



KubeCon



CloudNativeCon

Europe 2021

Virtual



Forward Together »



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Flux Deep Dive

Philip Laine, Xenit

Virtual



Philip Laine

- DevOps Engineer @ Xenit
- Flux maintainer team



XENIT

What is Flux



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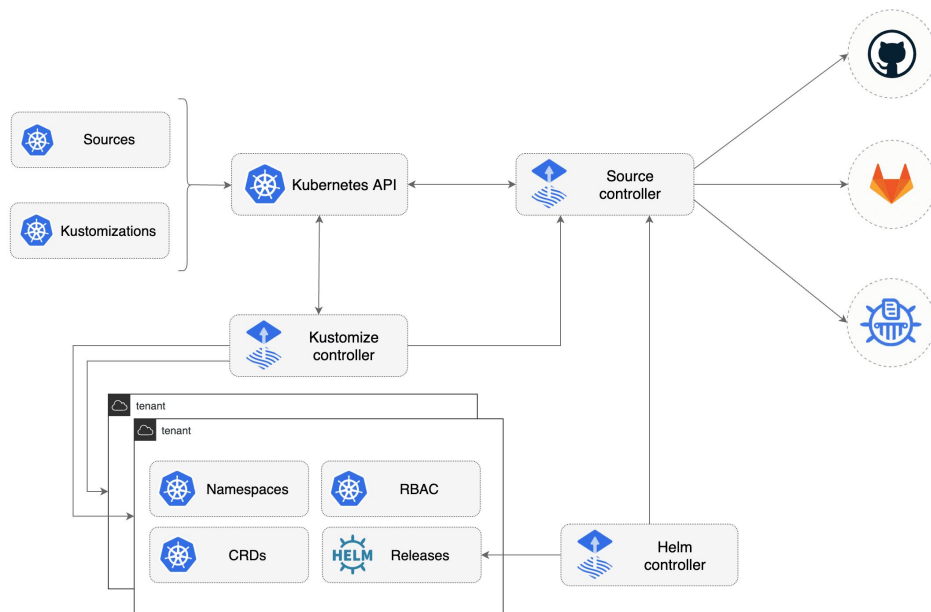


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Flux is a tool for keeping Kubernetes clusters in sync with sources of configuration.



What is Flux



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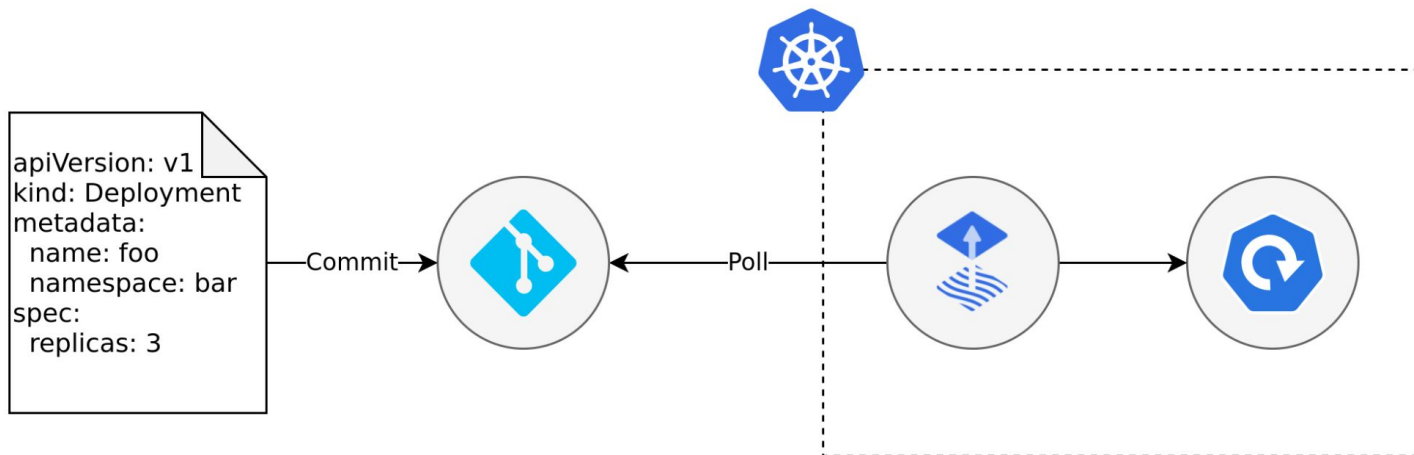


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- Commit file to a Git repository
- Wait for Flux to poll repository
- Success!



Flux & Flagger Timeline



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- 2016 Flux started at Weaveworks
- 2018 Flux Helm Operator started
- 2018 Flagger started
- 2019 Flux joins CNCF Sandbox
- 2020 Flagger joins CNCF as a FluxCD sub-project
- 2020 Flux v2 & GitOps Toolkit started
- 2021 Flux promoted to Incubation



1888

Contributors

(1569 since Sandbox)



14 Maintainers

In 5 companies

(6 Maintainers, 3 companies at Sandbox time)

My Journey



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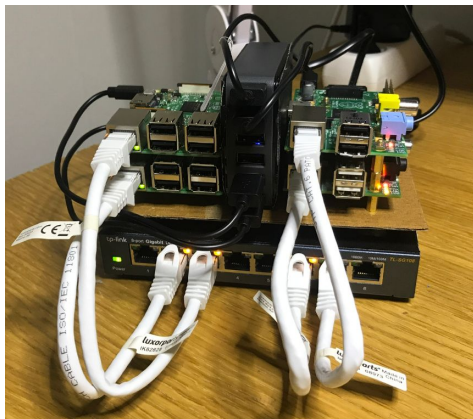


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2018



2021



Flux at Xenit



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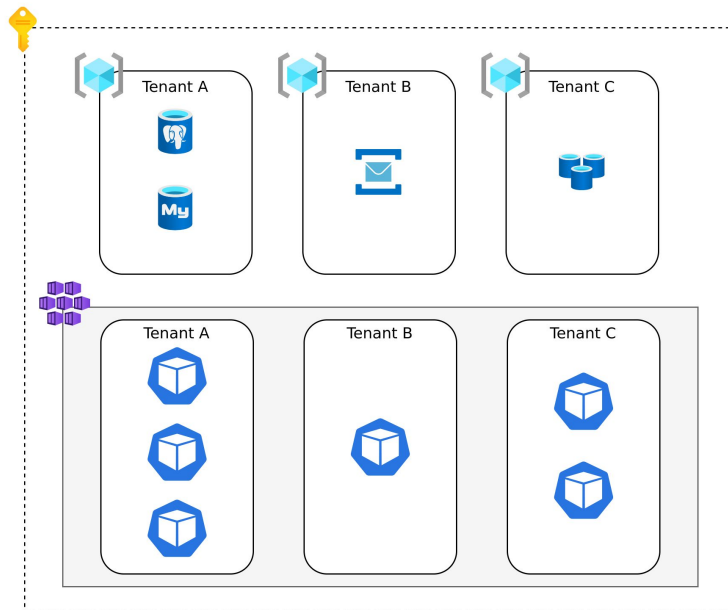


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- We develop and operate a multi tenant Kubernetes solution
- Each tenant usually represents a team or product
- Tenants range in size from a couple of applications to 50+



Pre Flux



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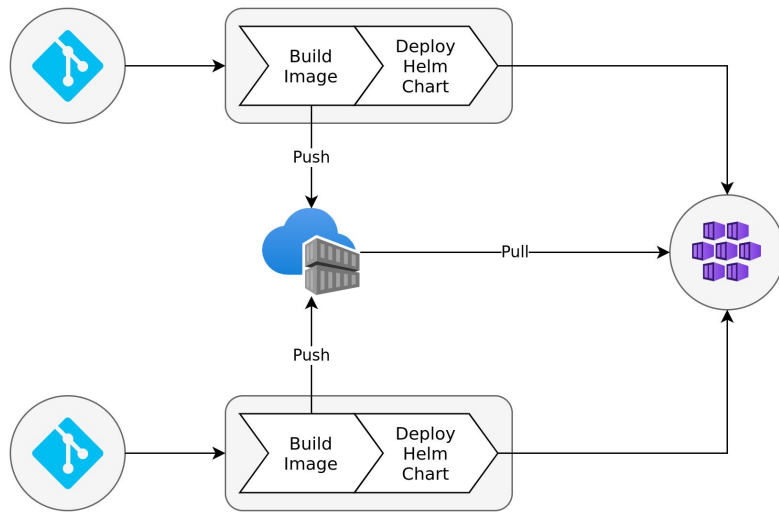


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- Development teams maintain their own CD pipelines
- Manifest and application code is tightly coupled
- Each application “knows” about the cluster
- A small manifest change will require you rebuild



Post Flux



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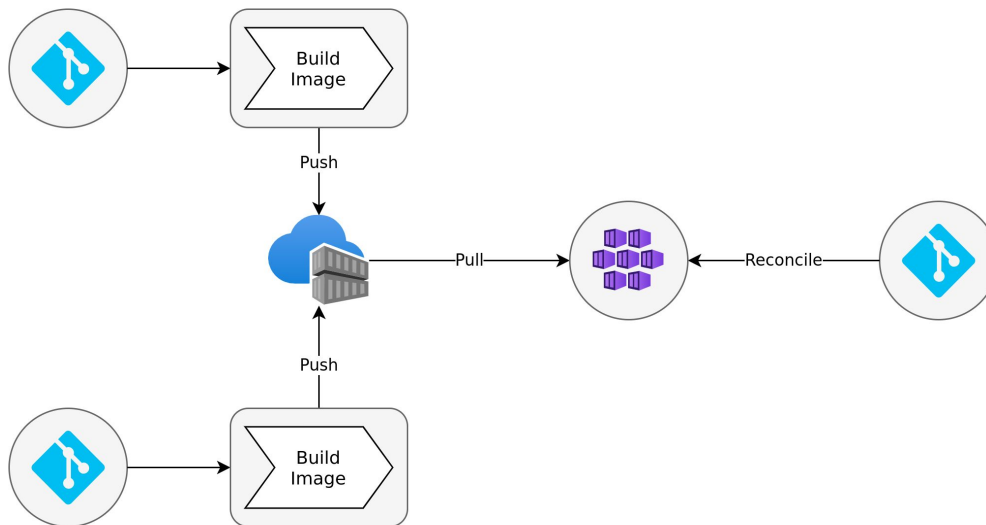


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- Unified entrypoint to Kubernetes
- Simple observability of what is being deployed
- Changes to manifests are fast



Multi Tenancy



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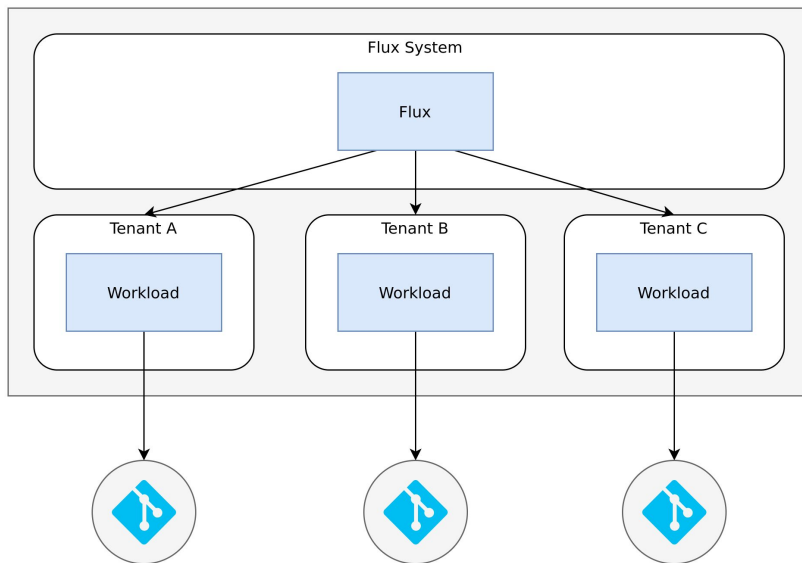


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- Multi tenancy allows many teams to co-exist in the same cluster
- Can easily be automated for easy onboarding



Promotion Flow



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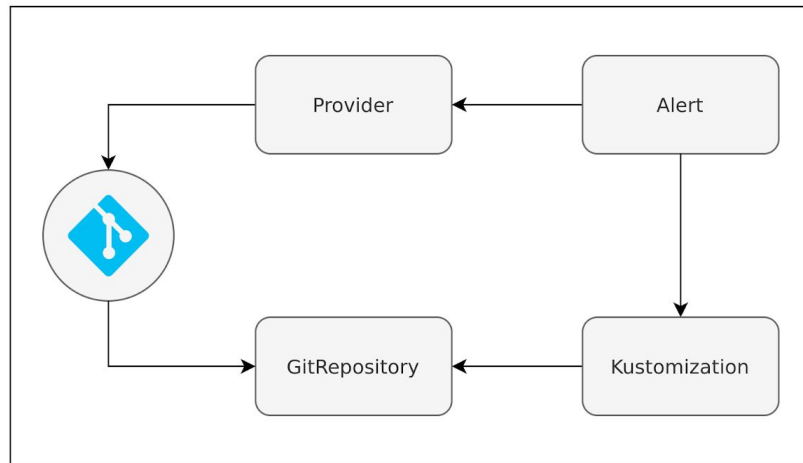
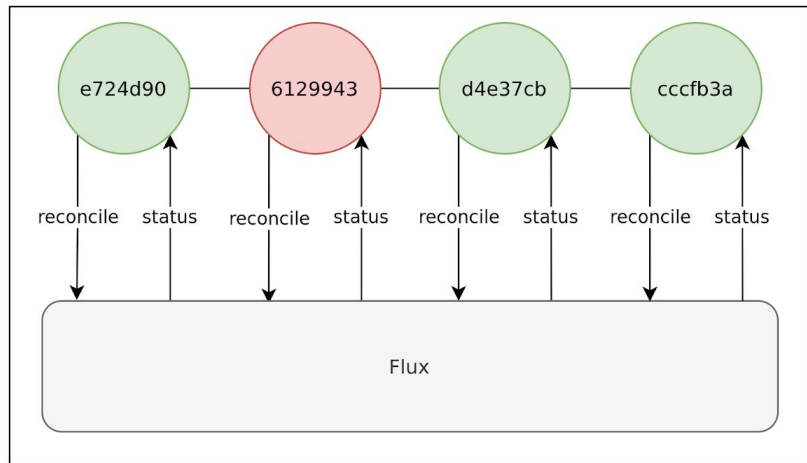


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- A new deployment method requires buy-in from all participants
- GitOps may look foreign compared to traditional CD pipelines
- Lack of feedback loop may scare users away
- Reach a middle point between new and old



Multi-cluster Blue/Green



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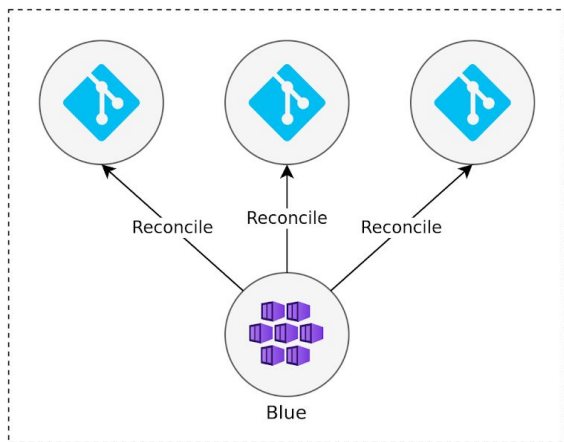


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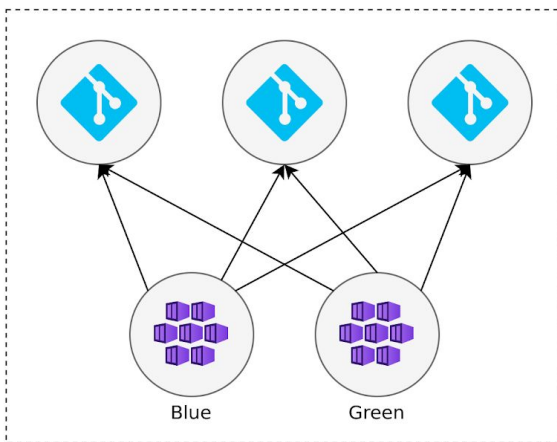
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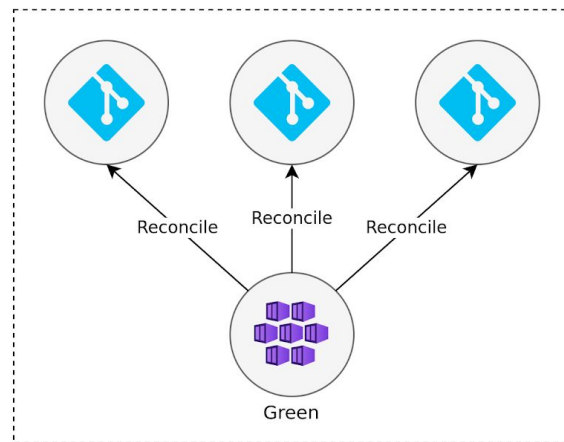
- In-place upgrading can be risky and time consuming
- Coordinating with 100s of developers is not realistic
- Running multiple regions may not be possible within a budget



1



2



3

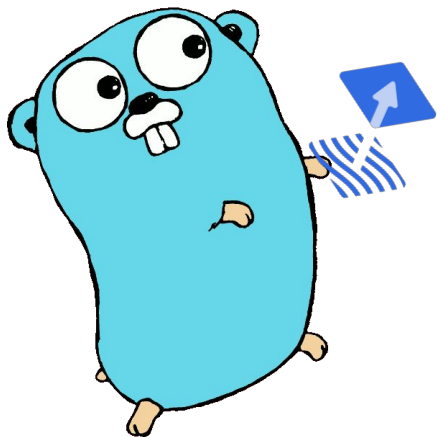
Flux community



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Join [#flux](#) and [#flagger](#) on CNCF Slack
<https://slack.cncf.io>



Join the Flux v2 discussions on GitHub
<https://github.com/fluxcd/flux2/discussions>



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<https://events.linuxfoundation.org/kubecon-cloudnativecon-europe/program/speaker-guide/>

Due: extended to Apr 7

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