



KubeCon

CloudNativeCon

— North America 2018 —

T-Mobile StoreLocator Serverless journey with Knative & Kubernetes

About Me

- Ram Gopinathan
 - Full stack engineer with 22+ years of experience building web, mobile and distributed systems.
 - Golang and Java Developer
 - Work for T-Mobile



This talk is not about teaching
you what Knative is...





Focused on how Knative is
used in a real world enterprise
use case



Our motivation getting involved
with Knative early

How we are structured

Platform Service Providers

- Manage and operate platforms that run our enterprise workloads
- Both on-premises and in the cloud (AWS, Azure, GCP etc...)
- Infrastructure Experts

Enterprise Developers

- Build/Ship products used by our customers
- Few examples:
 - <https://www.t-mobile.com>
 - TMO app (Android, iOS etc...)
 - TMO Tuesdays
 - Builds microservices

What our enterprise devs need...

- Focus on writing business logic
- Free from managing and operating k8s Infrastructure
- Source repo to environments reliably and consistently
- Ship code to production faster with minimum risk
- Observability



Architecture Guiding Principles

- Reduce time to value
- API first
- Secure by design
- Performance and Scalability
- Autoscaling
- Monitor and Measure
- Standardized around docker and kubernetes
- Multi-cloud and workload portability





We have been making huge platform bets
both in our PaaS and container platforms

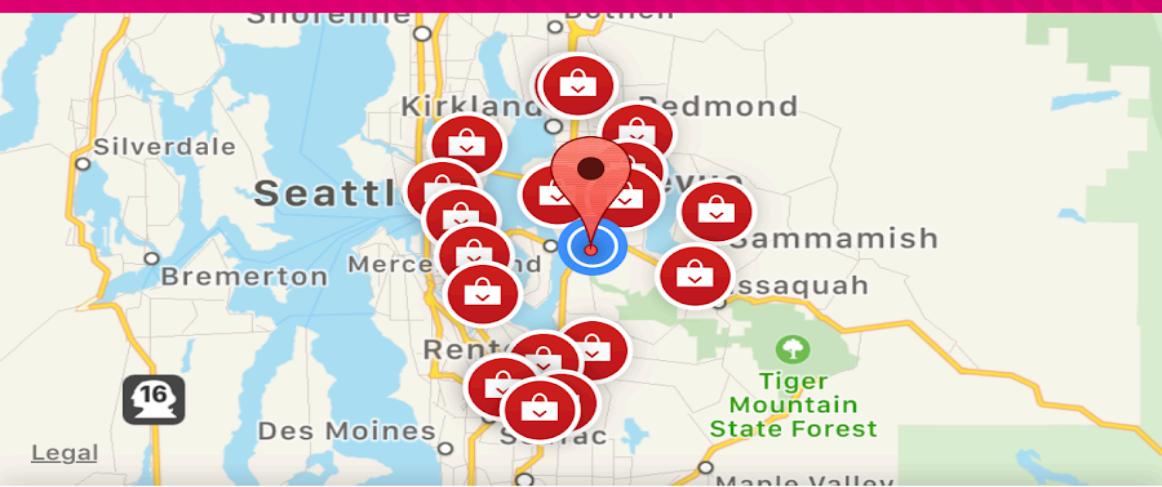


Bit of History...

< Menu



Store Locator



T-Mobile Bellevue

3618 Factoria Blvd SE
Bellevue, WA • 0.1 mi.
Open • Closes 8 PM



T-Mobile Bellevue

15600 NE 8th St, Suite A6
Bellevue, WA • 3.2 mi.
Open • Closes 8 PM



T-Mobile Bellevue

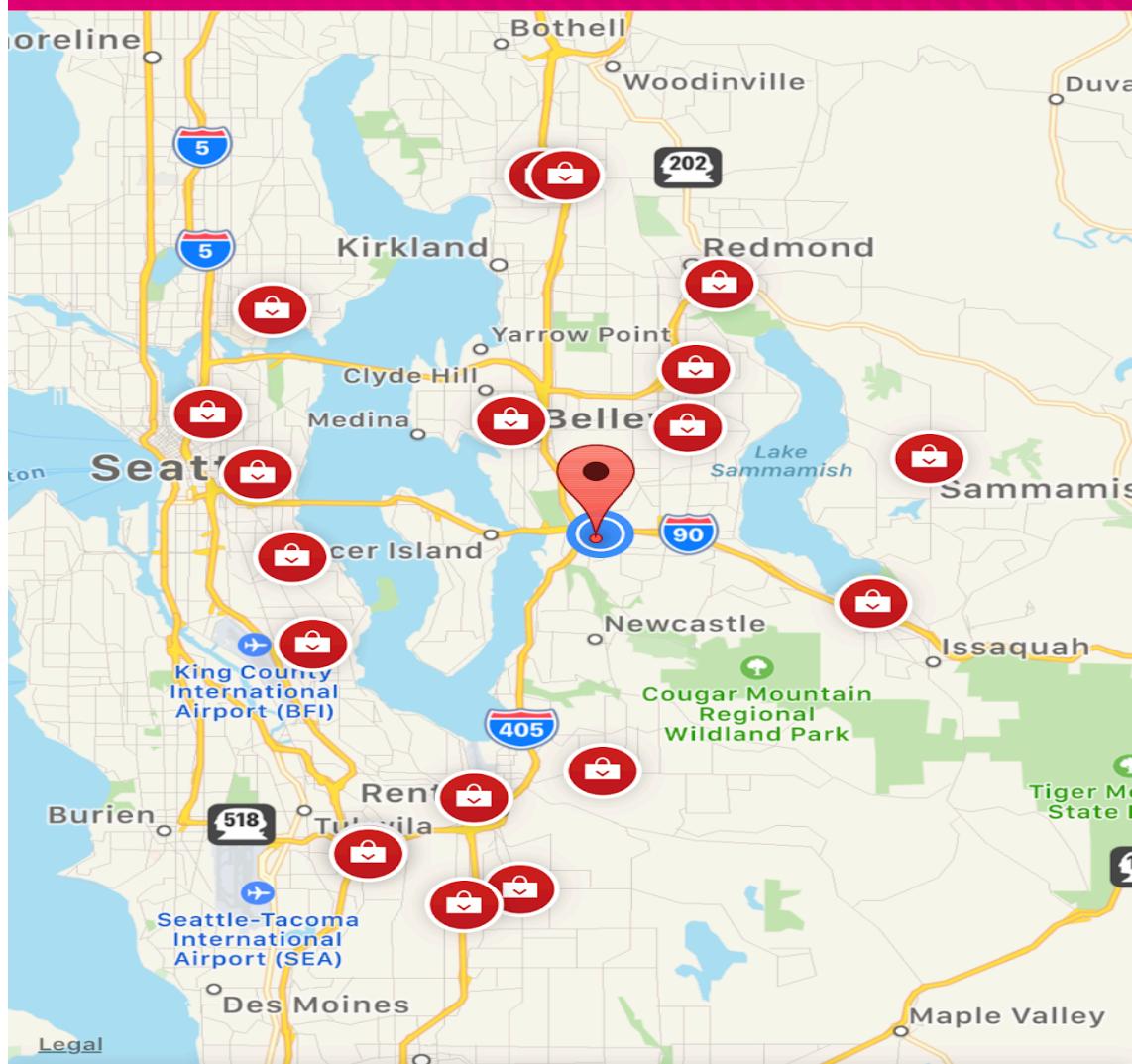
1012 Bellevue Square
Bellevue, WA • 3.3 mi.
Open • Closes 9:30 PM

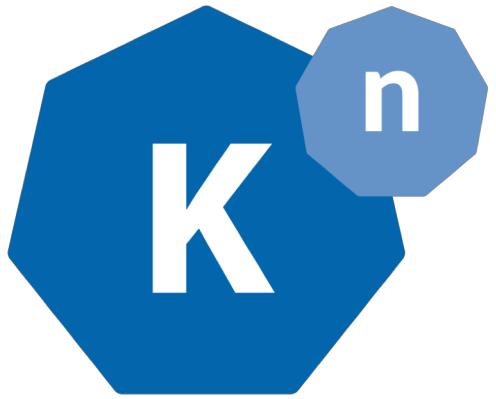


< Menu



Store Locator

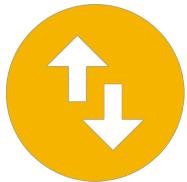
[Show Stores List](#)



- Set of primitives (build, events, serving...)
- Solves for modern development patterns
- Implements learnings from Google, partners

github.com/knative

Ingredients for Serverless



Simple

1-click build and deploy, configurable when you need to

Source to container or URL safely within your cluster

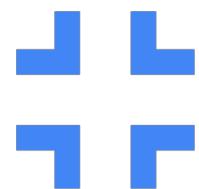


Automatic

Automatically deploys containers and provision ingress

Scale based on requests

Scale down to zero



Extendable

Easy to configure event sources

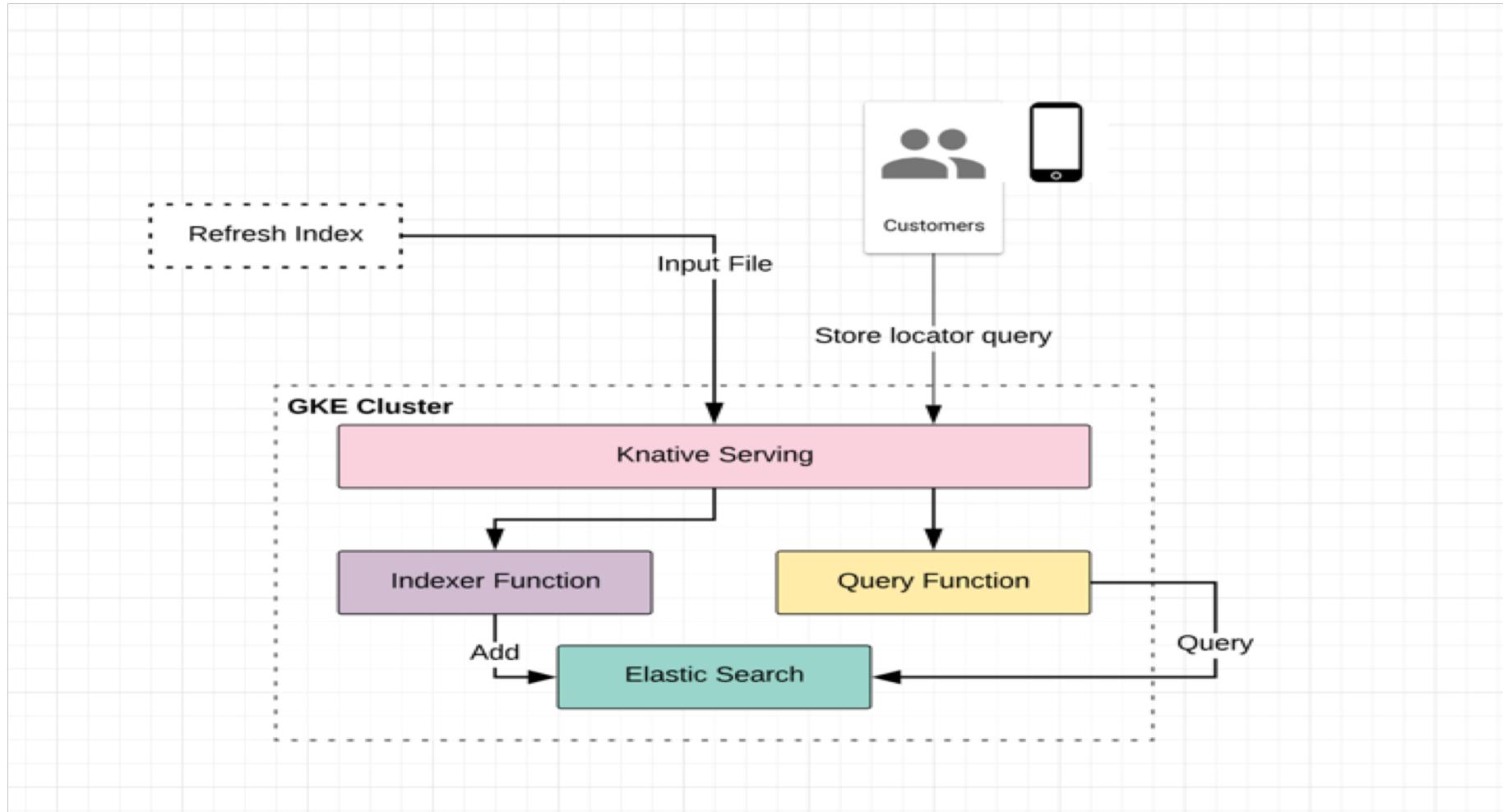
Plugable event bus and persistence

Join Knative community
knative/docs/community

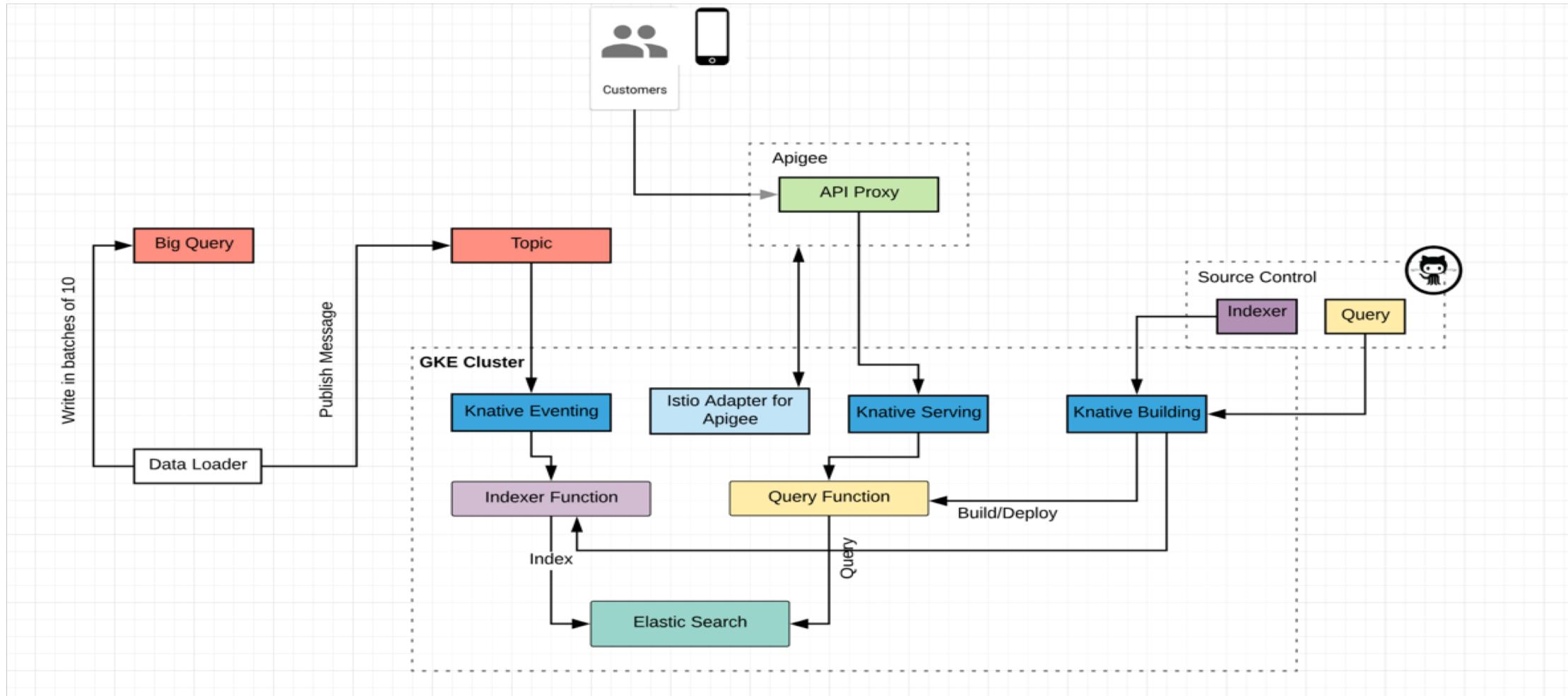
Have questions?
Knative.slack.com

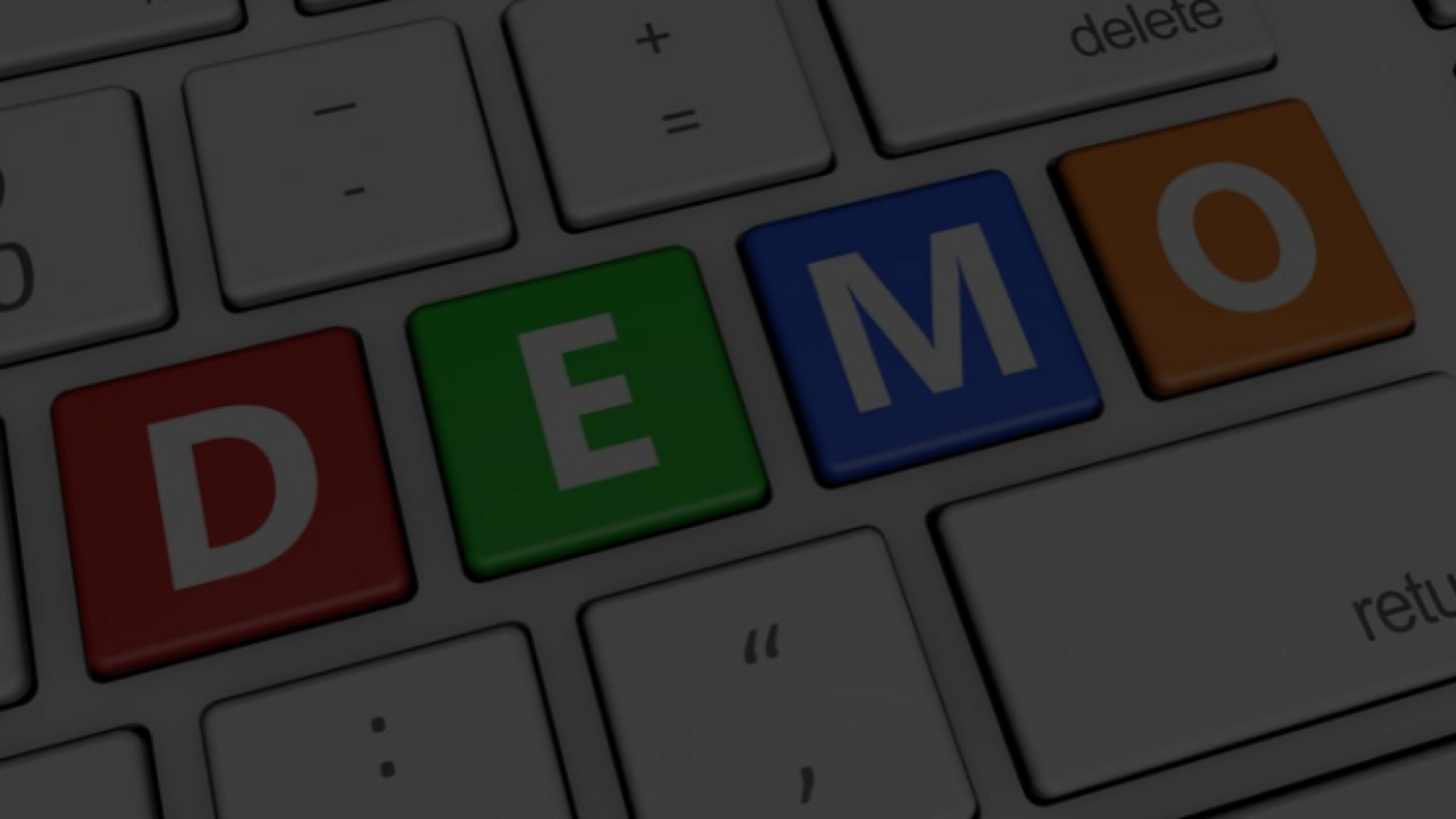
Knative News?
[@KnativeProject](#)

StoreLocator – Initial Architecture



StoreLocator – Current Architecture





Next steps...

- Opensource the dataset
- Multi-tenant
- Build web, mobile and auto experiences
- Leverage Build Pipelines
- Digital Assistant Integration
- Integration with third party services such as Lyft and Uber

Summary

- Excited to see IBM, Pivotal and others building higher level abstractions and tooling on top of Knative
- As a platform service provider Knative provides many low level primitives that we can build higher level abstraction/tooling on top of
- Future of Serverless and Cloud Native App development
- Knative team and community is super cool and fun to be a part of





Q/A

Getting in touch

- Blog: <http://rprakashg.io/blog>
- Twitter: <http://twitter.com/rprakashg>
- LinkedIn:
<https://www.linkedin.com/in/rprakashg>
- Email:
<mailto:ramprakash.gopinathan@t-mobile.com>



KubeCon

CloudNativeCon

North America 2018

