



fluxCon

**NORTH AMERICA**

# Building the Next Gen GitOps based Platform with ConfigHub



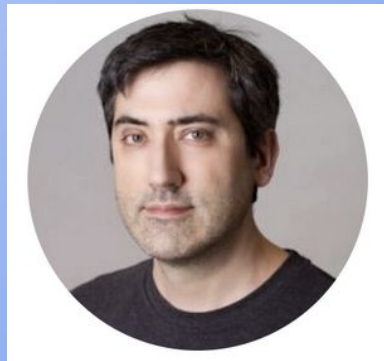
**Erick Bourgeois**

Lead Platform

Engineer

*RBC Capital*

*Markets*



**Alexis Richardson**

CEO

*ConfigHub*

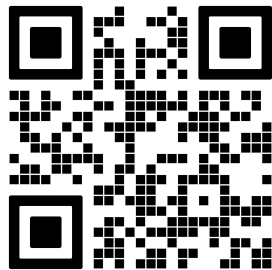
# Erick Bourgeois

Kubernetes Platform Lead - RBC Capital Markets

GitOps Evangelist

Proudly Canadian!

23+ years in highly regulated environments



@ebourgeois



wintermute



***Disclaimer:** the information and opinions of the presenter do not represent that of their employer.*

# Alexis Richardson

Co-founder of ConfigHub, Weaveworks, RabbitMQ

Former Full-Time GitOps Evangelist :-)

Happily European!

23+ years in tech / OSS / startups & (prev.) finance

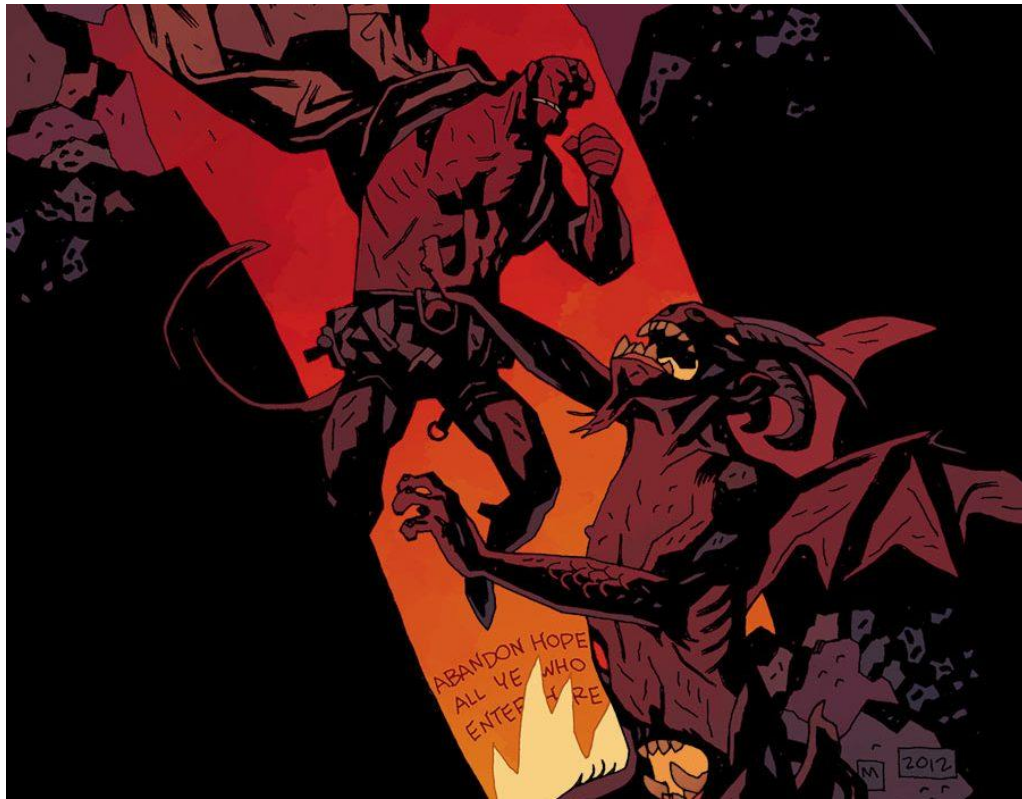


**Alexis Richardson**

ConfigHub Inc.

CEO

# A Journey Into Config Hell!



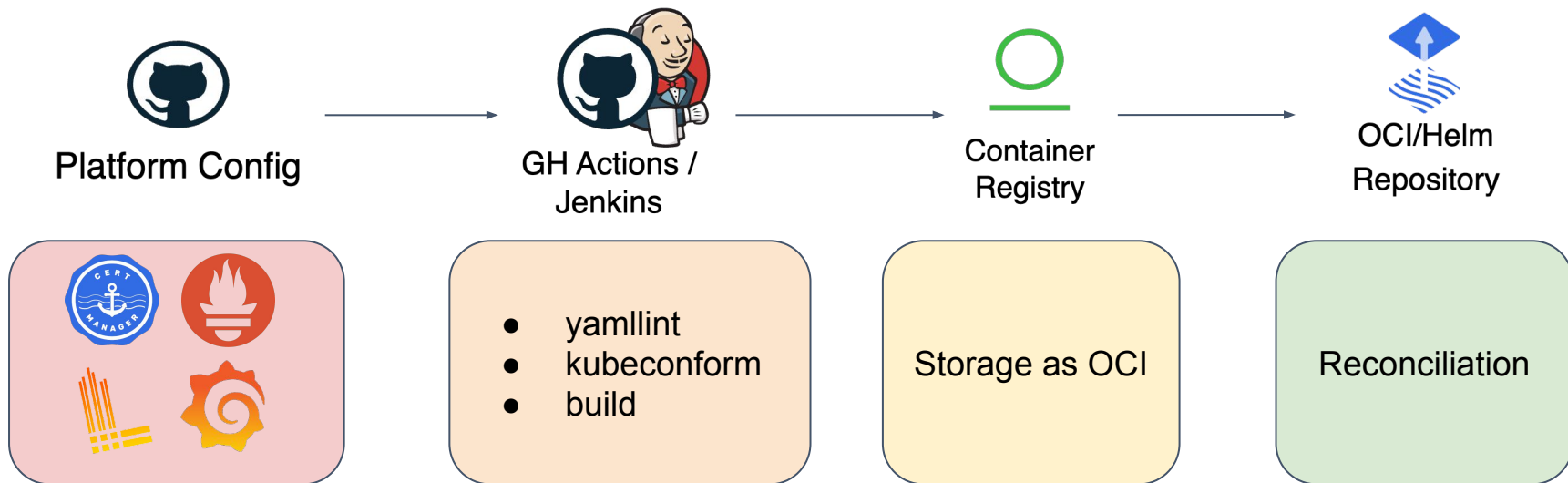
KubeCon



CloudNativeCon

North America 2025

# Typical (Platform) Config Workflow



# YAML Inside Text Inside YAML 🤪

```
data:  
  config.yaml: |  
    dashboards:  
      searchNamespace: foo, bar, baz
```

**Ugh... ConfigMap in a ConfigMap**

"YAMLception"

# Then... ConfigMap ✨ BOOM ✨

ConfigMap + Helm Template Logic + Released = **3 days** of investigation!

The root cause: just **one extra space** when adding a new namespace name



# Enterprise Ops Are Not Devs



# The real Problem: Sprawl == Risk

- A maze of interconnected config!
  - Helm umbrella charts
  - Helm providers
  - Kustomize overlays
  - FluxCD manifests ...
- This is fragile at scale



# Is There A Path Forward?

- More and more config is being dumped into git, e.g. IaC, e.g. “vibe coded ops”, which can only create more complexity
- We need a new approach
- Solution: **CONFIG IS DATA**



# Infrastructure as Code 2.0?

**From Infra as Code to new languages and integrated frameworks..**

- Crossplane, Pulumi, Jsonnet/Dhall, Opentofu, Spacelift....?
- System Initiative, Cue Lang ..?

**Config as Data is different: 100% separation of data and code (cf. N.Wirth 1976)**

- Pioneered as kpt and porch projects: early designs, very tied to k8s
- Want to move beyond just helping platform teams: what about app teams and AI?
- ConfigHub SaaS (store, API) plus OSS SDK for workers

**Separation into “config data” and “ops workers” gains:** Validation on demand, Bulk updates and queryable configurations, Mutable structures, Machine-readable contracts...

# Introducing ConfigHub

## Configuration as Data for everyone



- One central place where every config is visible and manageable
- Structured configuration management - rendered values only
- Real-time validation before deployment - “see what happens before it happens”
- Eliminates Git/CI/CD complexity
- Extensible via OSS SDK

**"We eliminate all these dominos, and we get all this value"**

— Erick Bourgeois, RBC Capital Markets

# Is It Really GitOps?

**Yes! And more**

- Centralise declarative rendered configurations
- Bidirectional GitOps - ops can make changes too
- Version control and audit trails maintained
- Break glass operations not blocked!
- Full reconciliation with clusters



**This is an evolution of GitOps, integrating many improvements in a simple way**

# ConfigHub Demo

Configuration as Data in Action

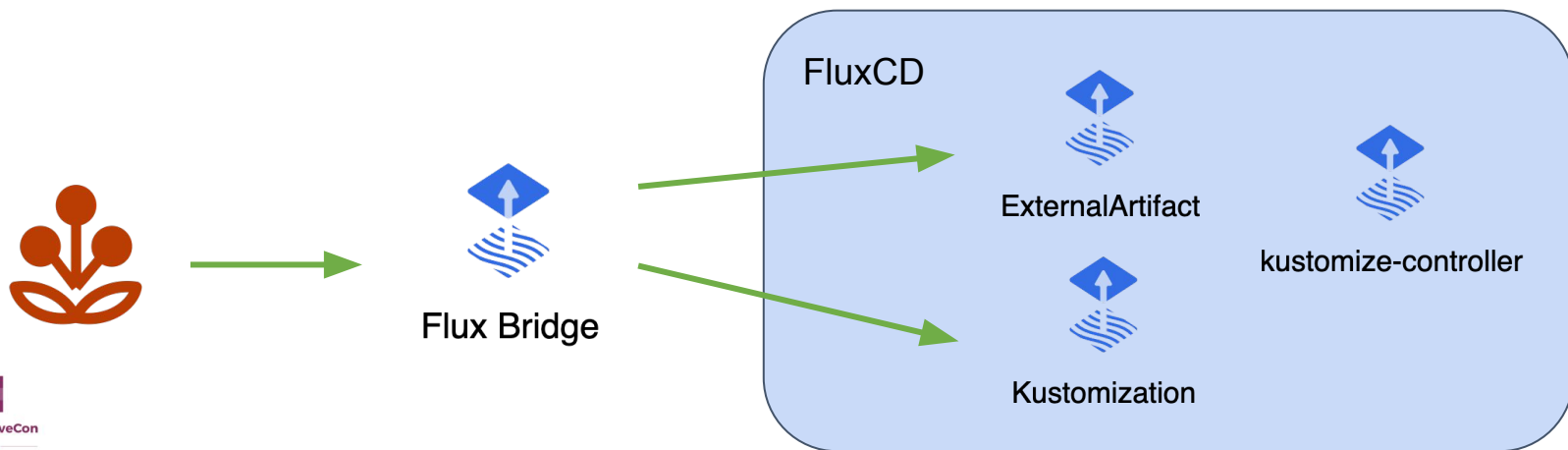
Live demo: Units, cloning, triggers, and validation

# We can run functions and triggers to catch “inner” config

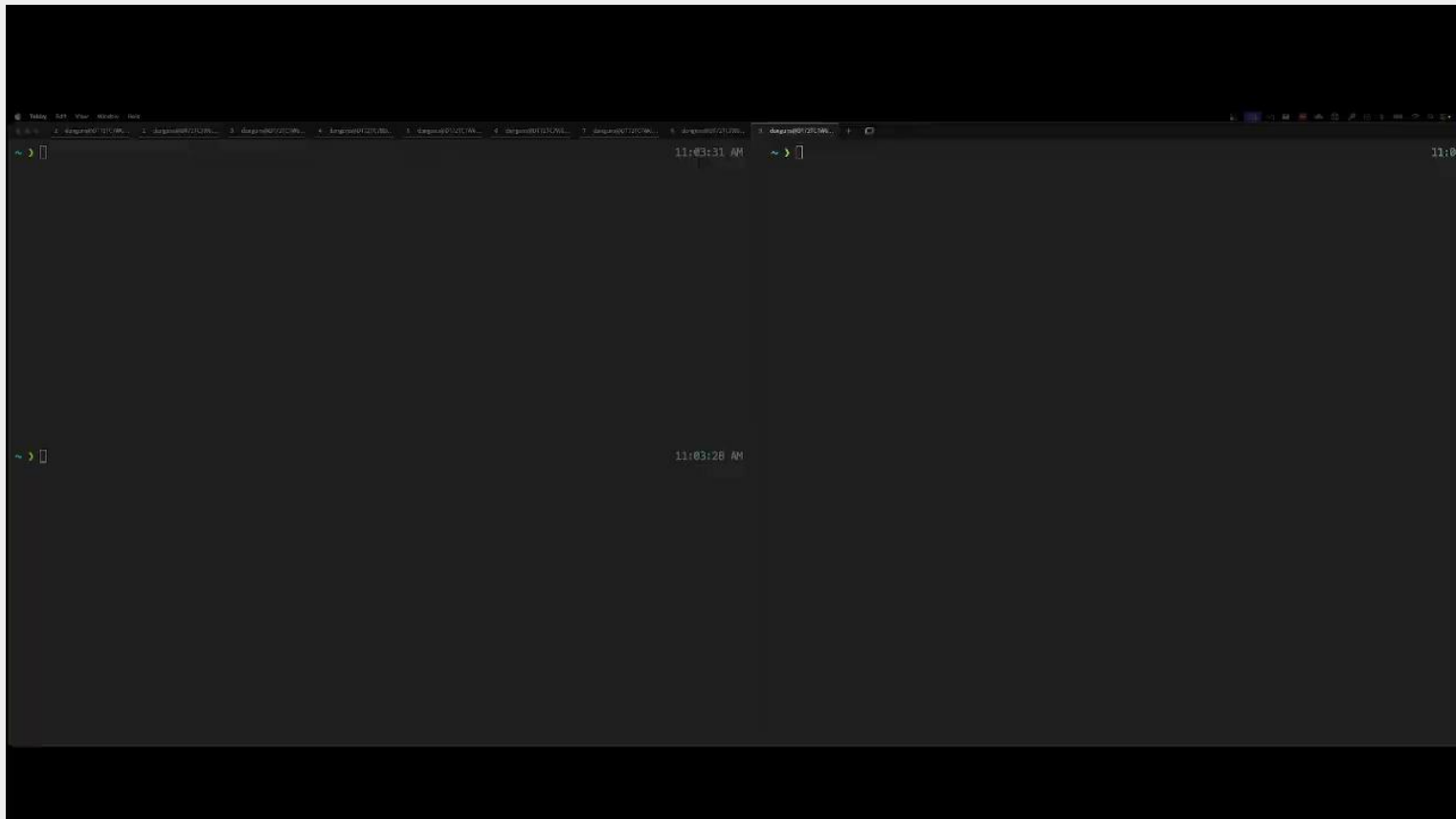
```
cub function local ../grafana.yaml vet-celexpr "r.kind !=  
    'Deployment' || r.metadata.name != 'grafana' ||  
(r.spec.template.spec.containers.all(container, container.name !=  
    'grafana-sc-dashboard' || container.env.all(env, env.name !=  
    'NAMESPACE' || matches(env.value, '^[^ ]+(,[^ ]+)*$'))))"
```

# OK, So Where Does Flux Fit?

- Flux 2.7.0 release: ExternalArtifact
- Flux-Bridge: ConfigHub's "Source Of Truth"
- Flux continues to handle reconciliation
- Existing Flux workflows are preserved

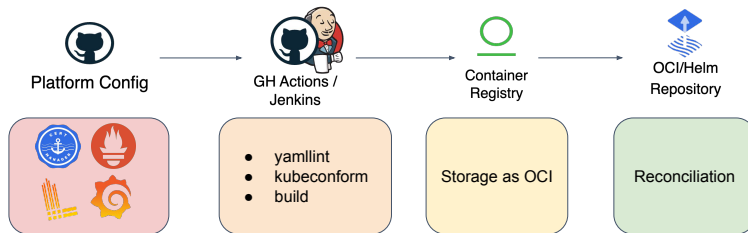


# Flux Bridge Demo

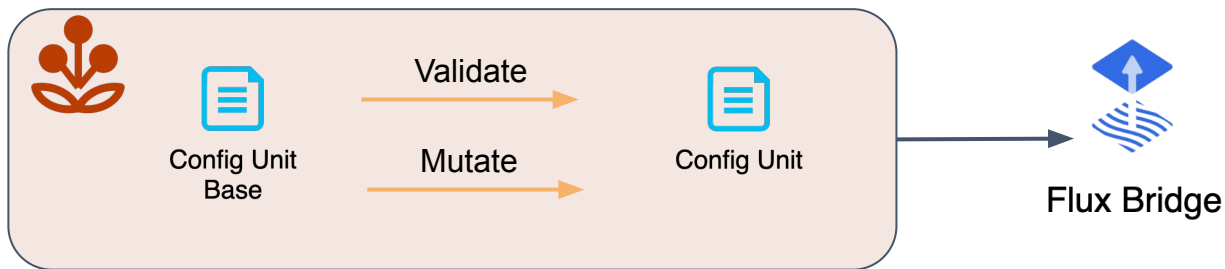


# The Journey Out Of Config Hell!

Before ConfigHub



With ConfigHub



# Customer Benefits

- Reduced blast radius
- Enhanced transparency
- Faster CVE response
- Self-service workflows
- Click ops capability
- Automated compliance

# Your Takeaways

1 Config should be data — not text

2 Validation and mutation belong before deployment

3 You can de-sprawl your YAML workflows today

# Get Started with ConfigHub



## Sign up for ConfigHub

<https://docs.confighub.com>



## GitHub Projects

<https://github.com/confighub/sdk>

<https://github.com/confighub/flux-bridge>



## Docs & Feedback



[hello@confighub.com](mailto:hello@confighub.com)



# Got questions?



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