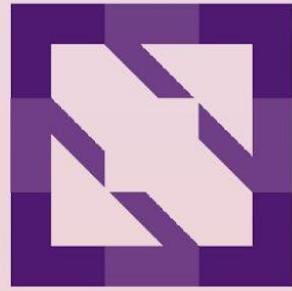




KubeCon

— North America 2023 —



CloudNativeCon



# EMPOWERING USERS THROUGH PLATFORM ENGINEERING

***Unleashing the Potential of Self-Service Tooling***

with Adriana Villela & Ana Margarita Medina



# Adriana Villela

*awesome at code, words, and bouldering*

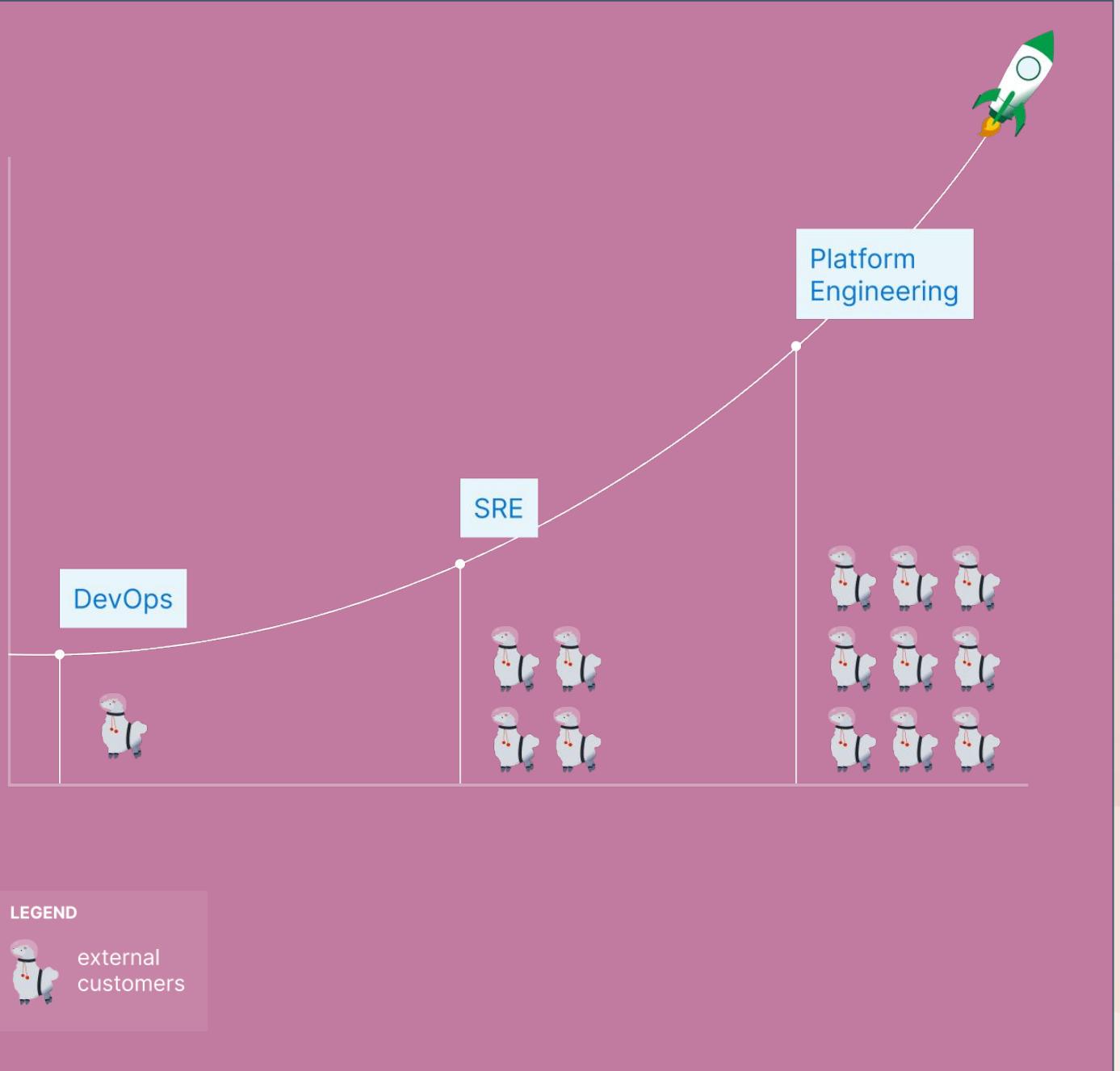


# Ana Margarita Medina

*awesome at code, reliability, and makeup*

**SOFTWARE**  
**has**  
**evolved**





# SOFTWARE DELIVERY has evolved



# WHO OWNS WHAT?

CTO

Engineering

SRE

Platform  
Engineering

# CAST OF CHARACTERS



Ana Margarita  
**developer**

*Impatient. Wants to get  
her work done. Now.*



Adriana  
**platform eng**

*Drowning in JIRA  
tickets. Wants to work  
on cool stuff.*



WHAT DO I  
need and  
want?



DEVS  
have less  
autonomy

**PLATFORM  
TEAMS**  
**are**  
**stressed**



# ENDLESS jira tickets





ENDLESS  
waiting



THERE HAS  
GOT TO BE  
**a better  
way**

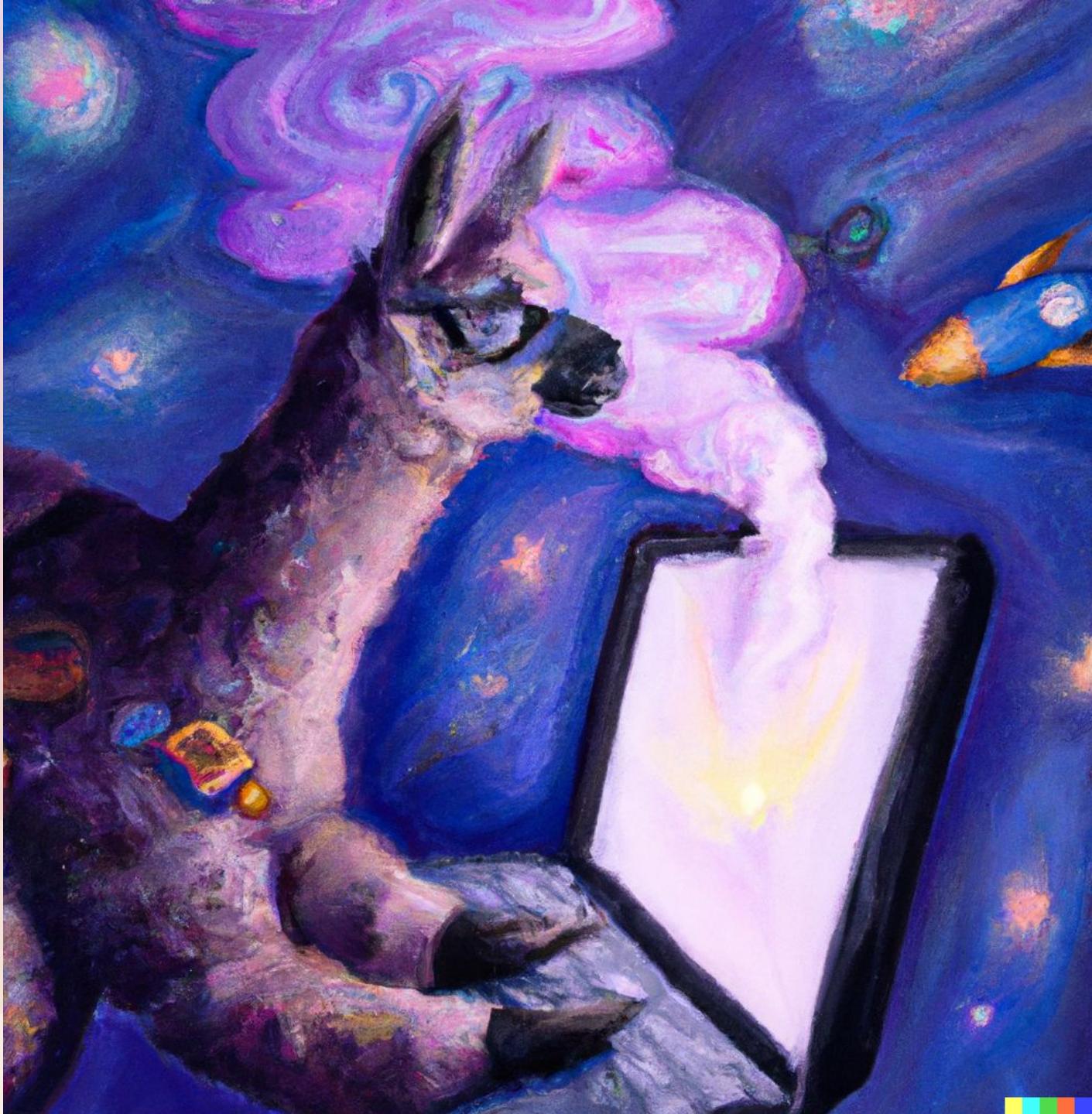
# THE JOURNEY TO DELIVER

## all the things



# CODIFY

creation &  
config of all  
the things





THAT'S NOT  
enough



WHAT DO I  
NEED  
and want?

**CODIFY**  
delivery of  
all the  
things





SELF-SERVE  
provisioning



On-demand



Repeatable



Reliable



Security-compliant



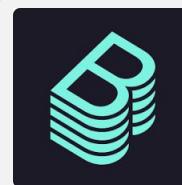
Happy  & 

# SELF-SERVE advantages

# SELF-SERVE provisioning tooling



Crossplane (CNCF)



Backstage (CNCF)



Kratix



Port

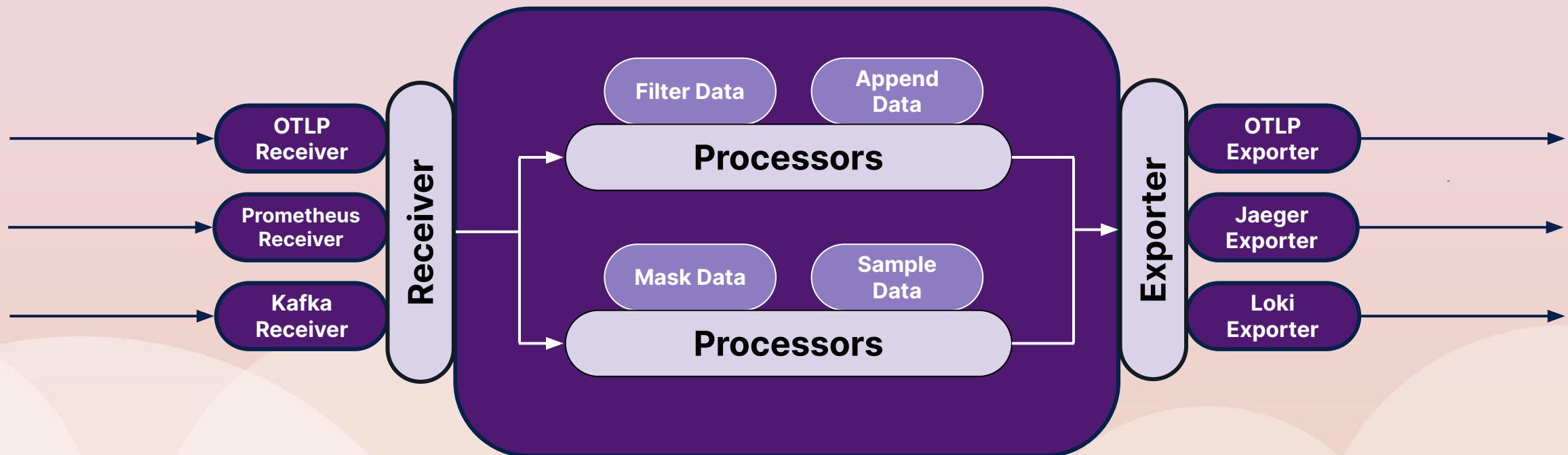


SHOW ME  
now?

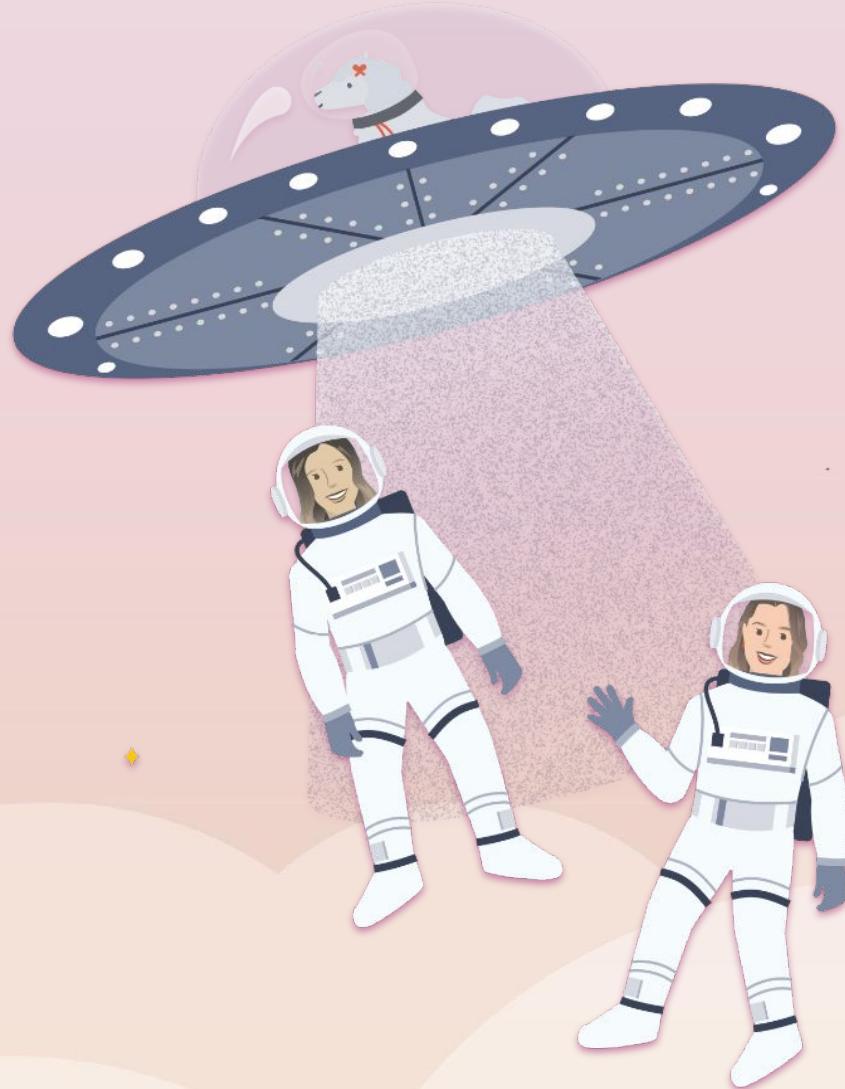
# CNCF OpenTelemetry



# THE OPENTELEMETRY COLLECTOR



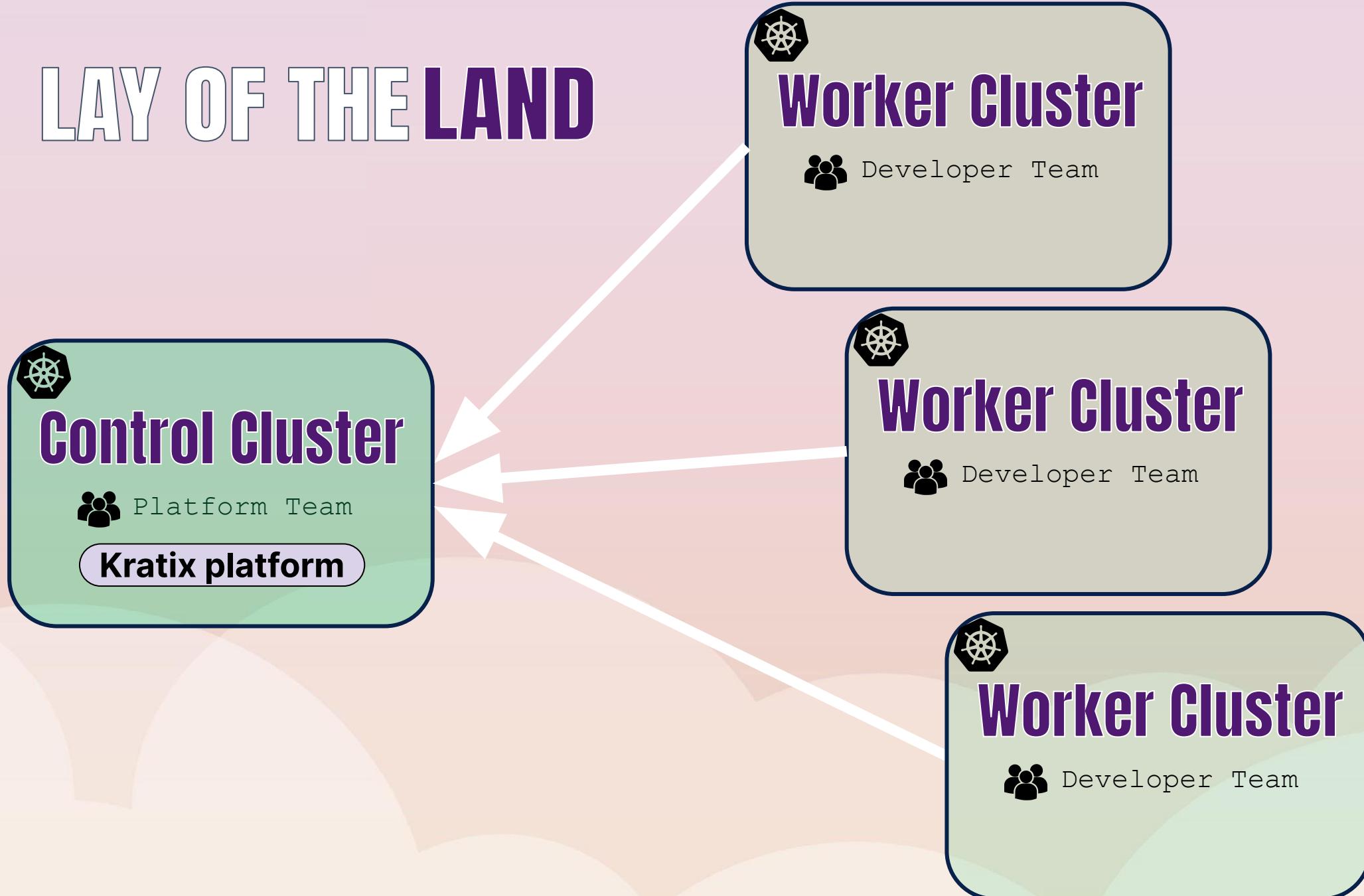
WHAT ARE  
WE  
**doing?**



# SHOW 'N TELL with kratix



# LAY OF THE LAND

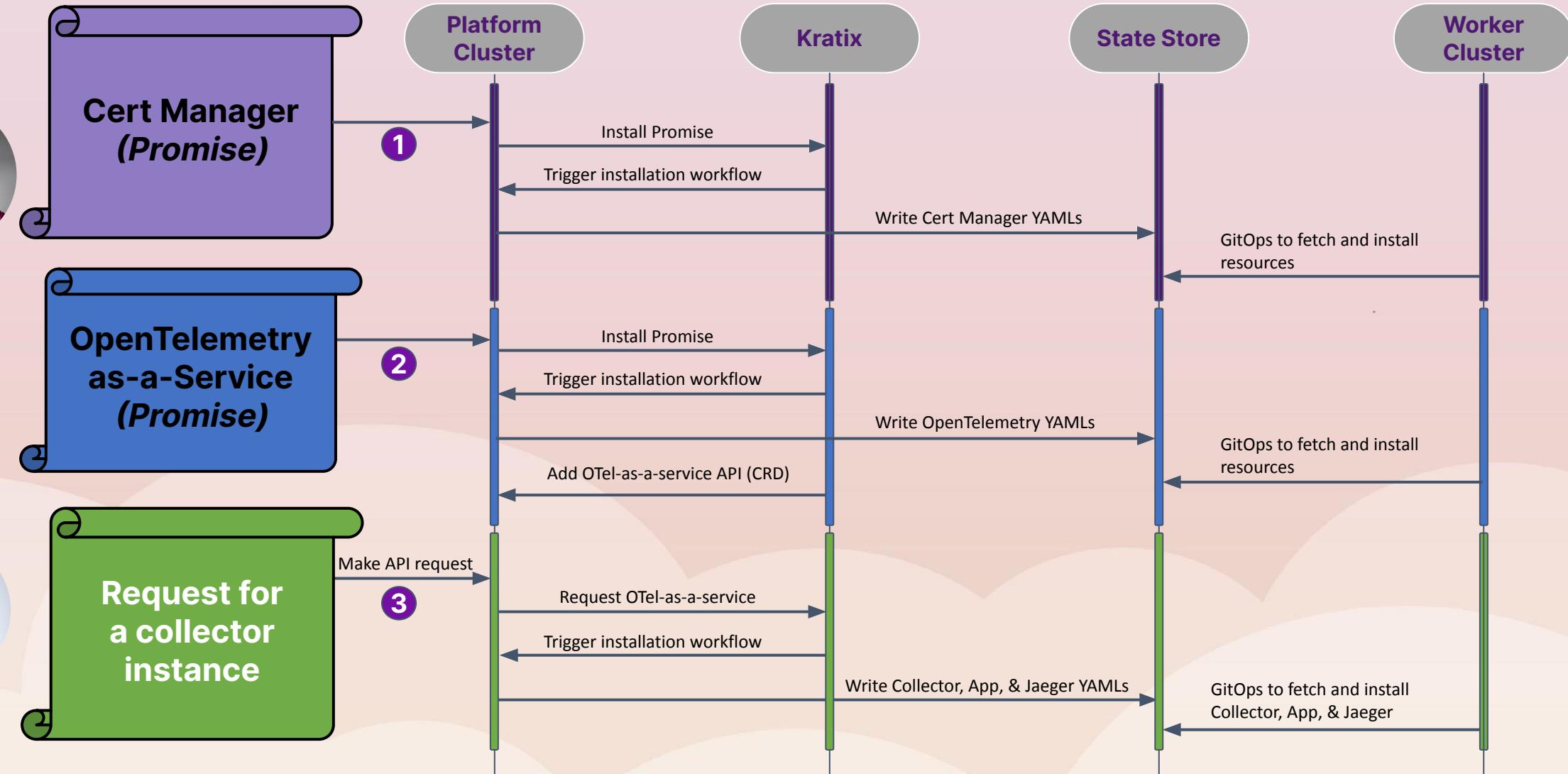


# PROCESS FLOW

platform eng



**Cert Manager  
(Promise)**



developer





```
# Install cert-manager
kubectl create --context $PLATFORM -f
https://raw.githubusercontent.com/syntasso/kratix-marketplace/main/cert-manager/promise.yaml

# Install OTel Operator
kubectl apply --context $PLATFORM -f oteloperator-promise/promise.yaml

# List promises on Platform cluster
kubectl --context $PLATFORM get promises
```

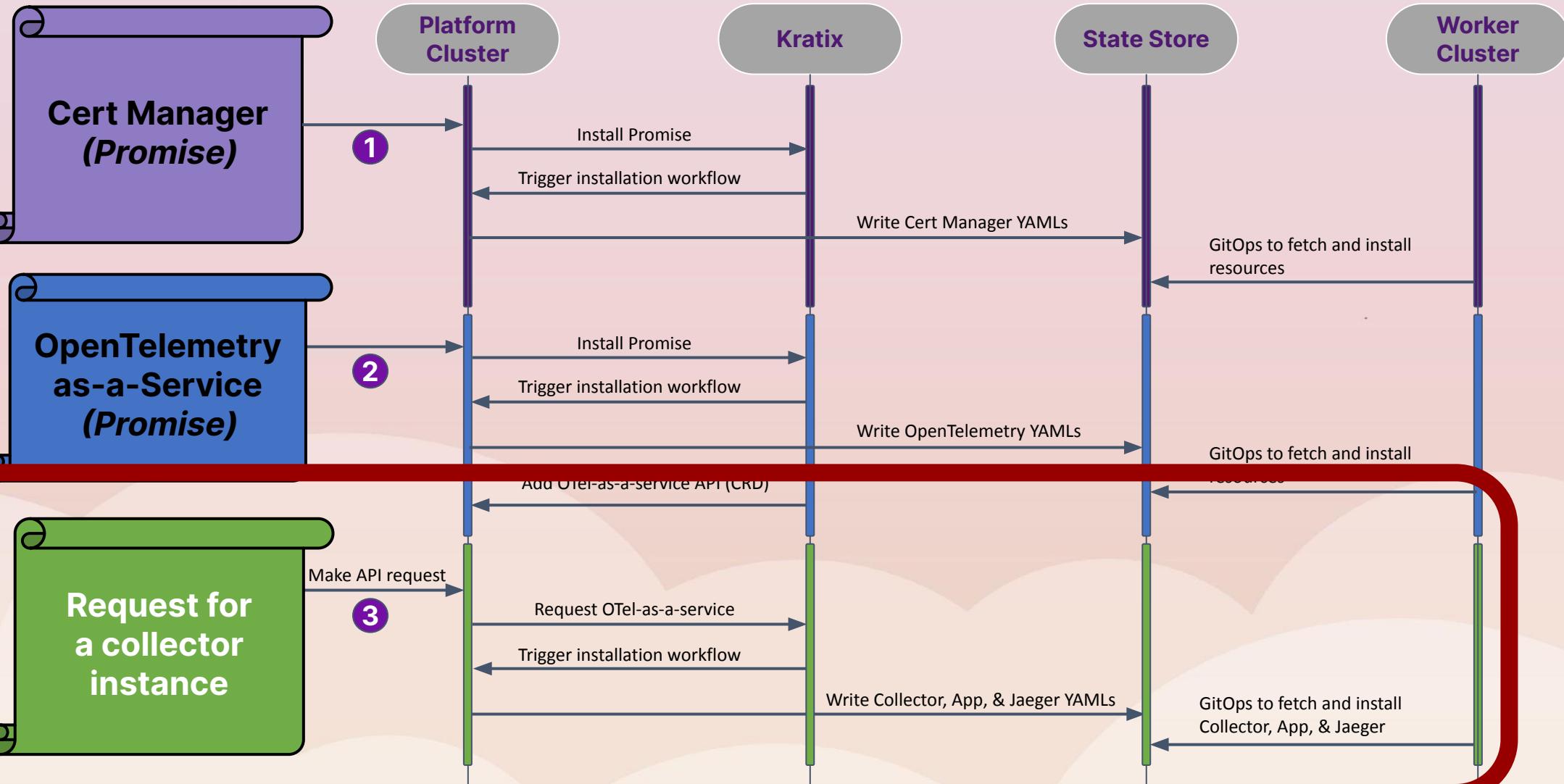
```

...villela/kratix-playground -- ~/D/_a/kratix-playground -- fish ...a/kratix-playground -- ~/D/_a/kratix-playground -- fish + Context: kind-platform
Cluster: kind-platform
User: kind-platform
K9s Rev: v0.26.6 ⚡ v0.27.3
K8s Rev: v1.24.7
CPU: n/a
MEM: n/a
Namespaces(all)[7]
NAME↑ STATUS AGE
all Active
default Active 3d8h
kratix-platform-system Active 3d8h
kube-node-lease Active 3d8h
kube-public Active 3d8h
kube-system Active 3d8h
local-path-storage Active 3d8h
<namespace>
avillela — k8s ~ — k9s — 70x24
Context: kind-worker
Cluster: kind-worker
User: kind-worker
K9s Rev: v0.26.6 ⚡ v0.27.3
K8s Rev: v1.24.7
CPU: n/a
MEM: n/a
Namespaces(all)[8]
NAME↑ STATUS AGE
all+ Active
default Active 3d8h
flux-system Active 3d8h
kratix-worker-system Active 3d8h
kube-node-lease Active 3d8h
kube-public Active 3d8h
kube-system Active 3d8h
local-path-storage Active 3d8h

```

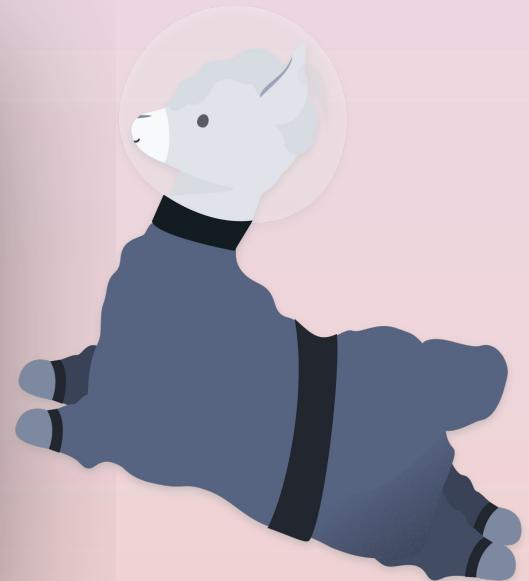
# PROCESS FLOW

platform eng



developer

```
● ● ●  
apiVersion: example.promise/v1  
kind: oteloperator  
metadata:  
  name: my-oteloperator-promise-request  
spec:  
  name: my-amazing-oteloperator
```



```
● ● ●  
# Resource request  
kubectl apply --context $PLATFORM -f oteloperator-promise/oteloperator-resource-request.yaml
```



```
1 apiVersion: example.promise/v1
2 kind: oteloperator
3 metadata:
4   name: my-oteloperator-promise-request
5 spec:
6   name: my-amazing-oteloperator
```



```
# Tail OTel Collector logs
kubectl logs --context $WORKER -l app=opentelemetry -n opentelemetry --follow

# Jaeger port-forwarding
kubectl port-forward --context $WORKER -n opentelemetry svc/jaeger-all-in-one-ui
16686:16686

# Go service port forwarding
kubectl port-forward --context $WORKER -n application svc/otel-go-server-svc
9000:9000

# Call the test Go service
curl http://localhost:9000
```

```

...villela/kratix-playground - ~/D/_/a/kratix-playground - fish ...a/kratix-playground - ~/D/_/a/kratix-playground - fish
»> kubectl create --context $PLATFORM -f https://raw.githubusercontent.com/syntasso/kratix-marketplace/main/cert-manager/promise.yaml
promise.platform.kratix.io/cert-manager created
...k.lan /Users/avillela/Documents/_dev/avillela/kratix-playground (main
»> kubectl apply --context $PLATFORM -f oteloperator-promise/promise.yaml
promise.platform.kratix.io/oteloperator created
...k.lan /Users/avillela/Documents/_dev/avillela/kratix-playground (main
»> kubectl --context $PLATFORM get promises
NAME          AGE
cert-manager   65s
oteloperator   31s
...k.lan /Users/avillela/Documents/_dev/avillela/kratix-playground (main
»> kubectl apply --context $PLATFORM -f oteloperator-promise/oteloperator-request-resource-request.yaml
oteloperator.example.promise/my-oteloperator-promise-request created
...k.lan /Users/avillela/Documents/_dev/avillela/kratix-playground (main
»> █

```

avillela — fish — 79x21

avillela — fish — 79x21

avillela — k8s — k8s — 70x24

Context: kind-platform  
Cluster: kind-platform  
User: kind-platform  
K9s Rev: v0.26.6 ✨ v0.27.3  
K8s Rev: v1.24.7  
CPU: n/a  
MEM: n/a

Promises(default)[2]		
NAME↑	AGE	
cert-manager	2m48s	
oteloperator	2m14s	

<promise>

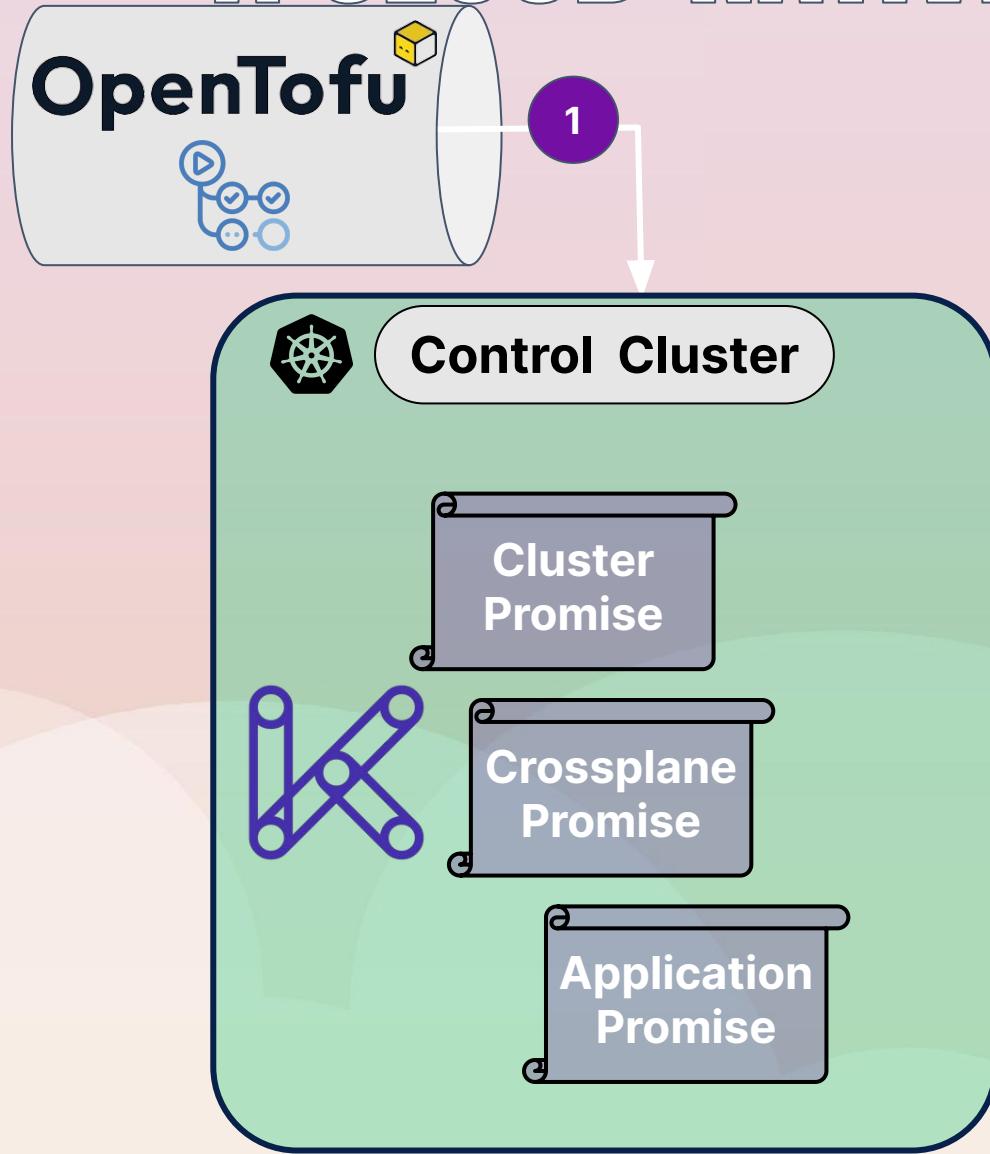
Context: kind-worker  
Cluster: kind-worker  
User: kind-worker  
K9s Rev: v0.26.6 ✨ v0.27.3  
K8s Rev: v1.24.7  
CPU: n/a  
MEM: n/a

Namespaces(all)[12]		
NAME↑	STATUS	AGE
all+	Active	
application	Active	43s
cert-manager	Active	2m43s
default	Active	3d9h
flux-system	Active	3d9h
kratix-worker-system	Active	3d8h
kube-node-lease	Active	3d9h
kube-public	Active	3d9h
kube-system	Active	3d9h
local-path-storage	Active	3d9h
opentelemetry	Active	43s
opentelemetry-operator-system	Active	2m3s

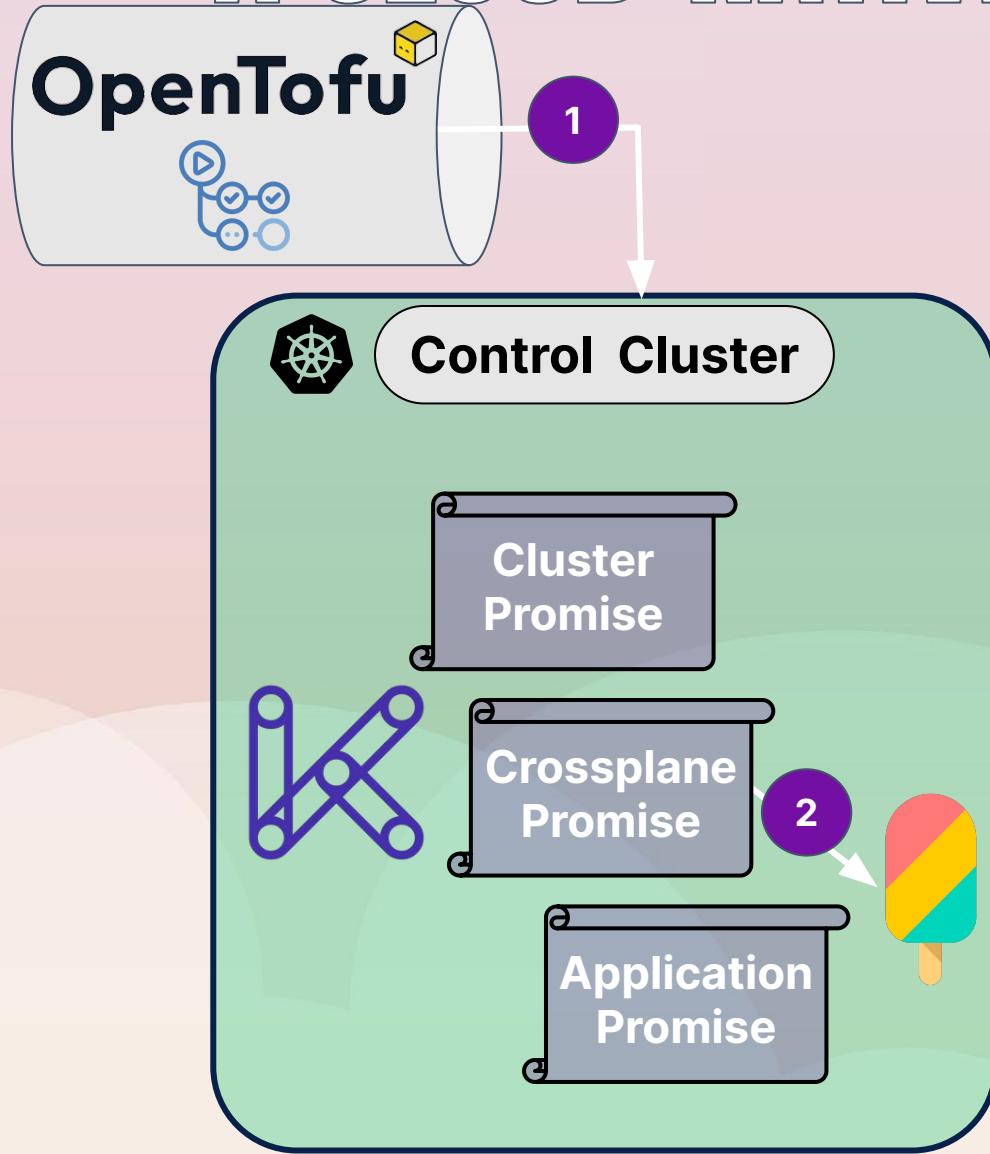
**PLATFORM  
TOOLS CAN  
complement  
each other**



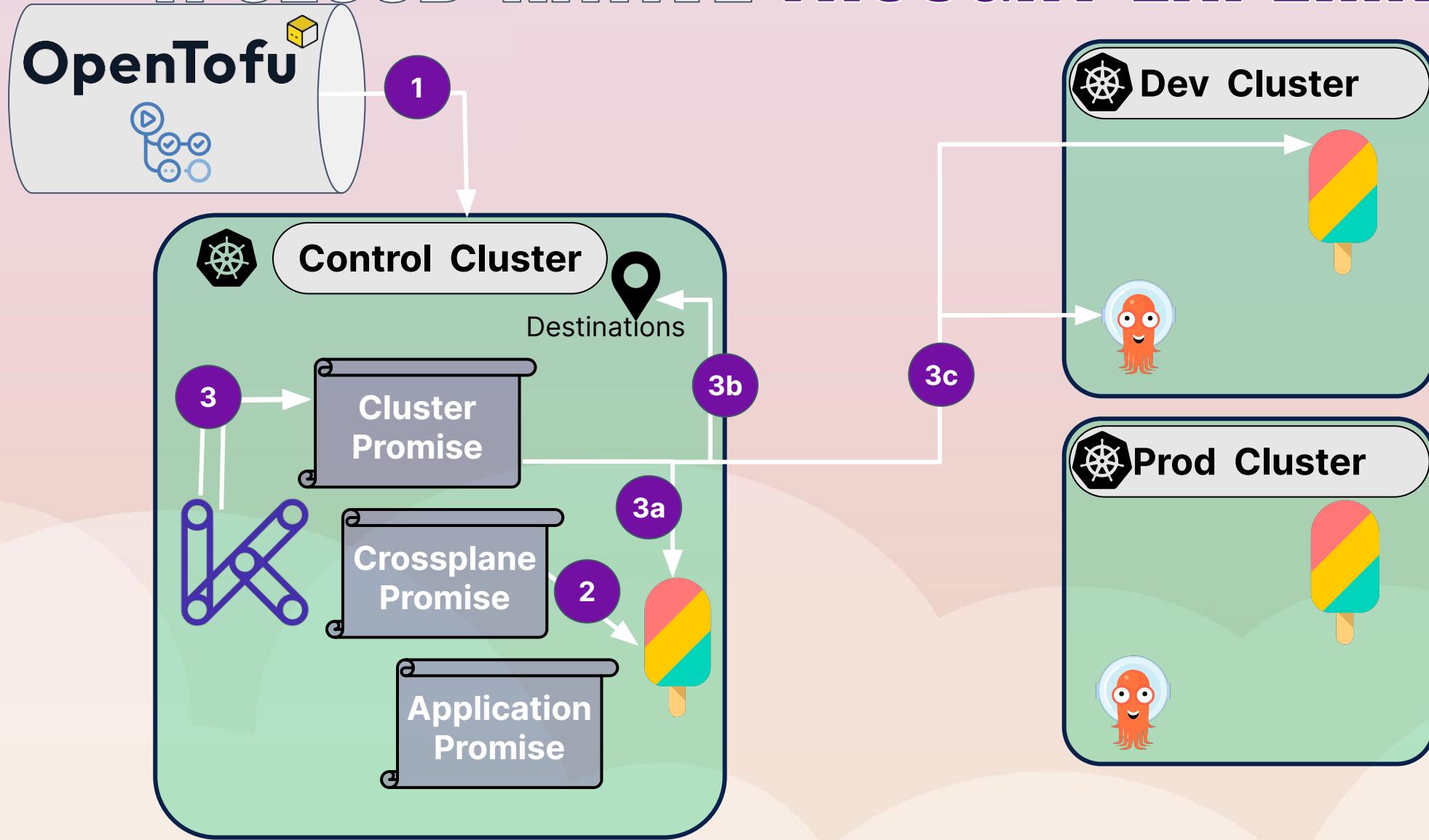
# A CLOUD-NATIVE THOUGHT EXPERIMENT



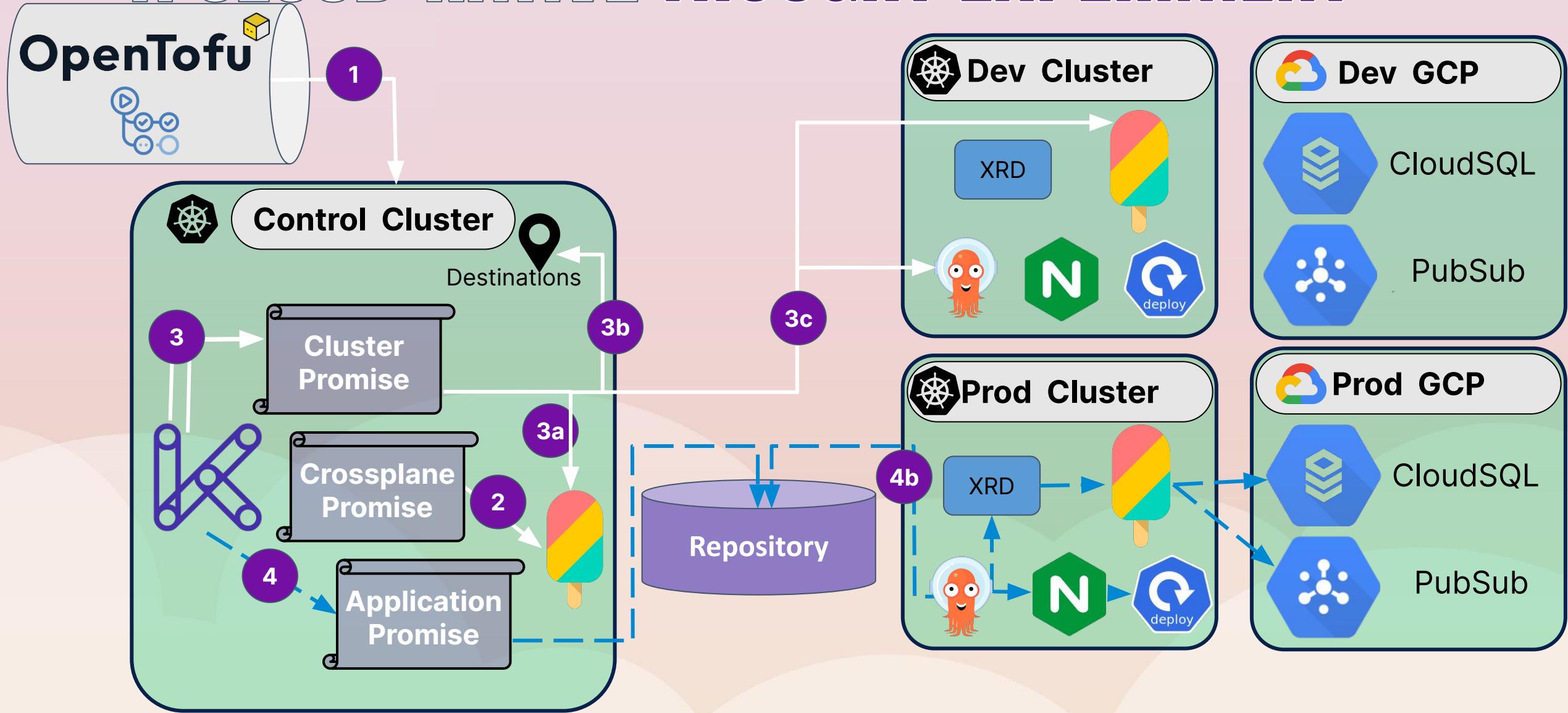
# A CLOUD-NATIVE THOUGHT EXPERIMENT



# A CLOUD-NATIVE THOUGHT EXPERIMENT



# A CLOUD-NATIVE THOUGHT EXPERIMENT





TODAY I  
learned



Don't just rename and not do anything



Every organization has different needs



Collaboration is key



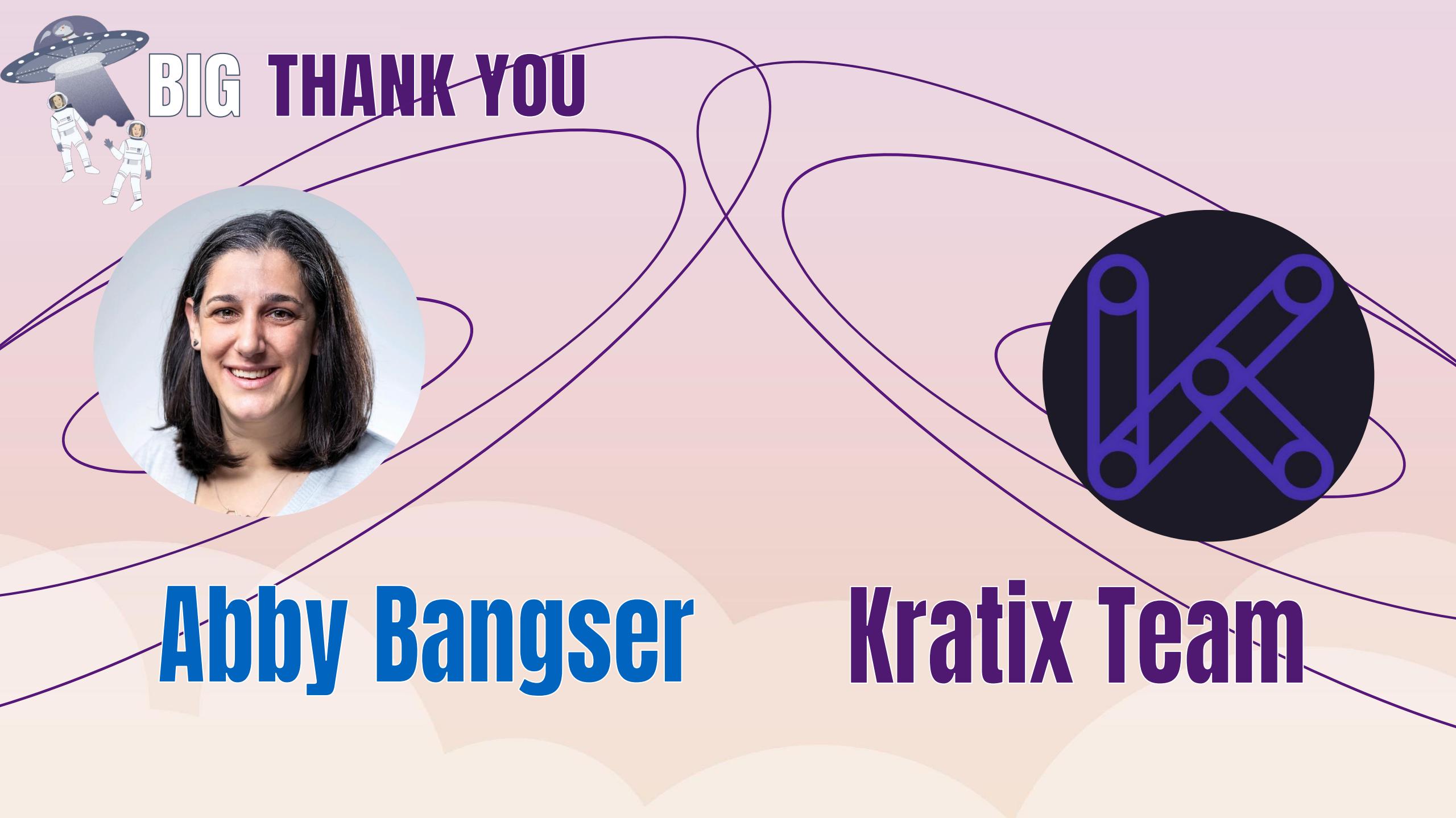
Codify all the things!

SOME  
tips

**NOT ALL IMAGES WERE  
CREATED BY HUMANS**

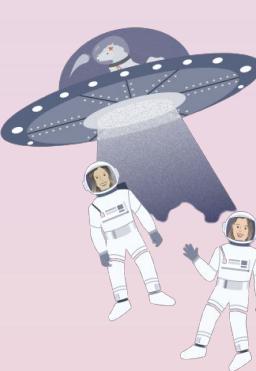
**thanks, DALL-E**





**Abby Bangser**

**Kratix Team**



# HANDY RESOURCES



Platform engineering magic: Using Kratix to quickly deliver a pre-configured OpenTelemetry Operator



OpenTelemetry



Our 2023 Site Reliability Engineering Wish List



Kratix



Kratix and Crossplane:  
Building a Better Platform



CNCF Platforms White Paper



# FOLLOW geeking out



bento.me/geekingout



# FOLLOW on-call me maybe



bento.me/oncallmemaybe



# ALSO CHECK OUT

## AWS Zone



Learn more OpenTelemetry,  
come check out a demo and  
ask us anything!

## Booth # N26



Learn more about  
ServiceNow's Cloud  
Observability solutions +  
capabilities that scale with  
your business



## Project Pavillion



Learn more about CNCF's  
OpenTelemetry: a project  
about high-quality, ubiquitous,  
and portable telemetry to  
enable effective Observability





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@ana\_m\_medina



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@anamedina@hachyderm.io

 PEACE  LOVE </> CODE