Expanding Interoperability in the CD ecosystem

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Agenda

- Use Case / Scenario
  - Challenges
  - Why CDEvents?
- Demo
- Next Steps

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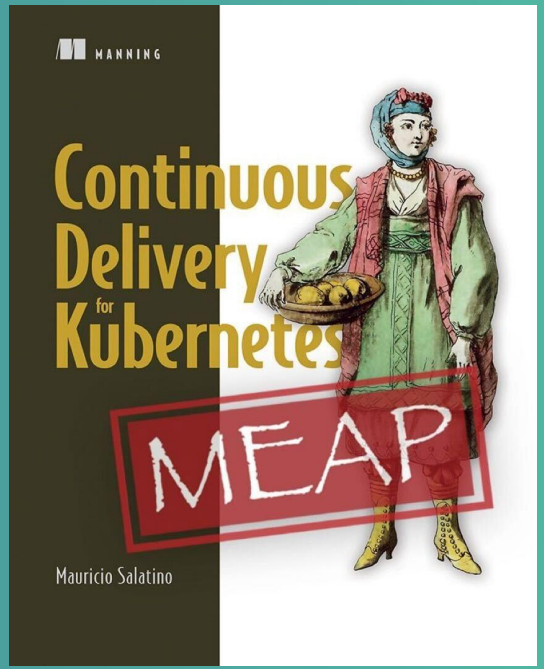
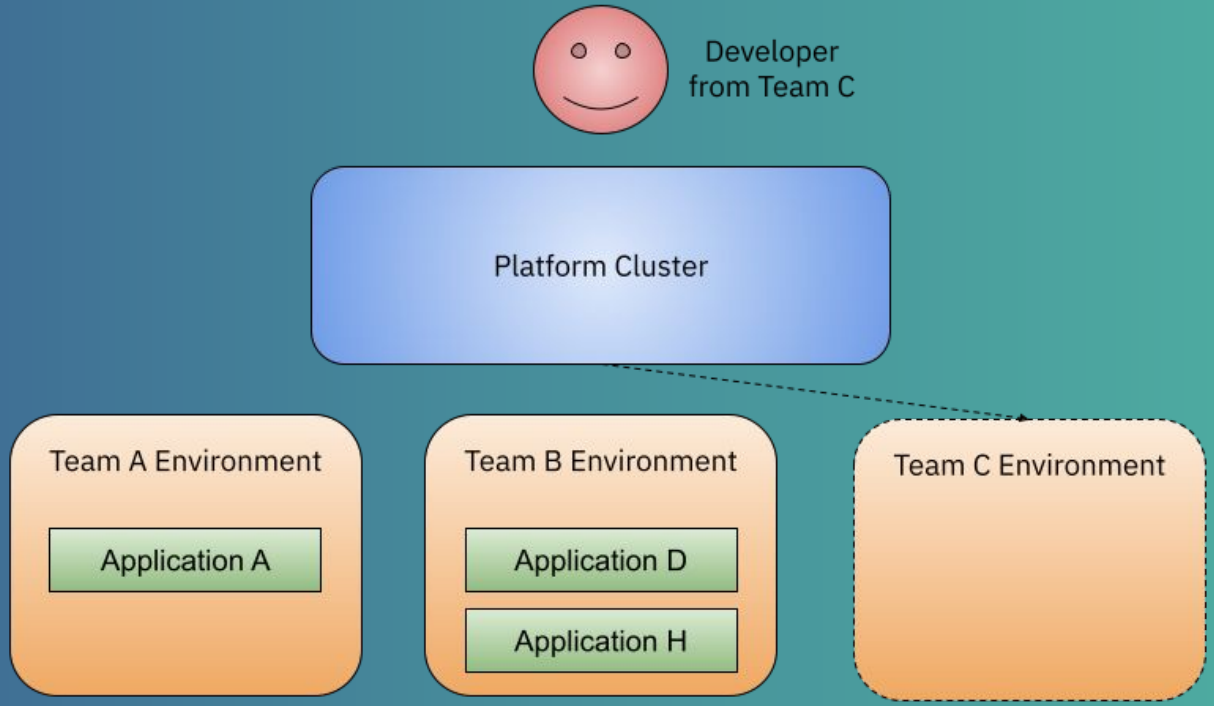
- Software Engineer, Loft Labs
  - Working on VCluster
- Passionate about building K8s Controllers!

Mauricio Salatino

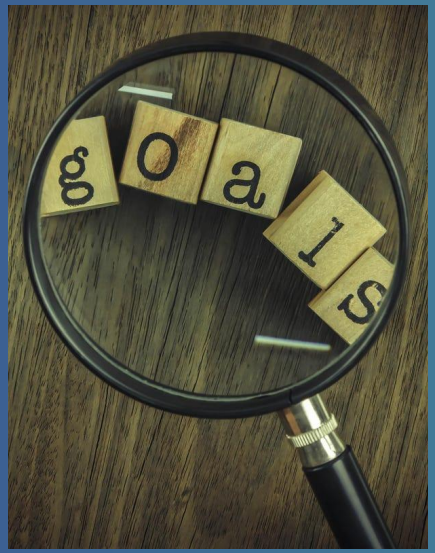
- @Salaboy
- Staff Engineer at VMware
  - Knative OSS maintainer,
  - Knative Eventing Tech Lead
  - Passionate about Knative Functions
- CD Foundation Ambassador
  - Member of the SIG-Events WG
  - CDEvents Go SDK
- Continuous Delivery for Kubernetes
  - 35% Discount Code: **ctwcdevents22**



Scenario


Developer
from Team C
Platform Cluster
Team A Environment
Application A
Team B Environment
Application D
Application H
Team C Environment

What do we want to achieve?



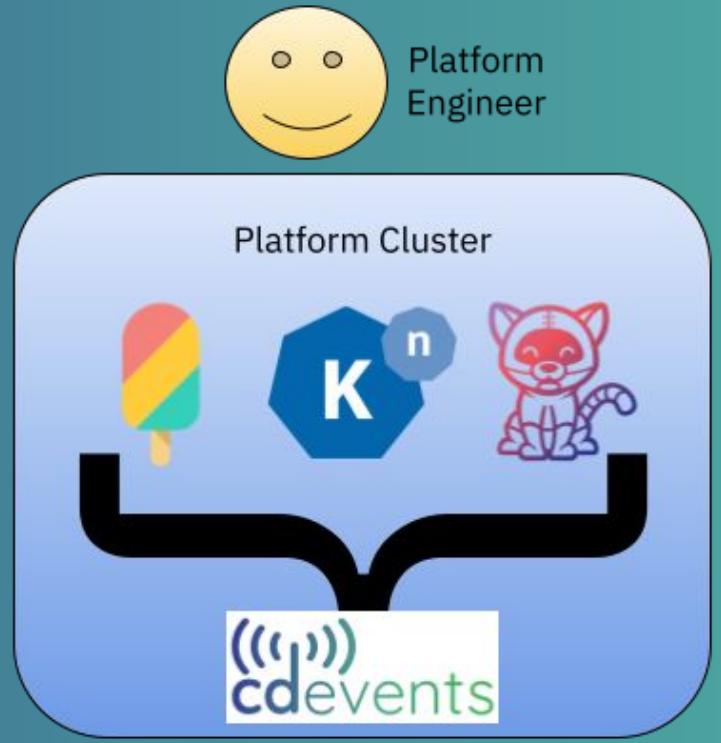
- We want to build a platform that:
  - Allow developers to provision Environments on demand
  - Configure those Environments with tools that our developers need
  - Provides an easy way to access credentials
  - Provides extension points for other tools to be integrated
- We need to:
  - Glue different tools to achieve this use case
  - Avoid building point to point glue, for example integration between Tool A and Tool B that cannot be reused for Tool C
- ***How can we use and integrate different tools from the CNCF and CDFoundation landscape in a non-intrusive way?***

Tools that we are using

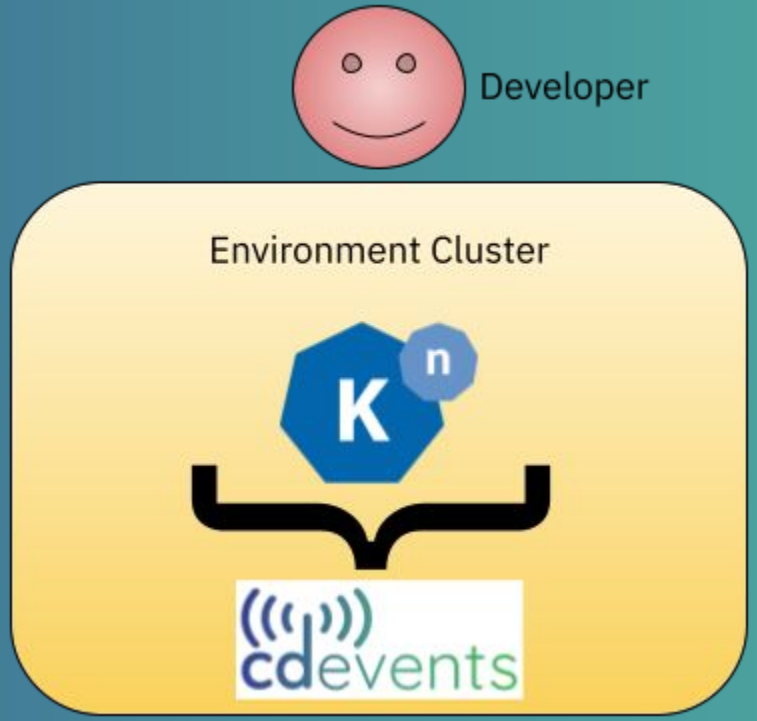
Crossplane

TEKTON

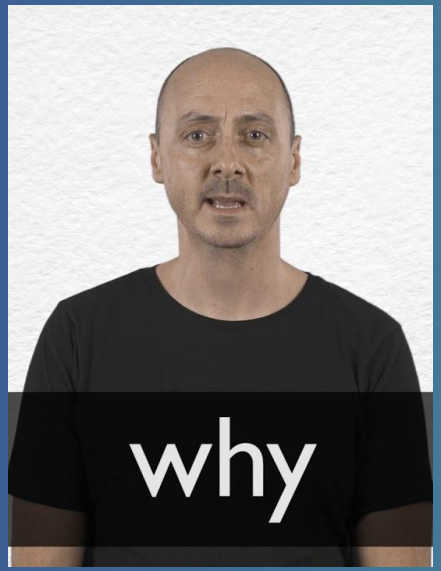
Platform tools



Environment tools



Why CDEvents?

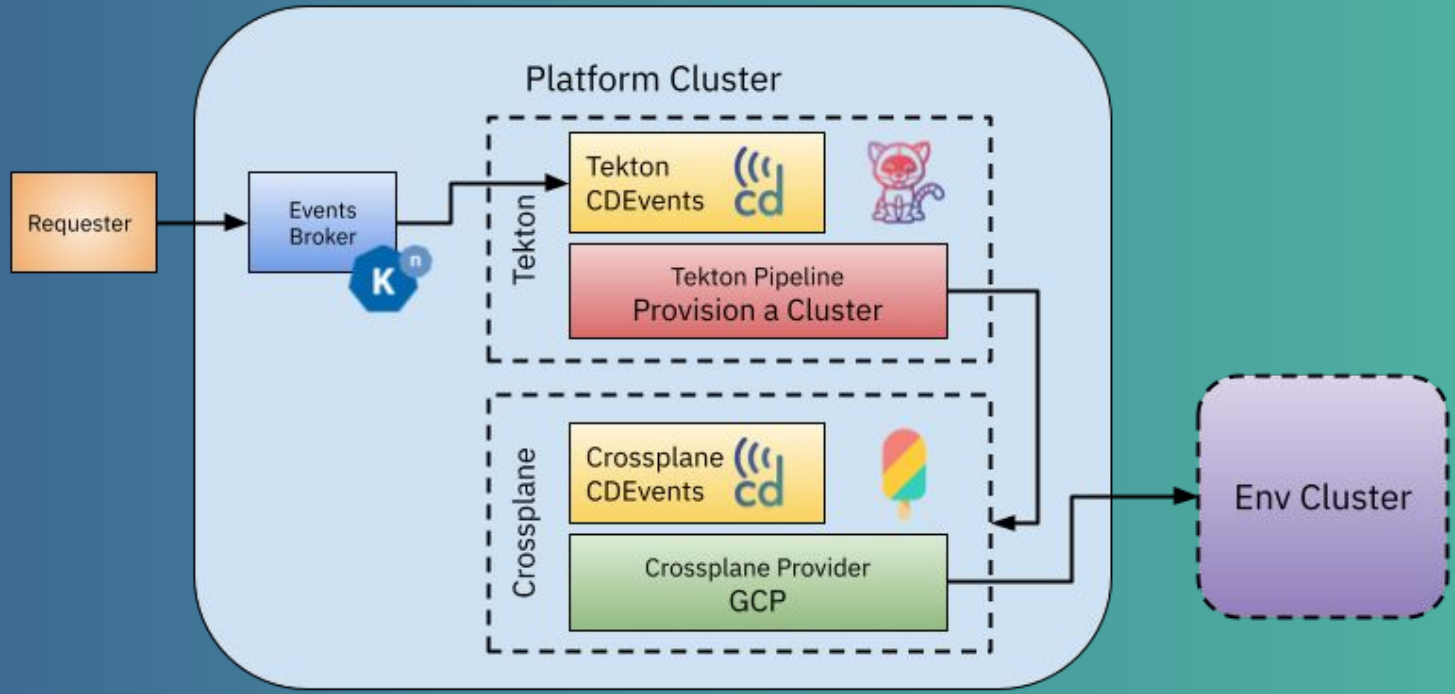


- Because we want visibility across different tools and Clusters
- Because we want to implement an event-driven integration approach
    - Because we don't want to build point to point integrations for every tool that we want to use, we want them to speak the same language
- Because we know that we will be adding more tools that haven't been designed to work together
- Because we can use tools like Knative Eventing to route CloudEvents

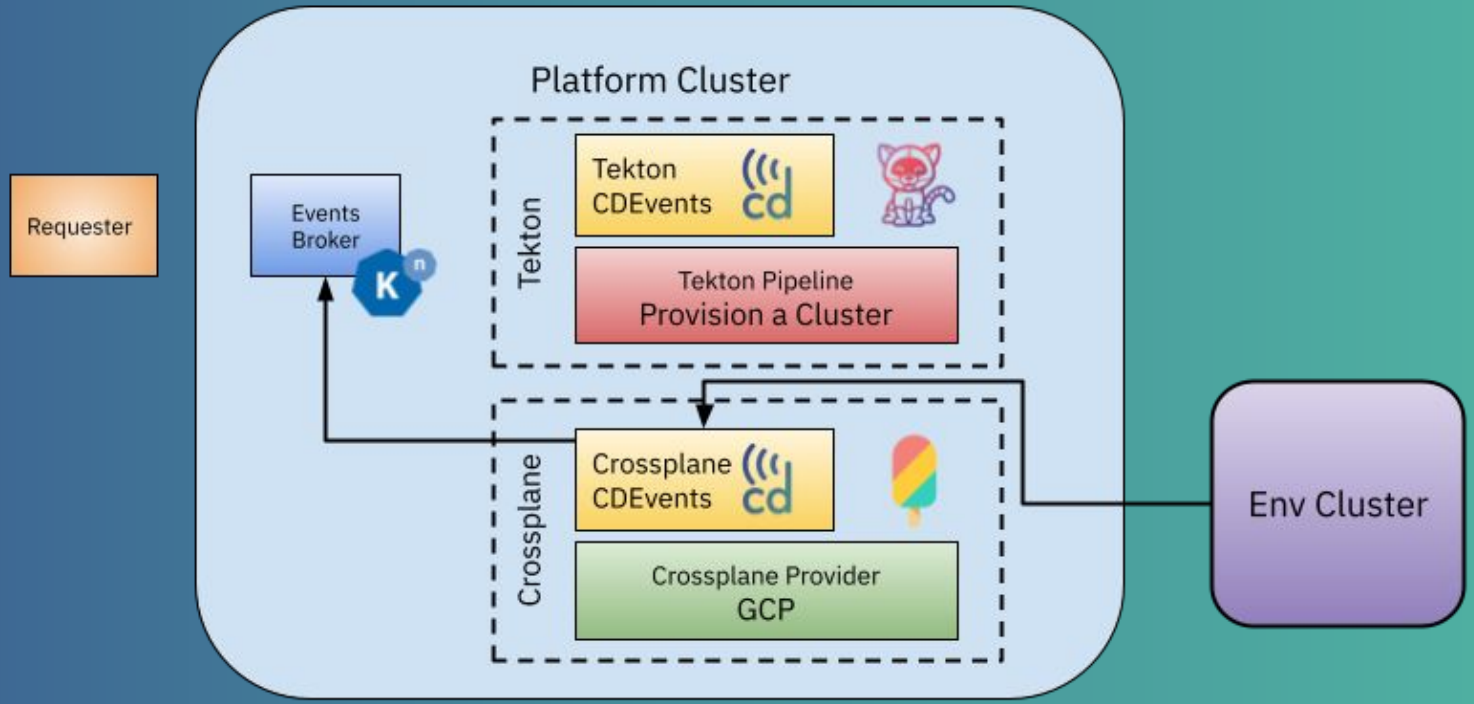
Demo Flow

1. *Request Environment*
2. *Use Environment*

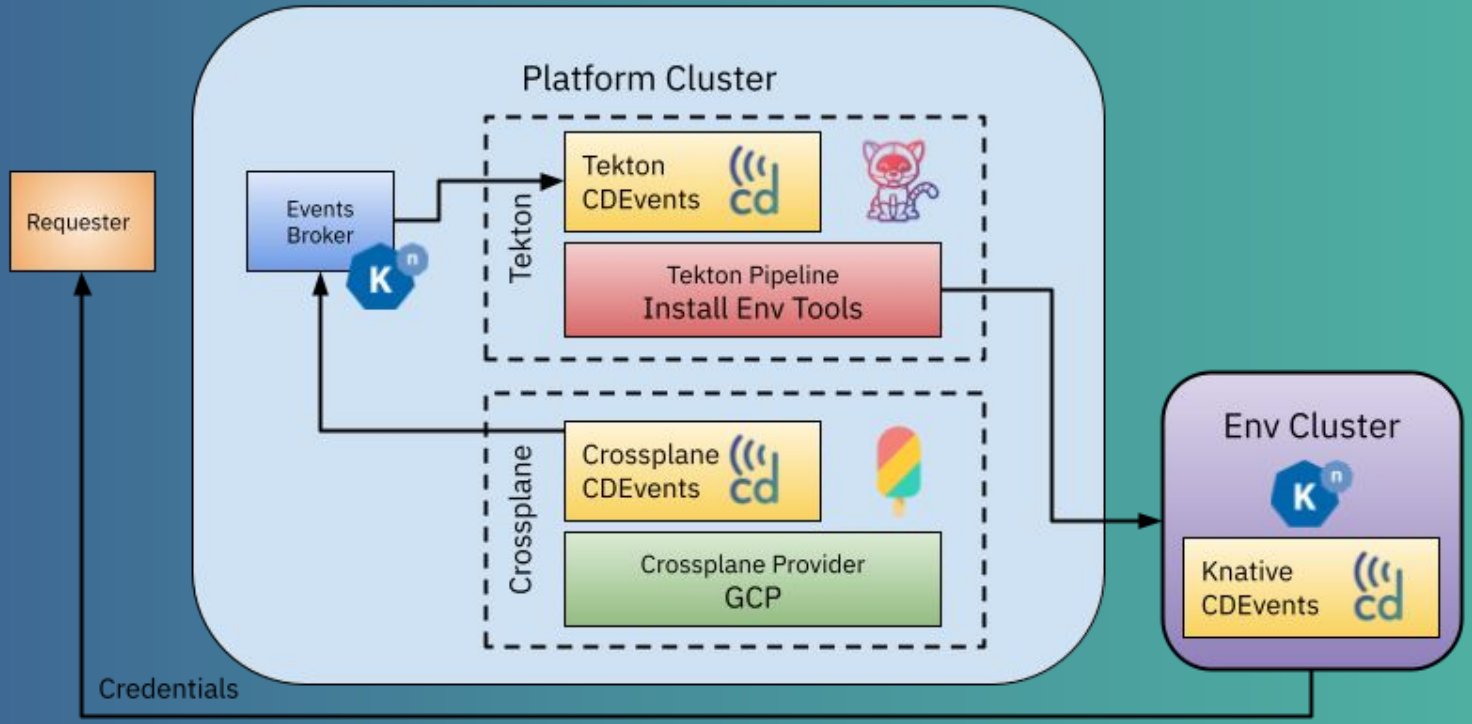
#1 New Env is requested



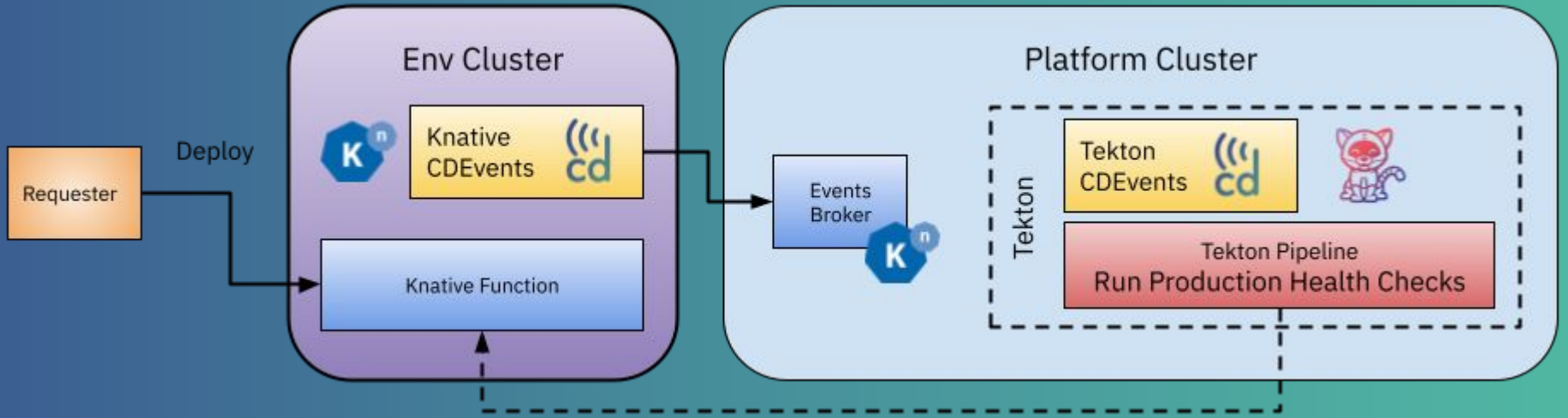
#2 The Env is provisioned and then...



#3 Install tools



#4 Use the cluster



Demo Time!

Challenges

- We need to route events across multiple clusters
    - Knative Eventing does help here :)
- Kubernetes projects can be extended with new controllers but each project has its own style
    - Knative Sample Controller
    - Crossplane Sample Controller
    - Keptn integration mechanisms (inbound and outbound)
    - We need for SDKs in different languages, Java is coming along
- CDEvents semantics are currently focused on emitting events only, not on consuming events
- The vocabulary will only evolve if it is being used, hence we require more adopters joining the SIG-Events WG
- We have created our own “Orchestrator” events
    - This is an ongoing discussion

Other approaches and tools

- Supply Chain Tools for orchestration
  - Cartographer.sh
  - Kratix (https://github.com/syntasso/kratix)
  - Keptn.sh
    - Keptn is an event driven orchestrator, which we already integrated with CD Events
    - https://github.com/cdfoundation/sig-events/tree/main/poc

Resource, Demo and Code

- Repositories
  - Crossplane CDEvents Controller/Provider: https://github.com/salaboy/cdevents-provider
  - Tekton CDEvents Controller: https://github.com/tektoncd/experimental/tree/main/cloudevents
  - Knative Serving CDEvents Controller: https://github.com/salaboy/knative-serving-events-controller
- Issues to track
  - https://github.com/cdevents/spec/pull/31

Get in Touch ! Thanks

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