

Tanzu Cloud Native webinars 2/6

Running your modern
applications

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Agenda

- How to get started with Gitops, DevOps or DevSecOps
- What new skills and tools are needed ?
- How to run your application inhouse ?
(Getting the platform)
- ~~What about Databases ? Moved to 12 September~~
- ~~How to monitor your applications ? Moved to later.~~

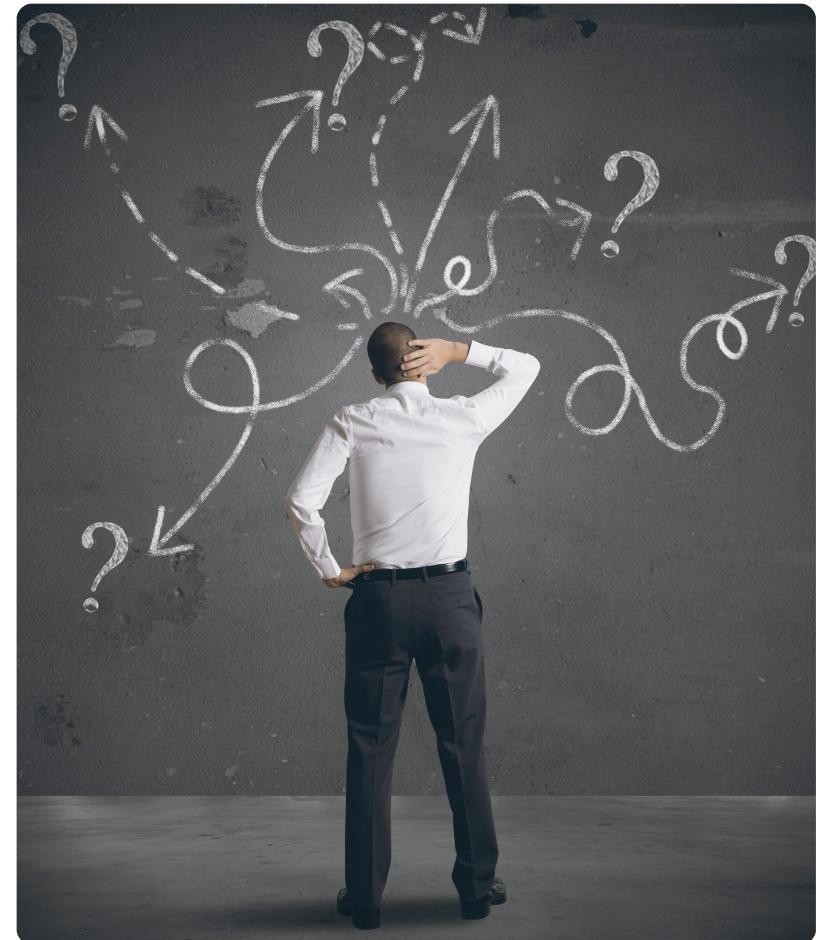


The purpose of this Webinar

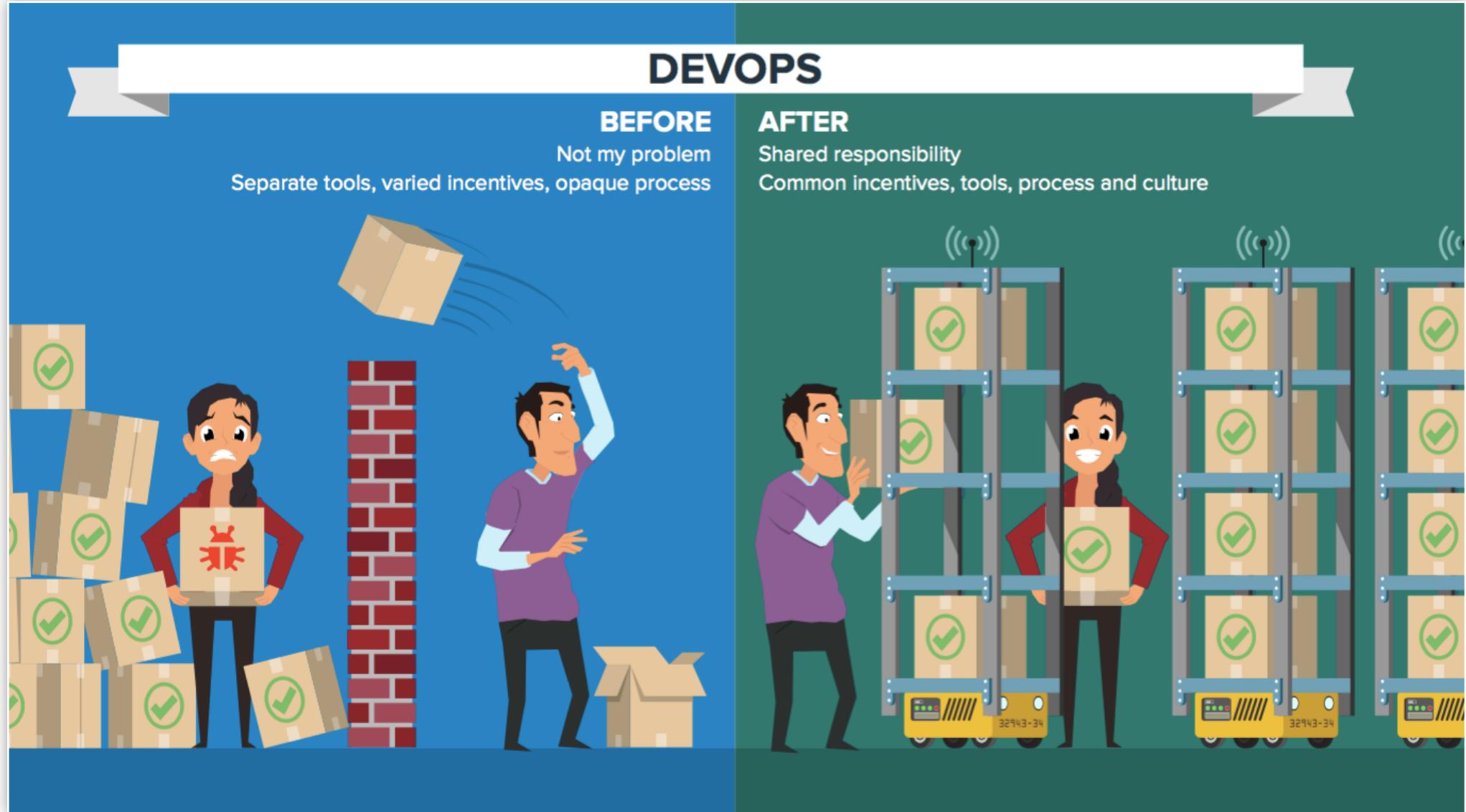
Is to give an introduction to Cloud Native concepts and technologies.

We start with the basics, and try to take it to the next level.

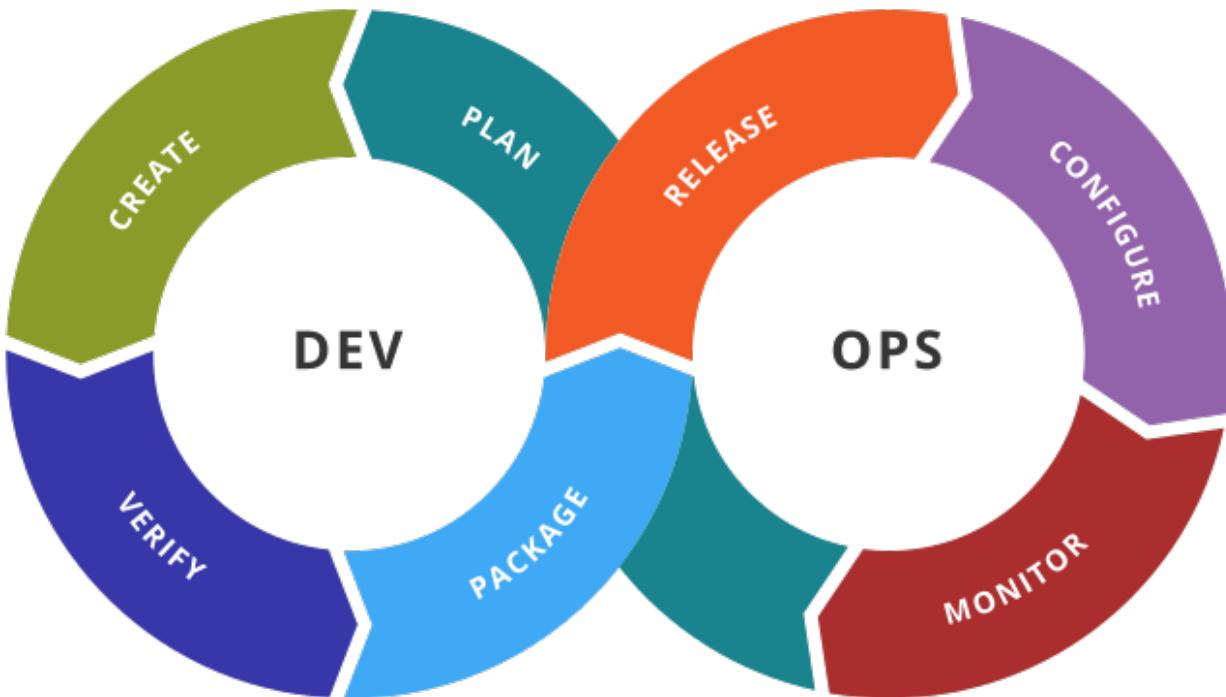
Questions : Please use the Q/A function. We will look at them In the end.



How to get started with DevOps?



Devops



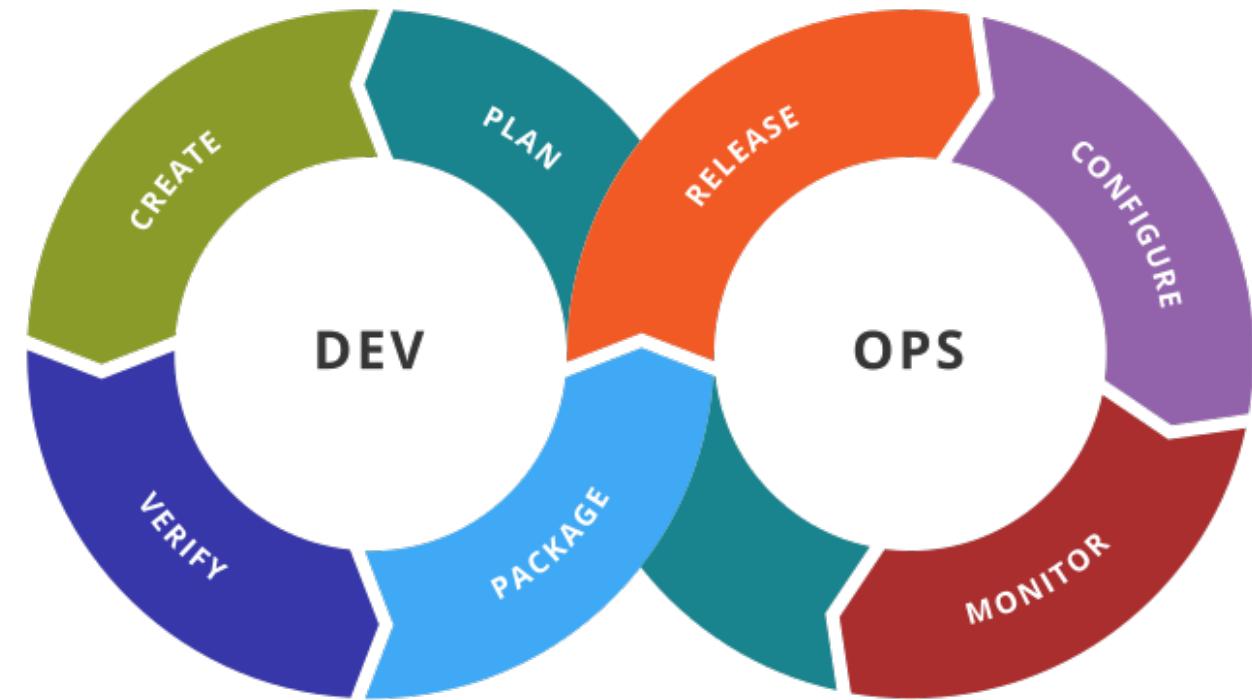
DevOps is a methodology in the software development and IT industry. Used as a set of practices and tools, DevOps integrates and automates the work of software development (Dev) and IT operations (Ops) as a means for improving and shortening the systems development life cycle.^[1]

DevOps is NOT a tool or a piece of software you can buy.

GitOps

GitOps evolved from DevOps. The specific state of deployment configuration is version-controlled. Because the most popular version-control is Git, GitOps' approach has been named after Git. Changes to configuration can be managed using code review practices, and can be rolled back using version-controlling. Essentially, all of the changes to a code are tracked, bookmarked, and making any updates to the history can be made easier.

Our focus today is on GitOps



How to get started

Learn the basics of DevOps. This includes understanding the concepts of continuous integration, continuous delivery, and continuous deployment. You can find many resources online and in books to help you learn the basics of DevOps.



How to get started



Choose the right tools. There are many different DevOps tools available, so it is important to choose the right ones for your needs. Consider the size and complexity of your organization, the type of applications you are developing, and your budget when choosing tools.

There is no Right or Wrong, but some might be easier to maintain etc.

How to get started

Start small. Don't try to implement all of DevOps at once. Start with a small project and gradually add more features and functionality as you learn and grow.

Make sure there is room to learn from the mistakes you will make.

The 12 Factor app might help with design principles.



How to get started



Get buy-in from stakeholders. DevOps is a cultural change, so it is important to get buy-in from all stakeholders, including developers, testers, operations staff, and management.

You cannot do it alone!!!

How to get started

Security should be an integrated part of your flow / Process etc.

- Automatic code scanning
- Container scanning
- Credentials
- etc.



How to get started



Measure and improve. Once you have implemented DevOps, it is important to measure your progress and identify areas where you can improve. There are many different metrics that you can use to measure the success of your DevOps initiatives.

Is the deployment cycle

- faster
- more secure
- more stable
- more flexible
- etc

How to get started

A Developer Platform might help. But it's probably not a first step, and it needs to make sense.

Also you need to have or are able to, make your own "Golden Path".

More on "Golden Path" and developer portals in webinar 5 and 6.



What new skills and tools are needed ?

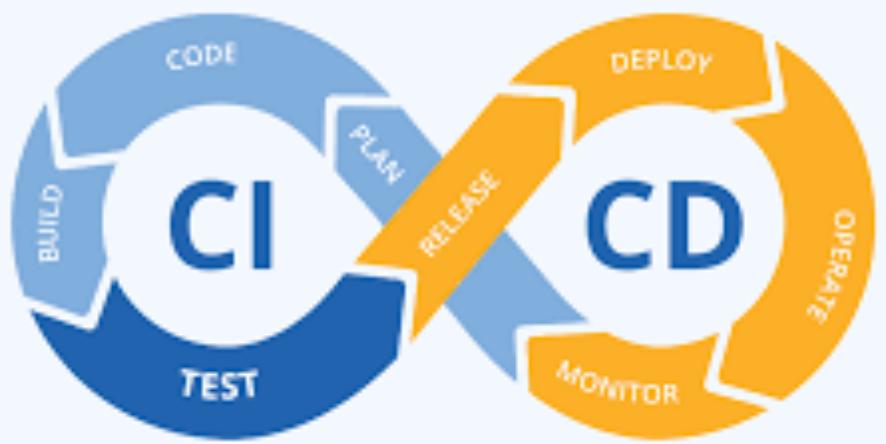
Version Control

- Git

- Others



CI / CD Tools



- Github Actions
- Gitlab
- Flux
- ArgoCD
- Jenkins
- Azure Devops
- TravisCi
- CircleCi
- Others

Containers

- Docker CLI
- Docker compose
- Portainer etc. for UI



Kubernetes



- Kubectl
- K9S
- And all the others!!!

Testing tools

- SonarQube
- Postman
- Selenium
- Apache JMeter
- But depends on what you are testing

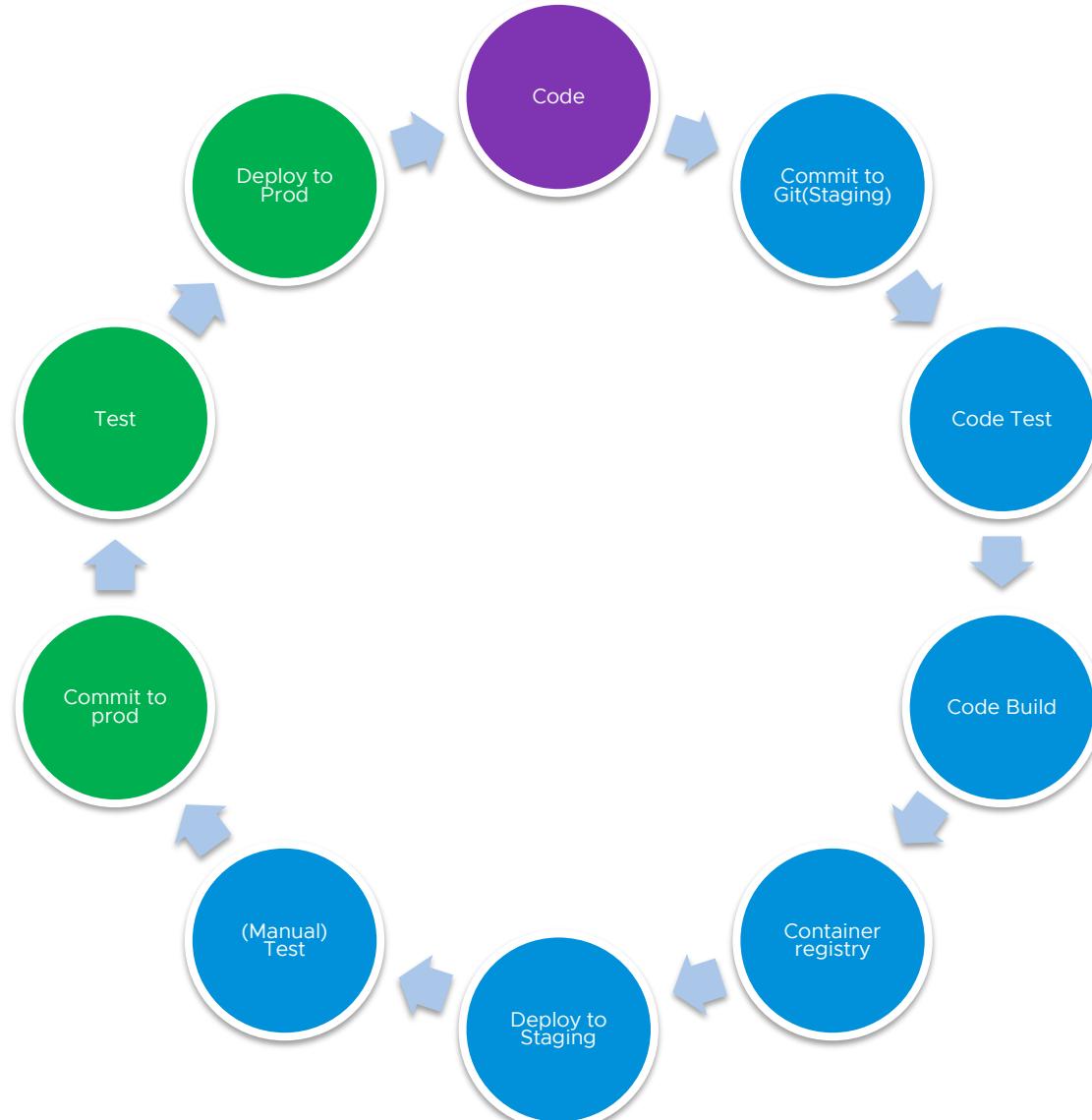


Automation tools



- Bash
- Terraform
- Ansible
- SaltStack
- Golang
- Python
- Powershell
- Other ?

Flow / Process – Find yours



Demo



Tanzu Kubernetes Grid

An Enterprise-ready Kubernetes runtime

Across Private and Public Clouds

Power
Modern Apps

A Consistent Kubernetes Experience Everywhere



Key Capabilities
Automated multicluster operations



Validated integrated services



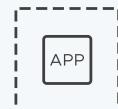
Open source aligned



Expert global support



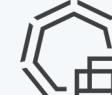
Multicloud Enabled



Windows Containers



GPU Ready



TMC Integration



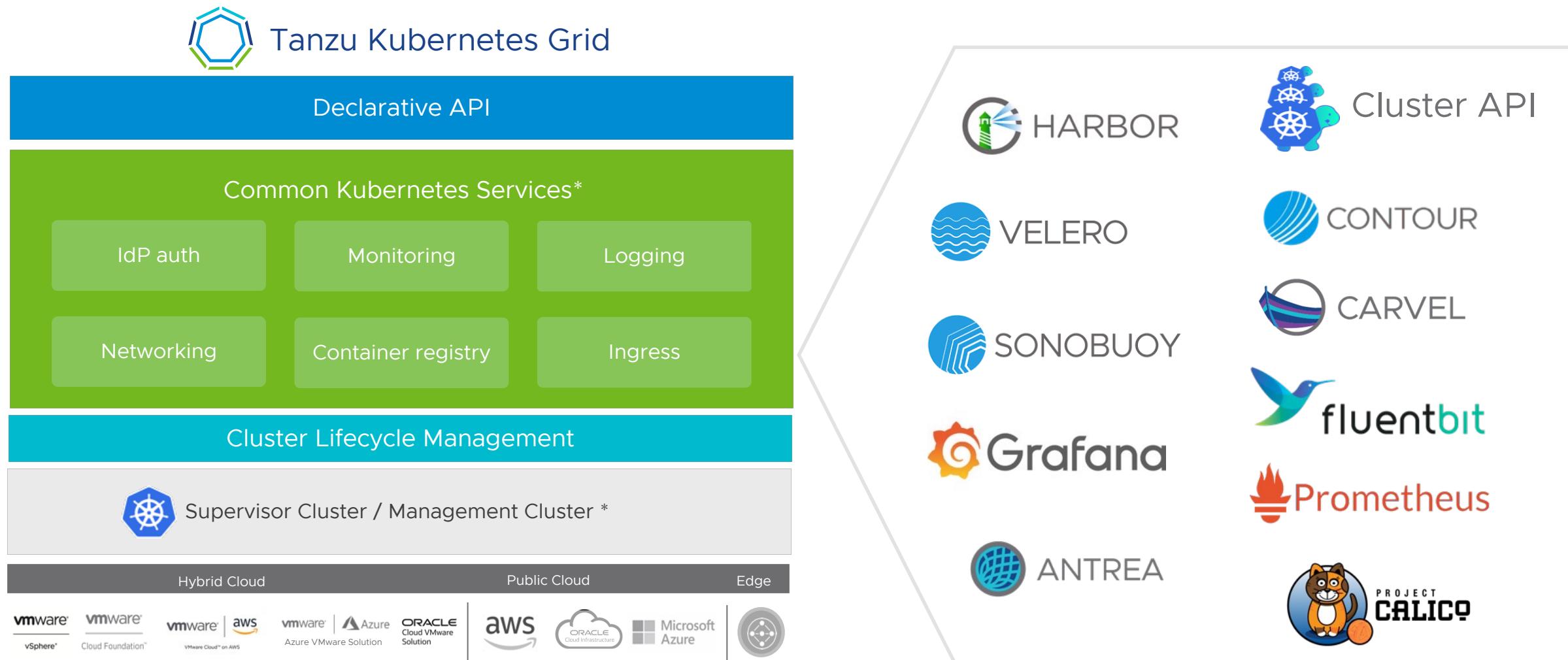
TAP Support



And Much More

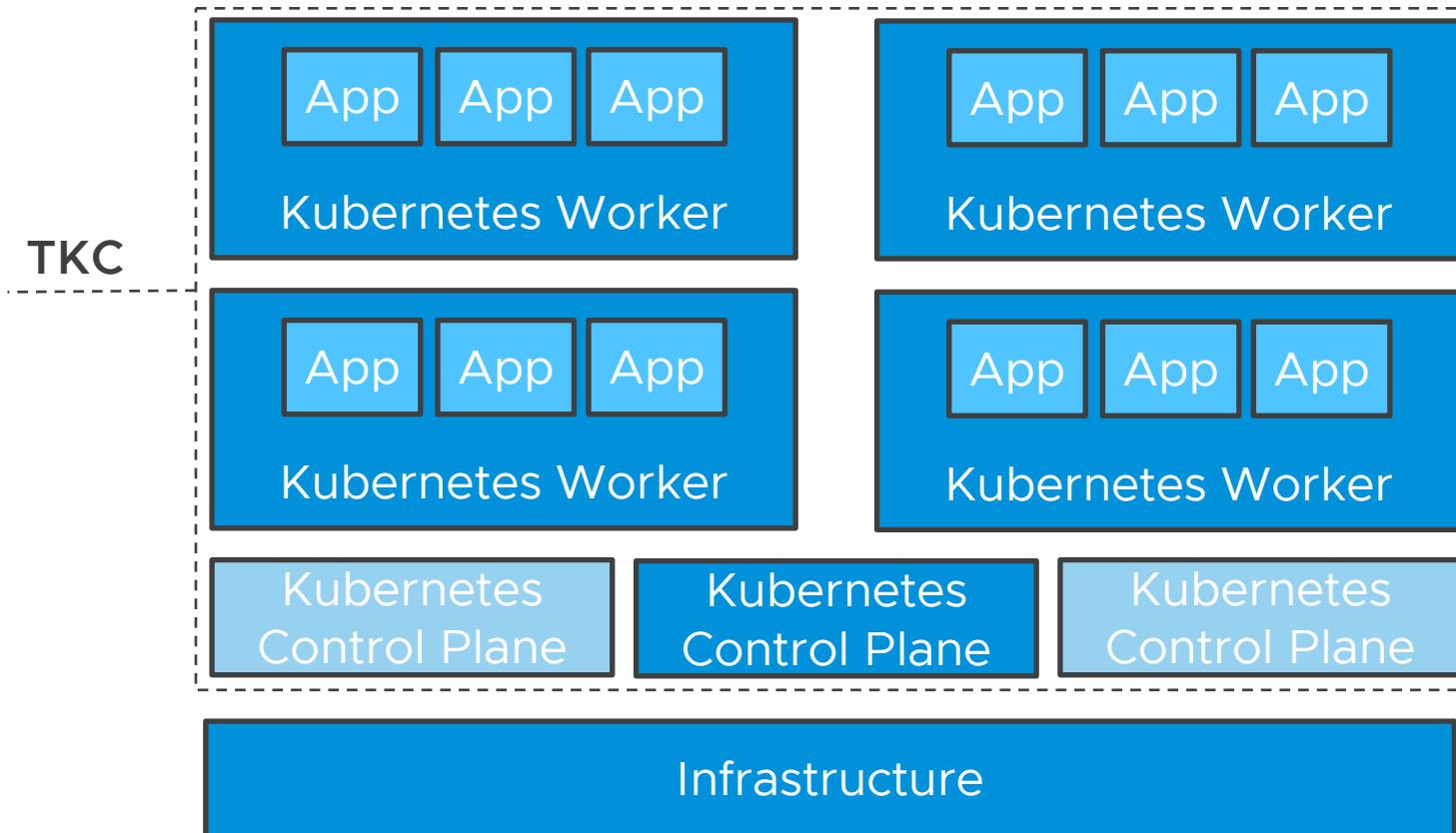
Full Kubernetes runtime built with best open-source technologies

Packaged for enterprise adoption and supported by VMware



Simplicity and Consistency

Tanzu Kubernetes cluster



Opinionated deployment of an upstream-conformant Kubernetes cluster running as set of virtual machines on supported infrastructure

- Drive **uniformity** and **simplicity**
- Deliver **consistent results**

Tanzu Kubernetes clusters can be deployed in either HA or non-HA modes depending on requirements.

Official Kubernetes Images by VMware

Tanzu Kubernetes release

A packaged, signed, verified, and supported Kubernetes release by VMware

- Upstream distribution and core components
- Programmatically build and configure clusters
- Integrated upgrade compatibility check

Aligned with official Kubernetes version support of N-2

Photon OS, Ubuntu, Amazon Linux officially distributed

Build Your Own Image

- Aligned with image-builder, a project maintained by the Kubernetes community, to create immutable machine images for use by Cluster API.
- Leveraged by VMware for official TKRs



Demo



Next times Agenda

Kubernetes as a service to your users

- Multi cloud deployments
- Complete automated delivery with CD on top
- Policies / guardrails
- Scale out
- Upgrades
- Backup



Until next time & Q&A

Look at the following

Book : The unicorn project : <https://itrevolution.com/product/the-unicorn-project/>

Audiobook : The unicorn project (first 6 chapters) : <https://soundcloud.com/itrevolution/sets/the-unicorn-project>

Book : The Phoenix project : <https://itrevolution.com/product/the-phoenix-project/>

Docker : <https://www.docker.com>

Docker Hub : <https://hub.docker.com>

Kubernetes : <https://kubernetes.io>

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

Tanzu : <https://tanzu.vmware.com>

Register for next event on
<https://webinars.tanzu.dk>

Recording / Slides will also be available there.

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Q&A