying a Commodore Component to:

  - Minikube

  - K3d

  - Kind

Demo Time!

Tutorial: Writing your First Commodore Component

- Requirements
- Preparations
  - Install Lieutenant Operator and API on Minikube
  - Bootstrapping Commodore on Minikube
  - Install Steward on Minikube
  - Synthesize a K3s Cluster
  - Synthesize Kind or Microk8s clusters
- Creating a Commodore Component
  - Using the Commodore Docker Image
  - Checking out the Commodore Project
  - Compiling the Commodore Catalog
  - Creating a New Commodore Component
  - Compiling the Component
  - Deploying the Component to our Clusters
  - Deployment
  - Accessing the Argo CD Console
  - Executing the fortune-service
  - Cleanup
- Conclusion

This tutorial will guide you through the required steps to create your first Commodore Component.

Commodore Components allow you to customize and extend the number and variety of tasks that you can perform with Project Syn. Using Commodore Components, you can customize and apply changes to all of your clusters, ensuring conformity, coherence, alignment, and drastically reducing the workload

Links 1/2

- thenewstack.io/kubecon-eu-cloud-native-developers-now-an-army-6-5-million-strong/

- adtmag.com/articles/2020/08/18/red-hat-tools-announcements.aspx

- siliconangle.com/2020/08/18/red-hat-pushes-the-layers-of-edge-computing-through-new-ways-of-deploying-openshift-kubecon/

- www.businesswire.com/news/home/20200817005176/en/Red-Hat-Intuit-Join-Forces-Argo-Project/

Links 2/2

- www.forbes.com/sites/janakirammsv/2020/08/23/5-interesting-announcements-from-kubeconcloudnativecon-europe-2020/#3faa58cd5320

- www.toolbox.com/tech/tech-general/news/5-key-takeaways-from-kubecon-cloudnativecon-europe-2020/

- docs.syn.tools/tuto/index.html

Thanks!
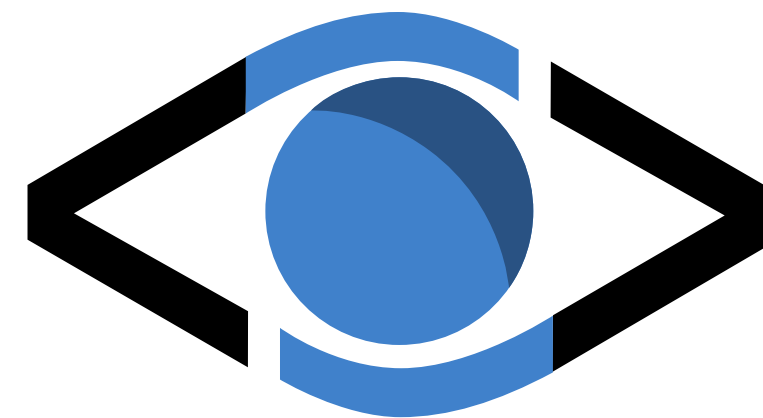
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