


What does it take to scale DevOps automation to 10,000 instances?

RackN founders' 12 year journey
scaling Digital Rebar to enterprise scale

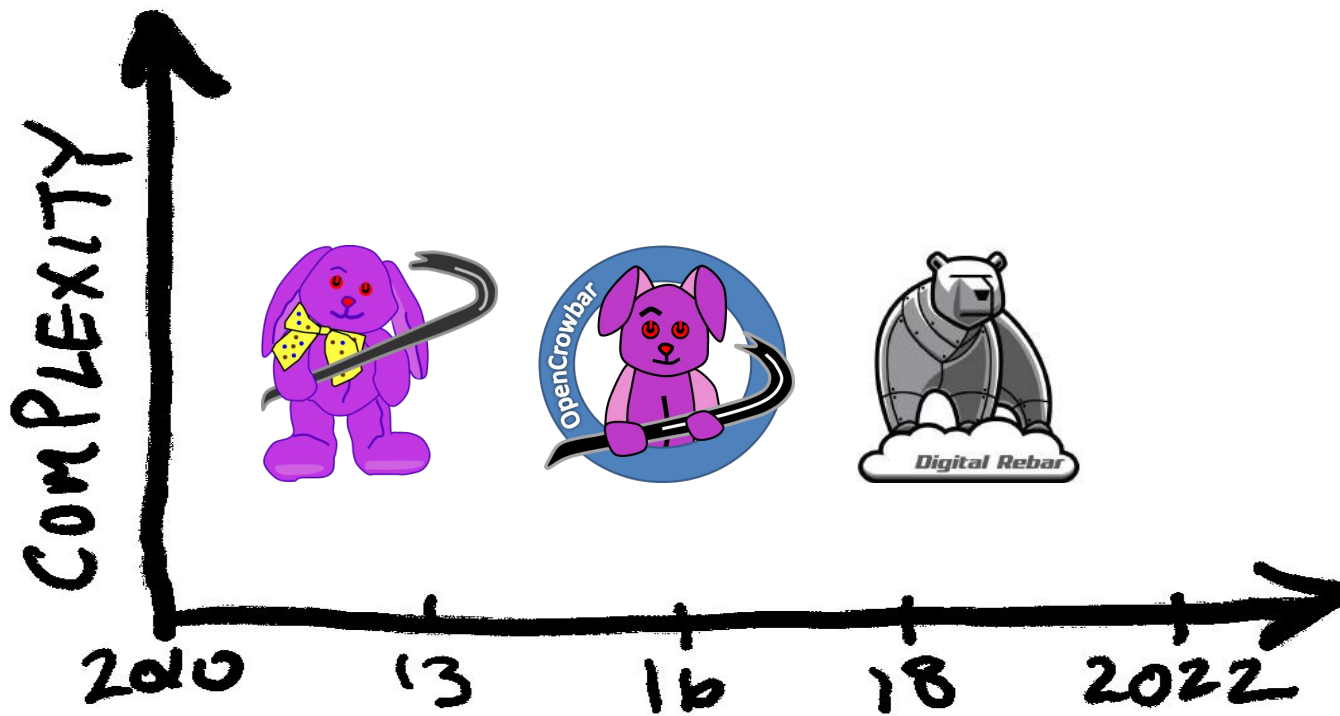
Rob Hirschfeld
RackN CEO & Co-founder

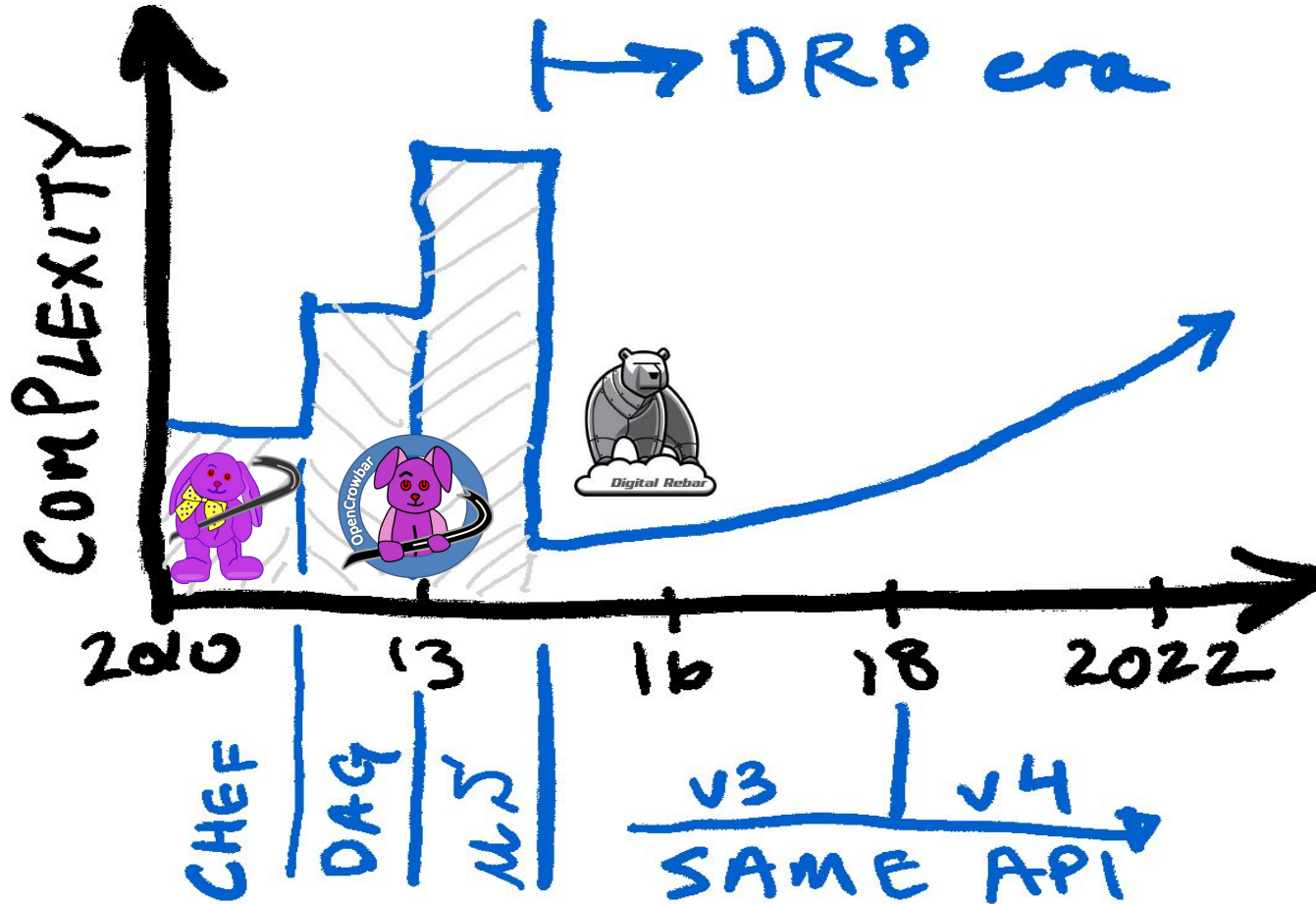
 @robhirschfeld

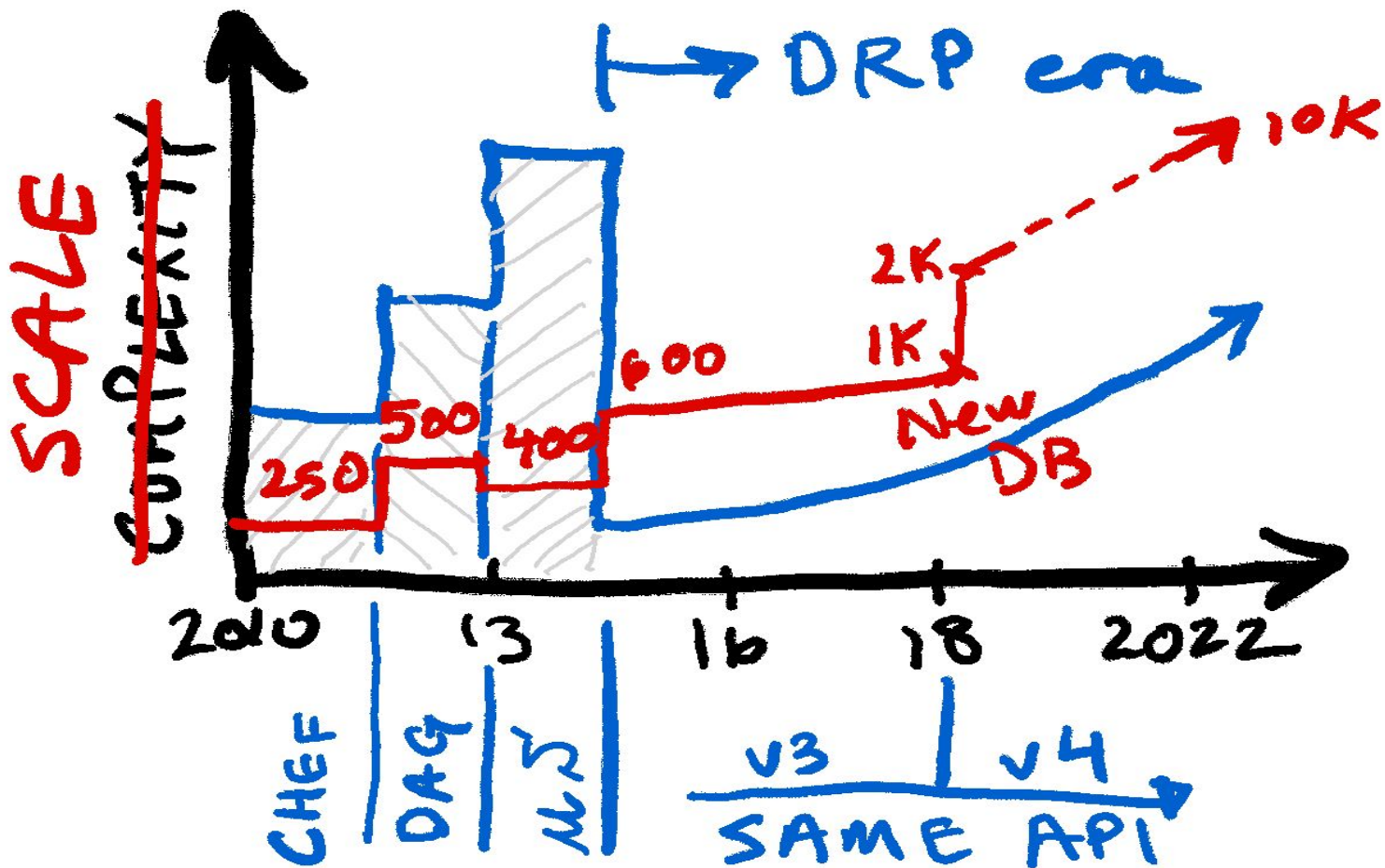
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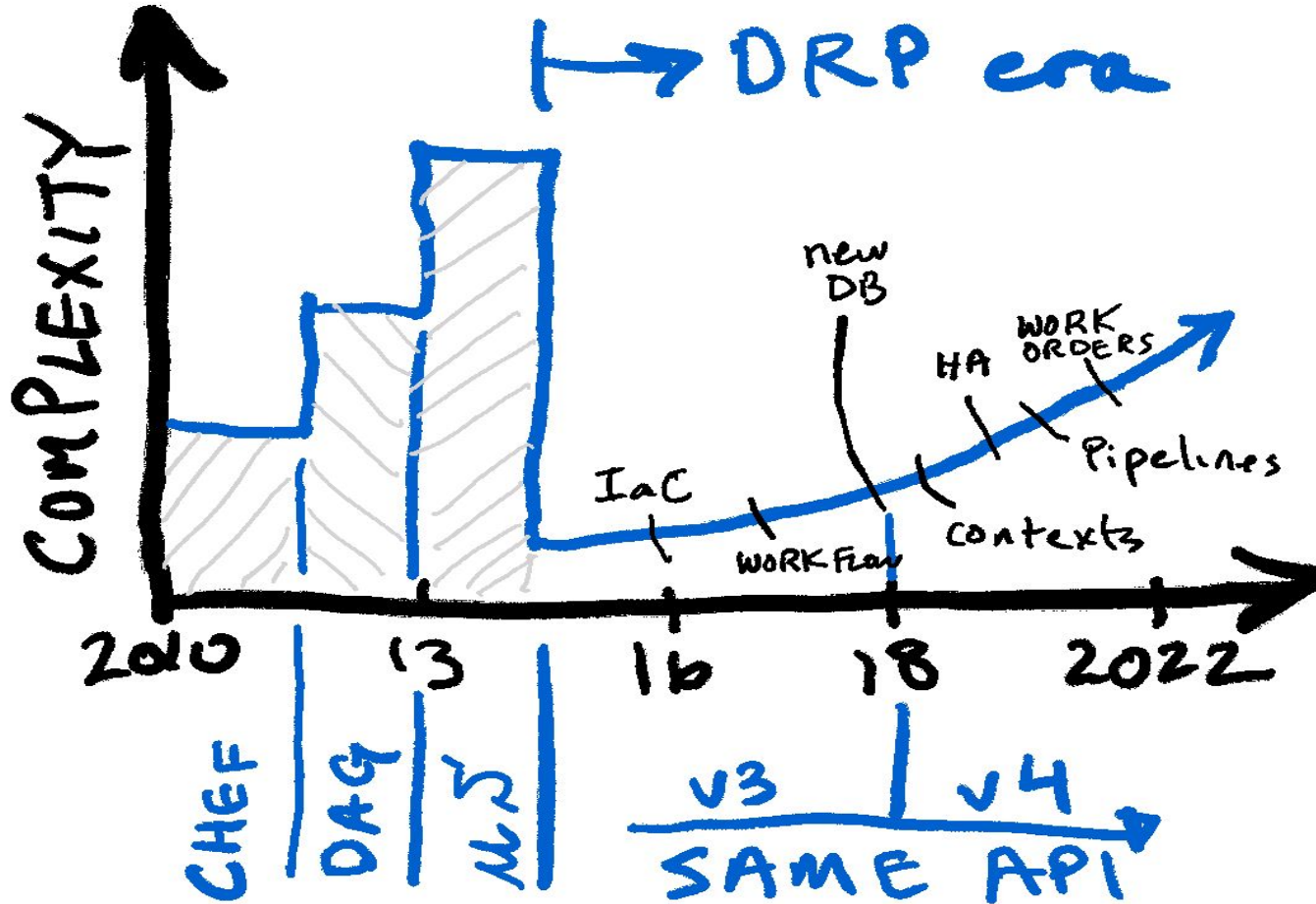


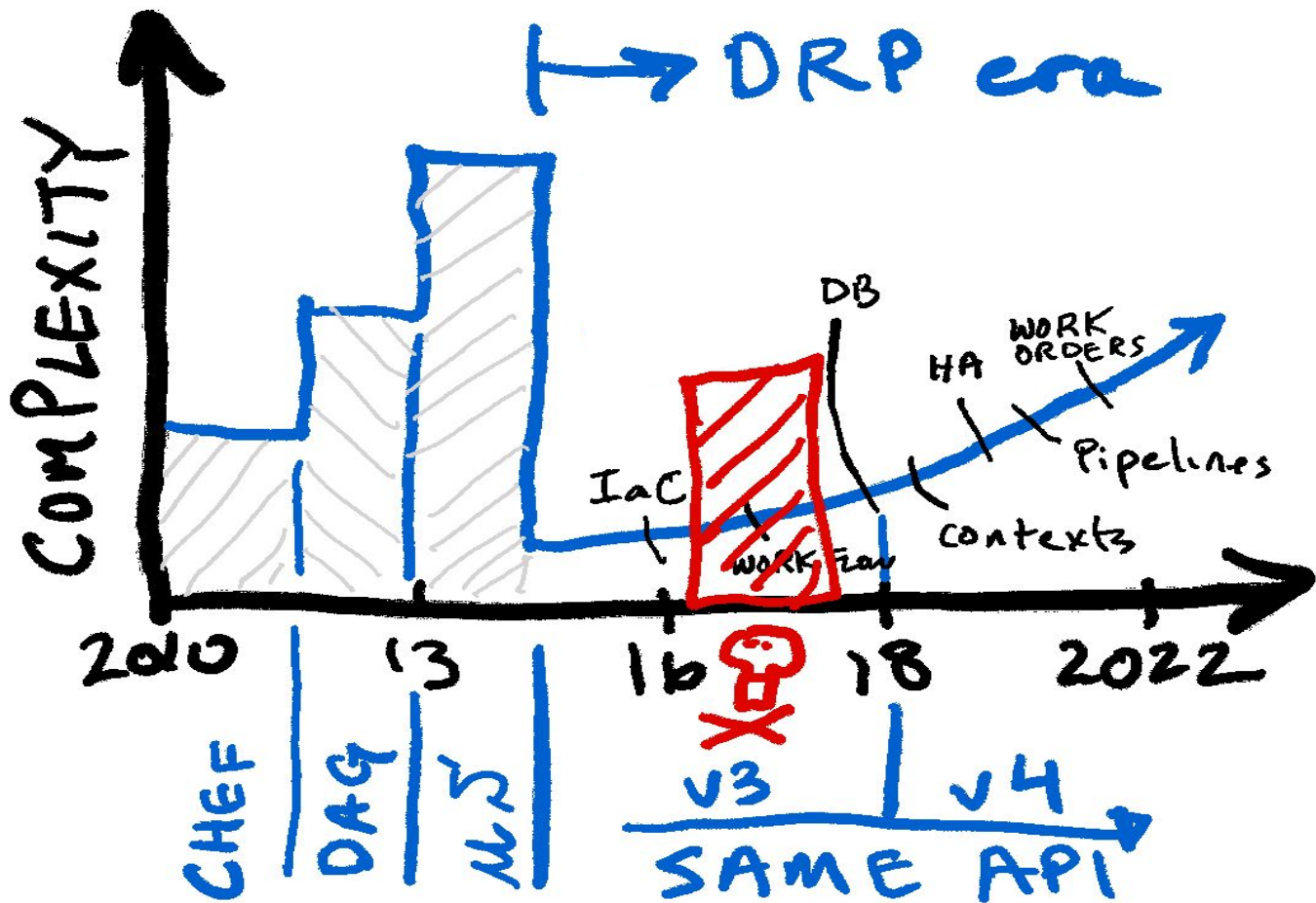
RackN









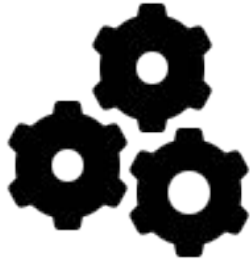




“what I need is for Ops to be more like Dev!”

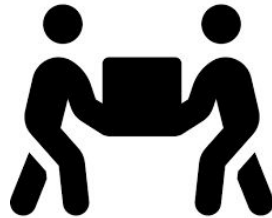
NOTHING WORKS TOGETHER!

**We have
great tools**



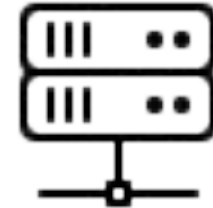
**But we can't use
them consistently**

**We have
great people**



**But can't control
our processes**

**We have
great vendors**

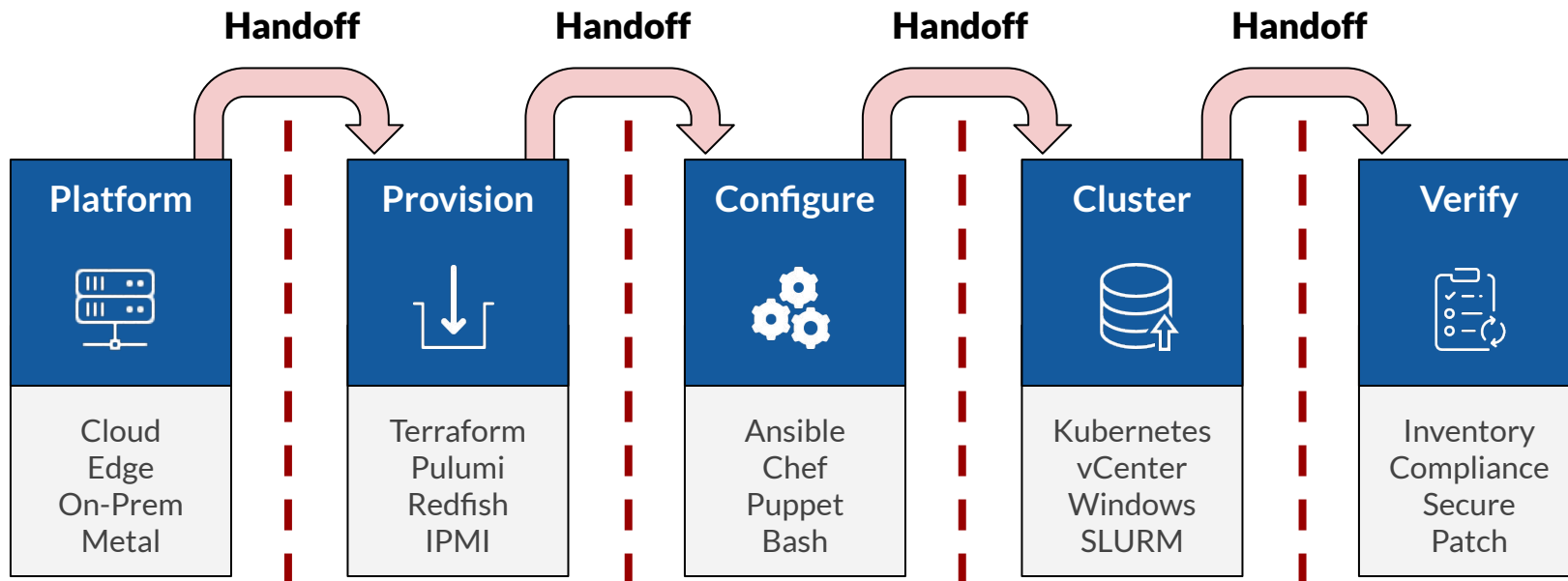


**But we can't manage
the complexity**



And that Kubernetes team uses this to ...

This does not scale!



Need “code-like” Modularity & Reuse aka “Infrastructure as Code”

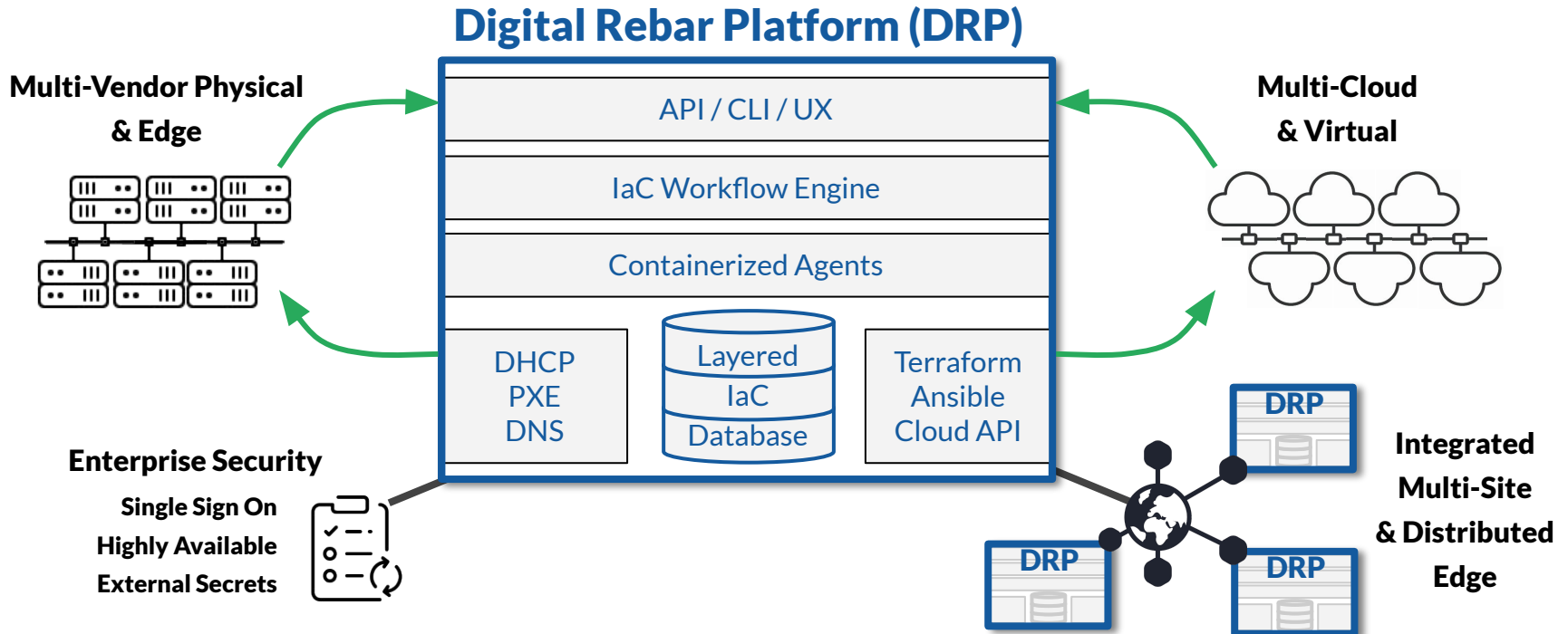
Goal is the SAME at:

- Every operator
- On-prem, edge and cloud
- Day 0, Day 1 and Day N

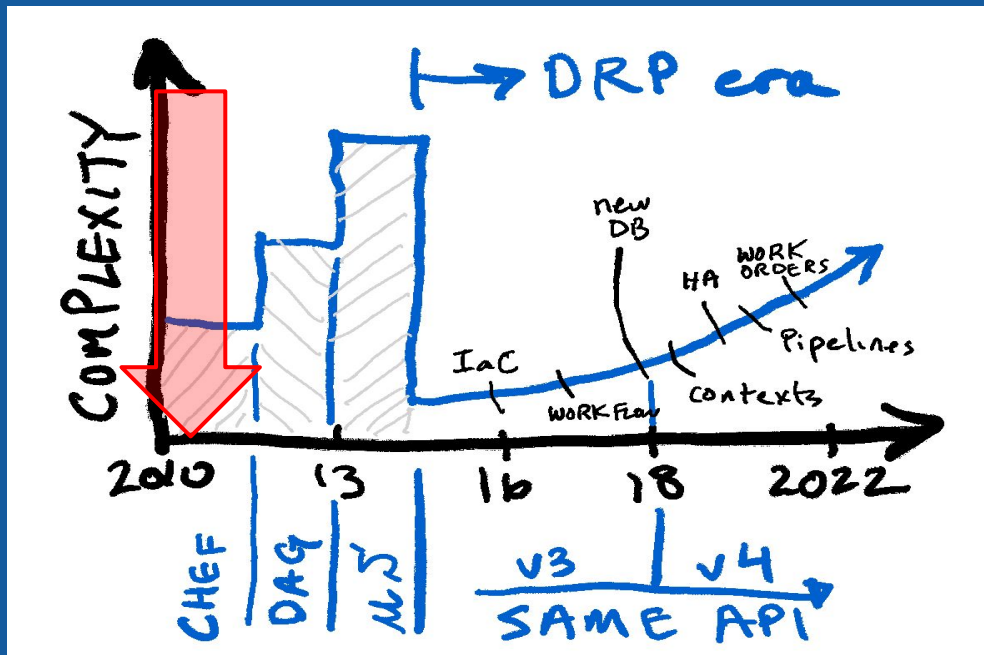


4th Gen Digital Rebar Platform

Customer-Managed Autonomous Control Plane



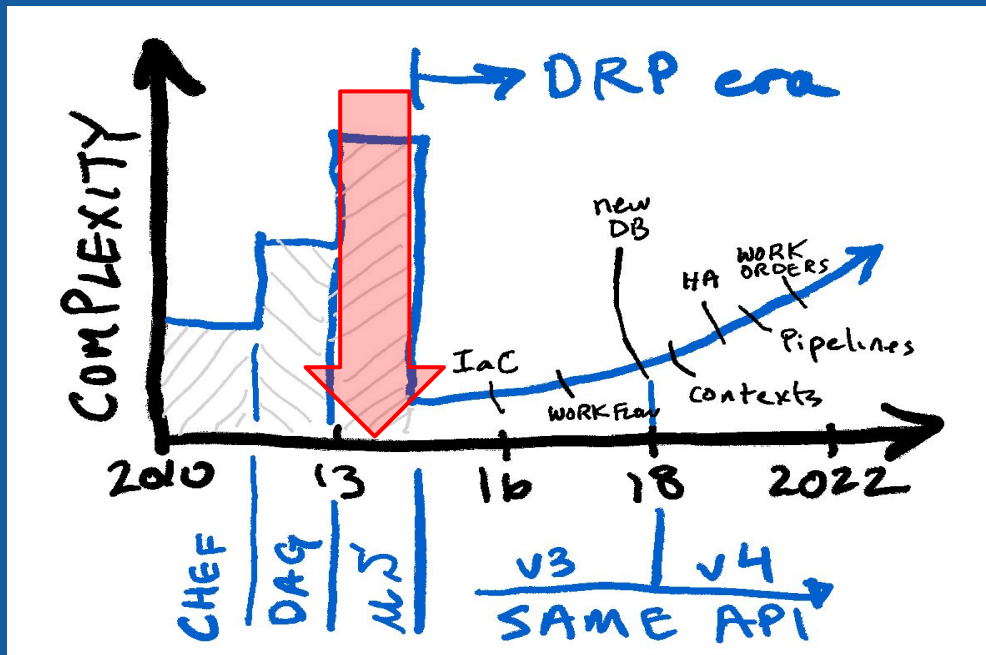
2011



Greg rides the racks

Pre-wired OpenStack but different every single time.

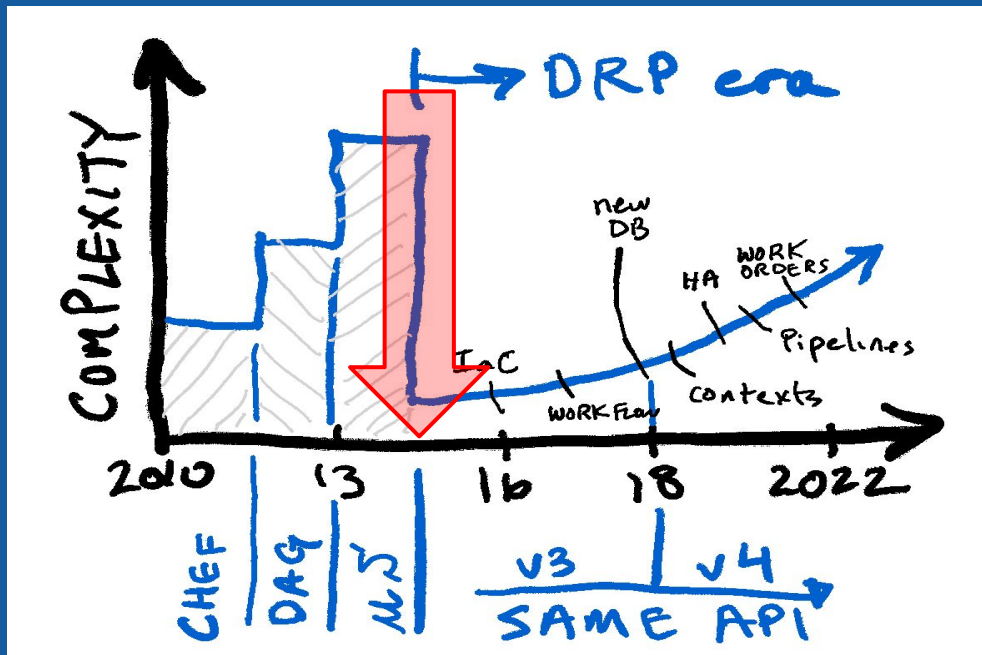
2014



SUSE trying to scale Crowbar

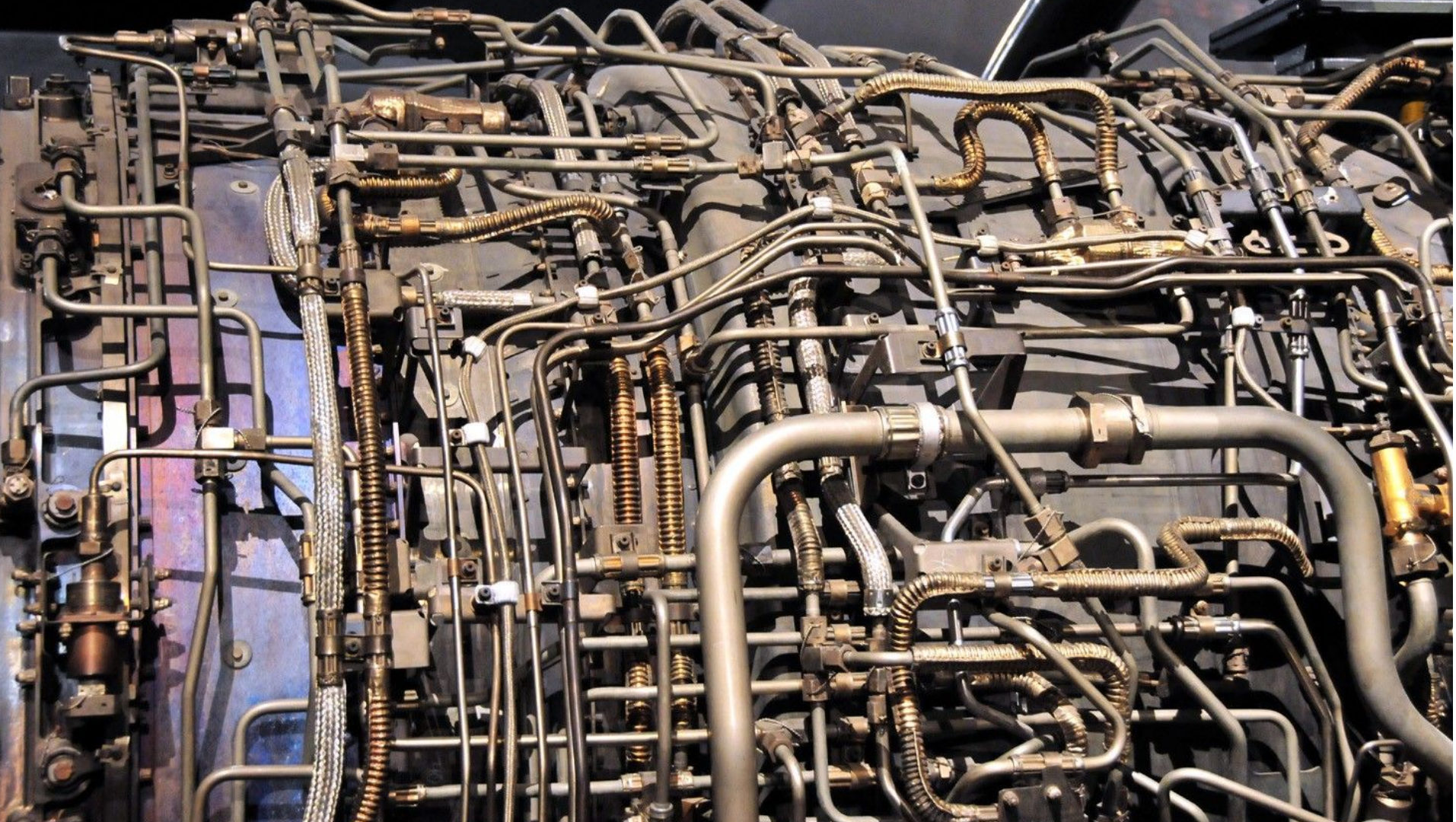
Architectural limits are SPEED OF LIGHT limits

2015

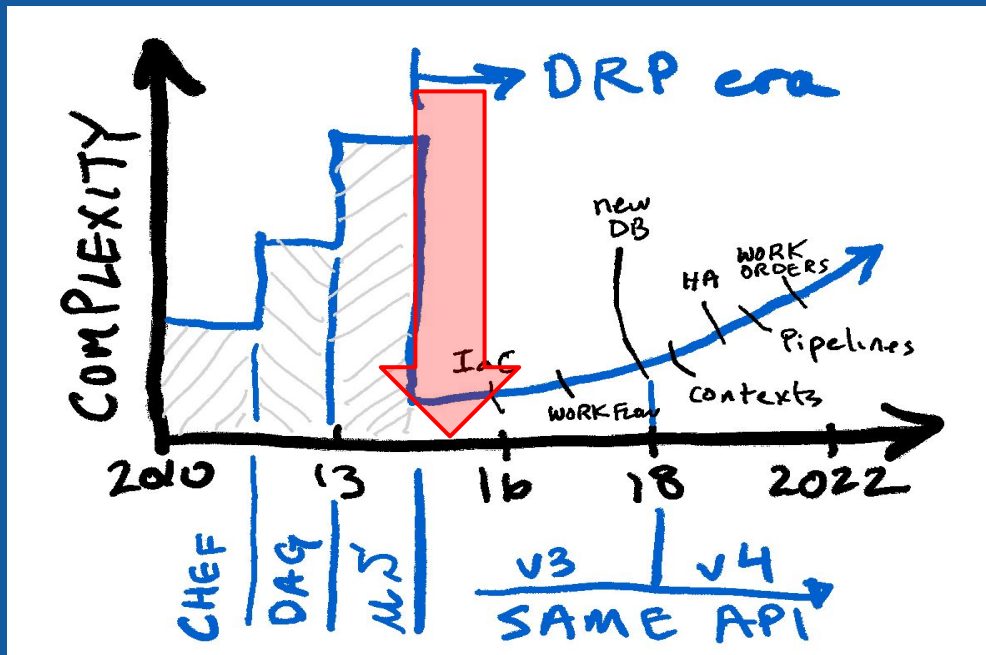


Multi-Cloud Kubernetes!

Directed Graph complexity is not a feature



2015

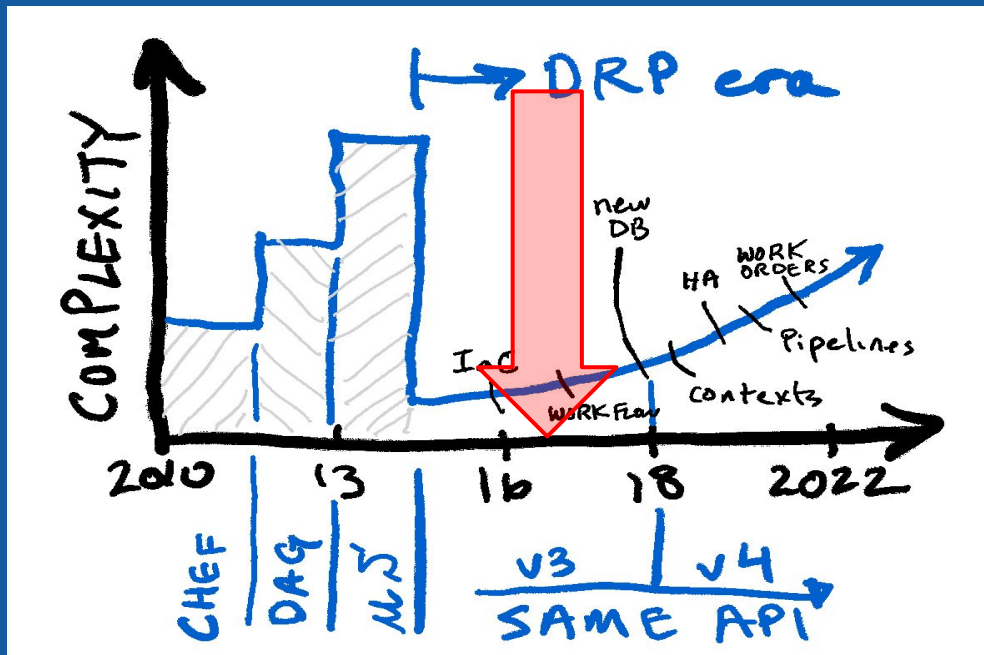


Technicolor Bake Off

Digital Rebar v2 doing TOO MUCH

Digital Rebar v3 simplicity was critical

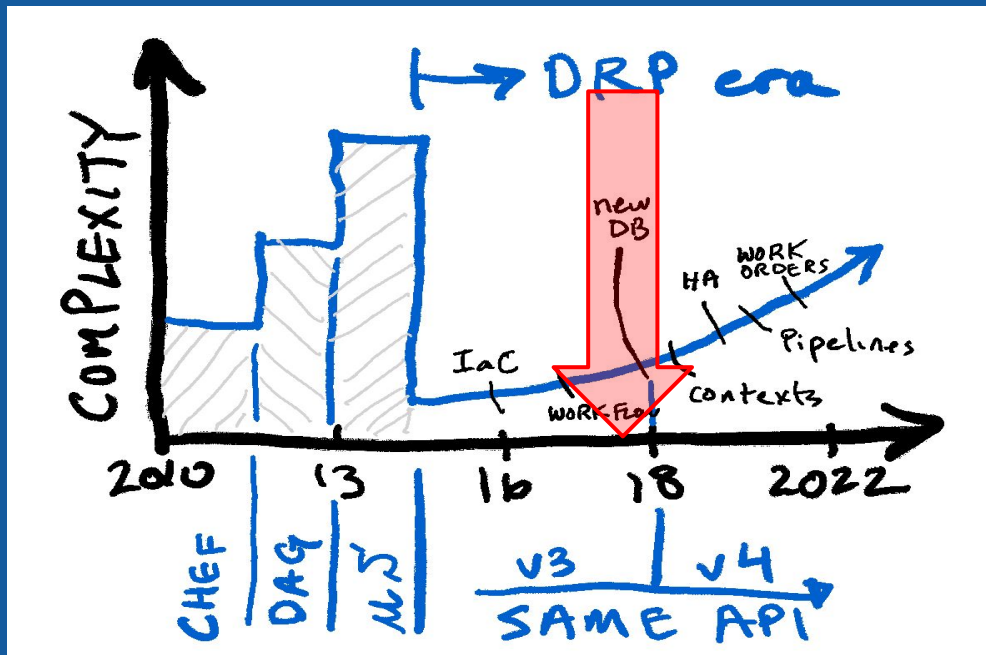
2016



Huh? Our CLI is an Agent?

Adding Workflows *and* moving parallel operations outside of the server

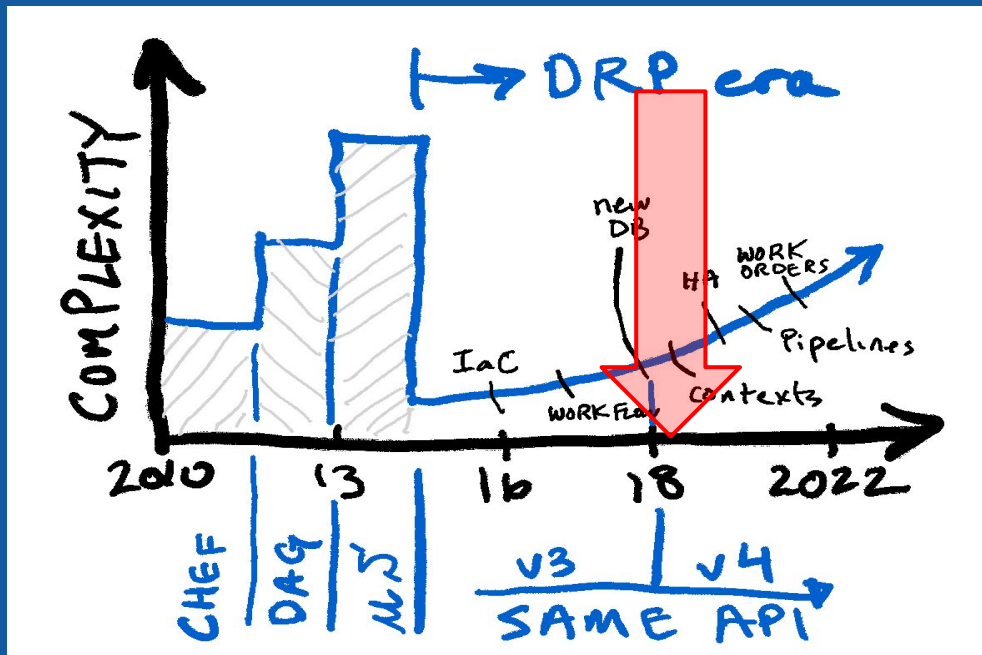
2018



Bank 10+ integrations

Conference room archaeology of ops integrations

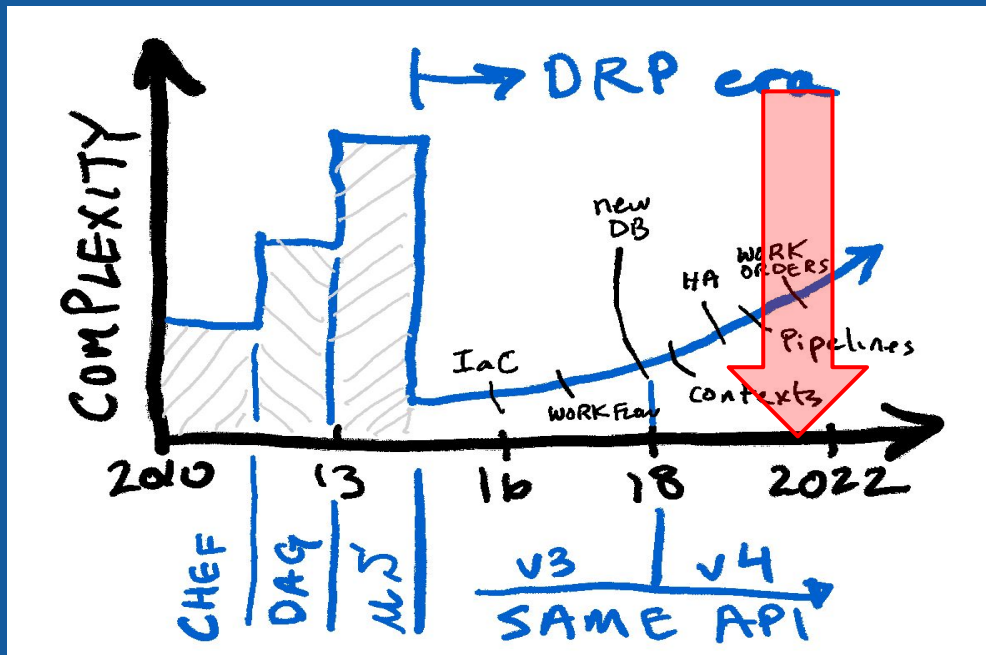
2018



Goodbye open core

When locking and threading gets serious

2021



Hello 10k Machines

We build A LOT of the some object types - challenge is denormalizing

Scaling DevOps Lessons Learned

Scaling

- **Operations is still at human scale**
- **Design to decentralize & distribute work**
- **Protect your API**

Visibility

- **Operate transparently**
- **Fail fast**
- **Avoid graphs! Most operations are linear**


As Code

- **Embrace Heterogeneous Systems**
- **Incremental discovery**
- **Immutability is a superpower**

We want to collaborate around scaling Infrastructure as Code!

Try it yourself!
rackn.com/trial

Rob Hirschfeld
RackN CEO & Co-founder

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 @zehicle



RackN