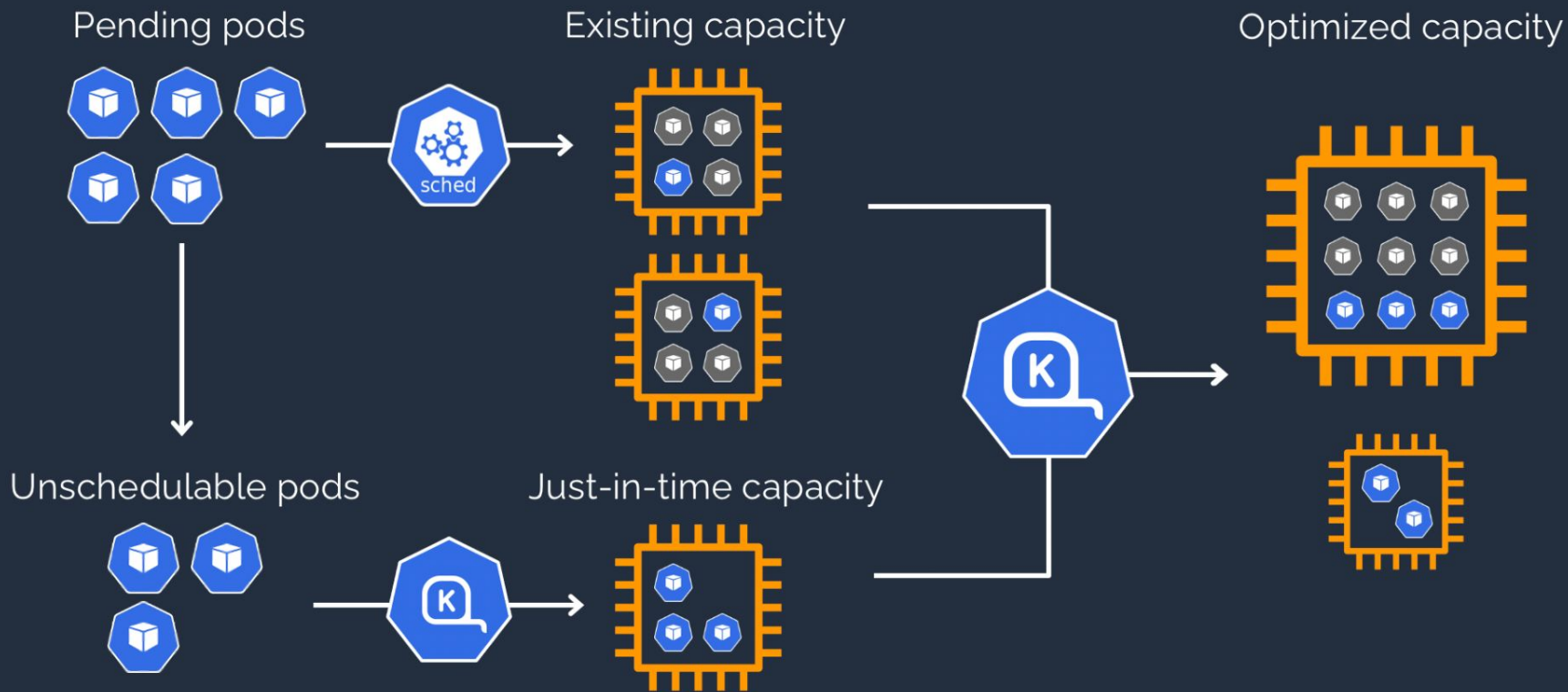


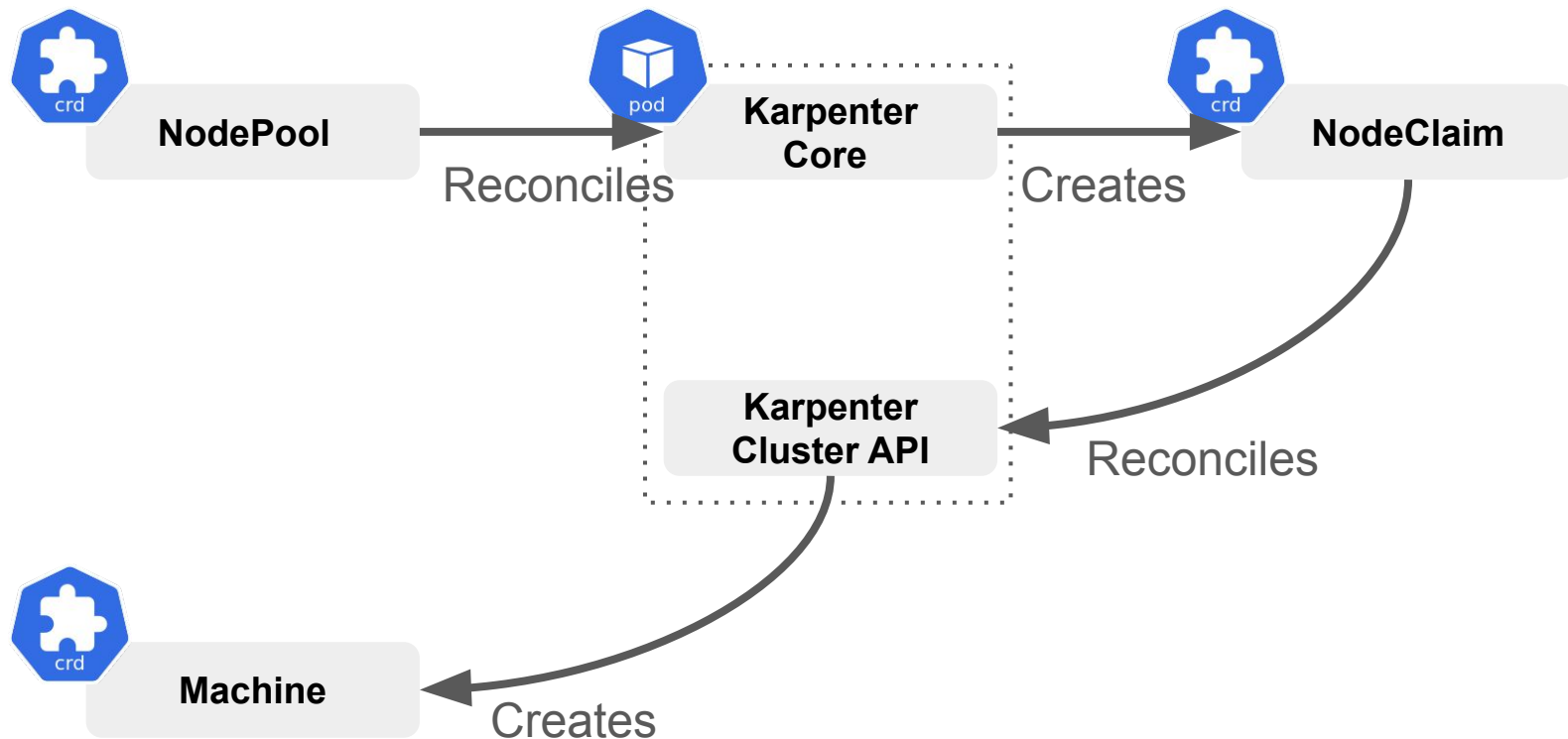
Proof of Concept Architecture for Karpenter Cluster API

Michael McCune - Red Hat
April 2024

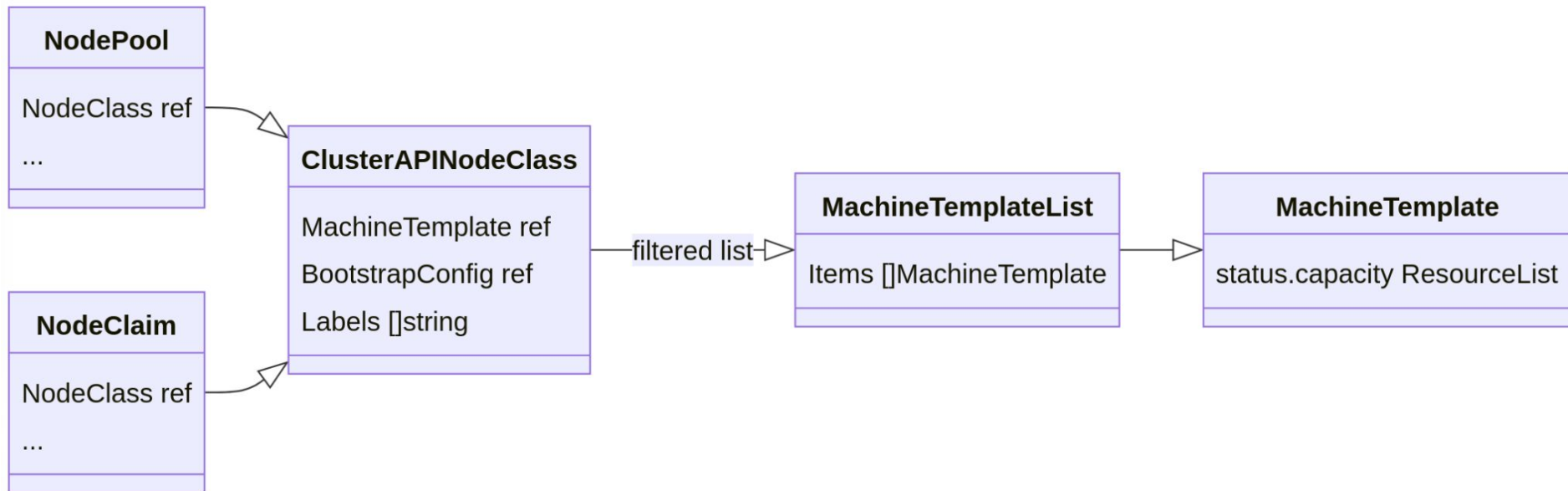
Karpenter Overview



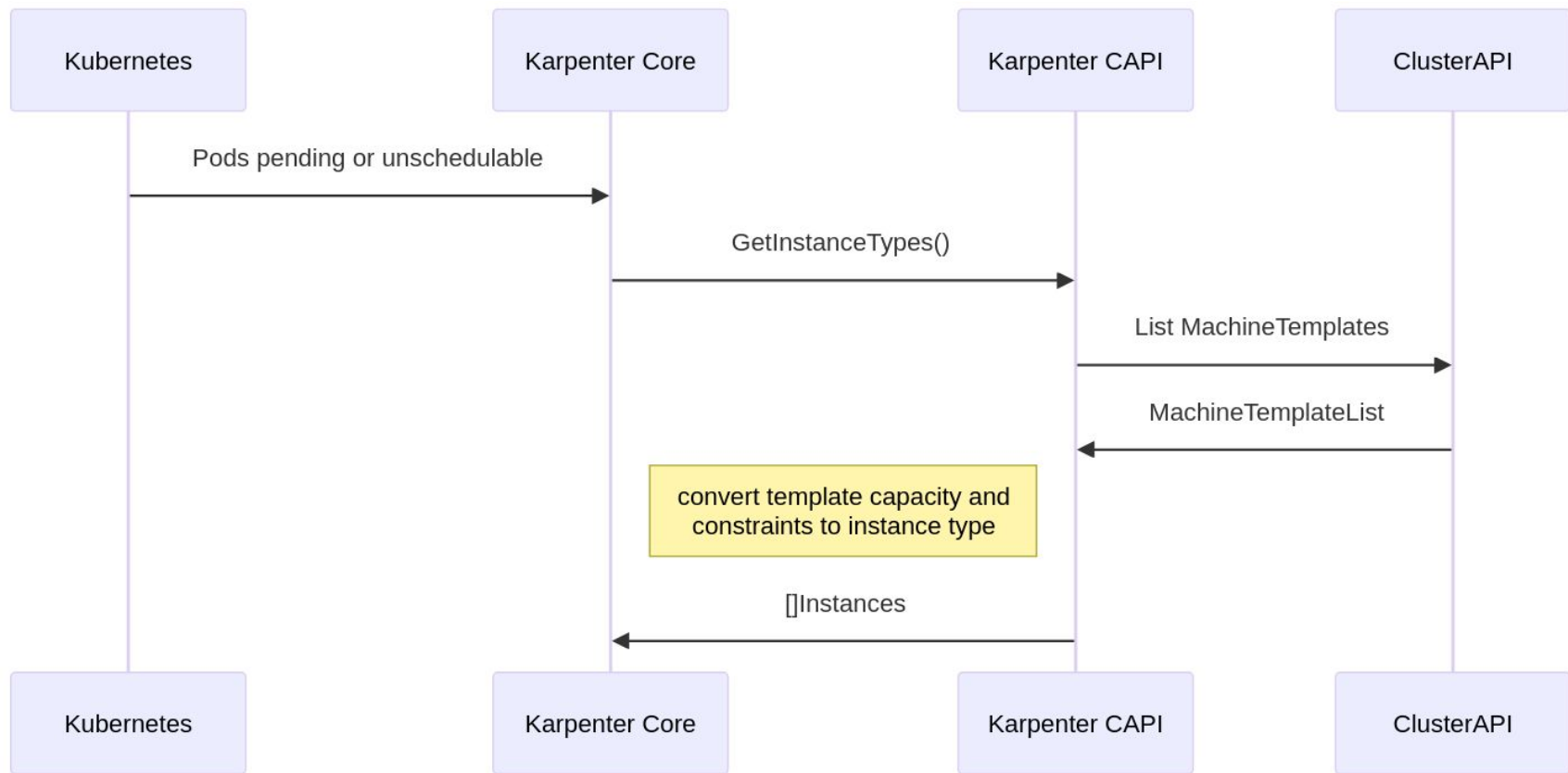
Proposed Flow for Cluster API



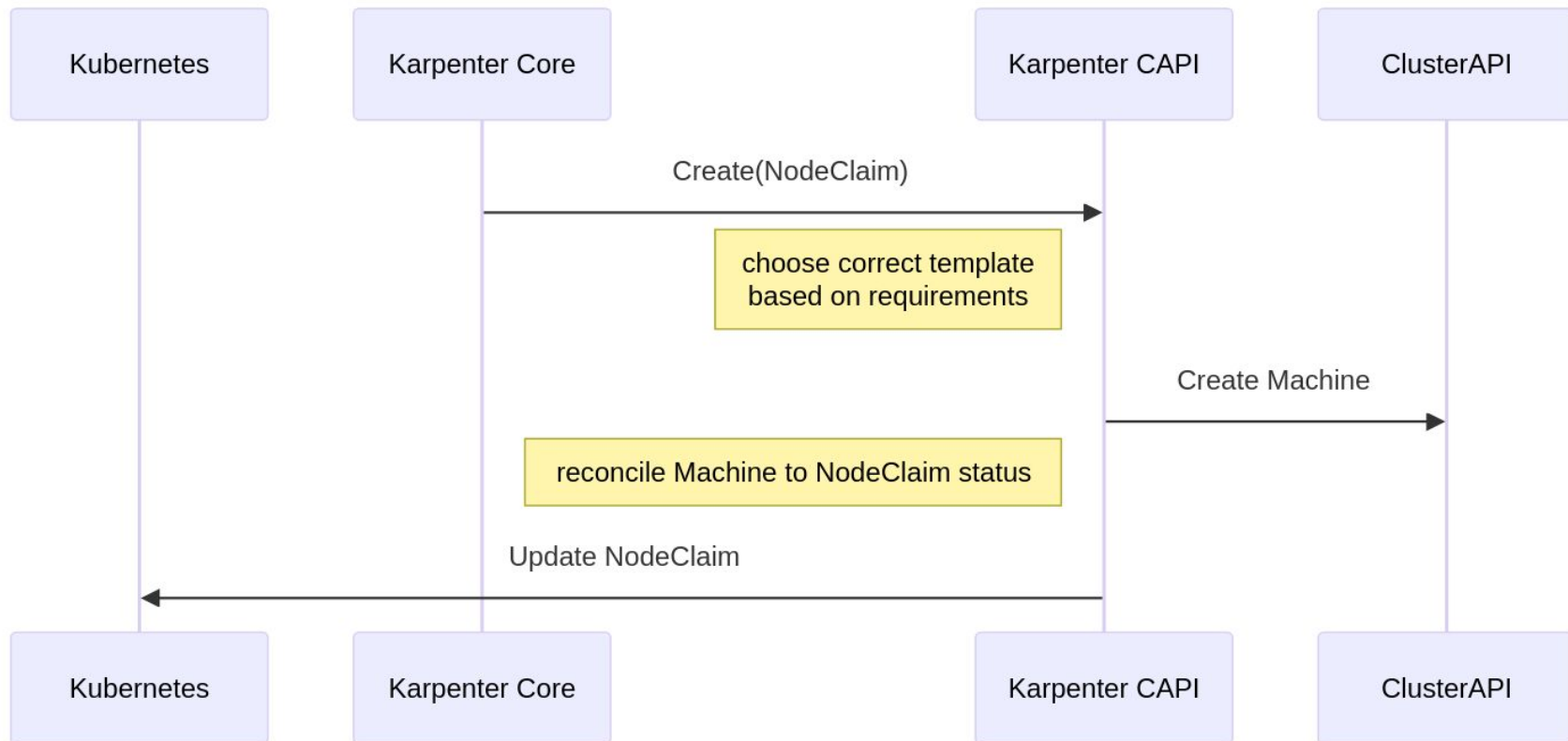
Custom Resource Relationships



Node Creation Workflow - Get Instance Types



Node Creation Workflow continued - Create A Node



Why not use Machine Pools/Deployments/Sets?

- Cumbersome user experience
- More complex to track scalable resources
- Clearer representation scale events

A User Story

As a Kubernetes developer writing predictive scaling applications that use Cluster API, I would like to be able to know what a Node will look like before creating a Machine so that I can make better decisions about infrastructure resources. If Cluster API had an interface for determining Node shape, that would solve my problem.