



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
 - Core focus on docker, kubernetes, DCOS and cloud native applications
 - Multi-cloud experience (Azure, AWS, GCP)



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





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

What engineers need...

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

```
elink https://devel...  
epackage _s  
*/  
if ( ! function_exists( 'incode_starter_setup' ) ) :  
    /**  
     * Sets up theme defaults and registers support for various WordP...  
     * Note that this function is hooked into the init hook. The init hook is after_setup_theme hook.  
     * runs before the init hook. The init hook is too late for some hook.  
     */  
function incode_starter_setup() {  
    /* Make theme available for translation.  
     * Translations can be filed in the /languages/ directory.  
     * If you're building a theme based on incode-starter, make sure  
     * to change the domain used to "incode-starter".  
     */  
    load_theme_textdomain( 'incode-starter', get_stylesheet_directory() );  
}  
add_action( 'after_setup_theme', 'incode_starter_setup' );
```

Architecture Guiding Principles

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

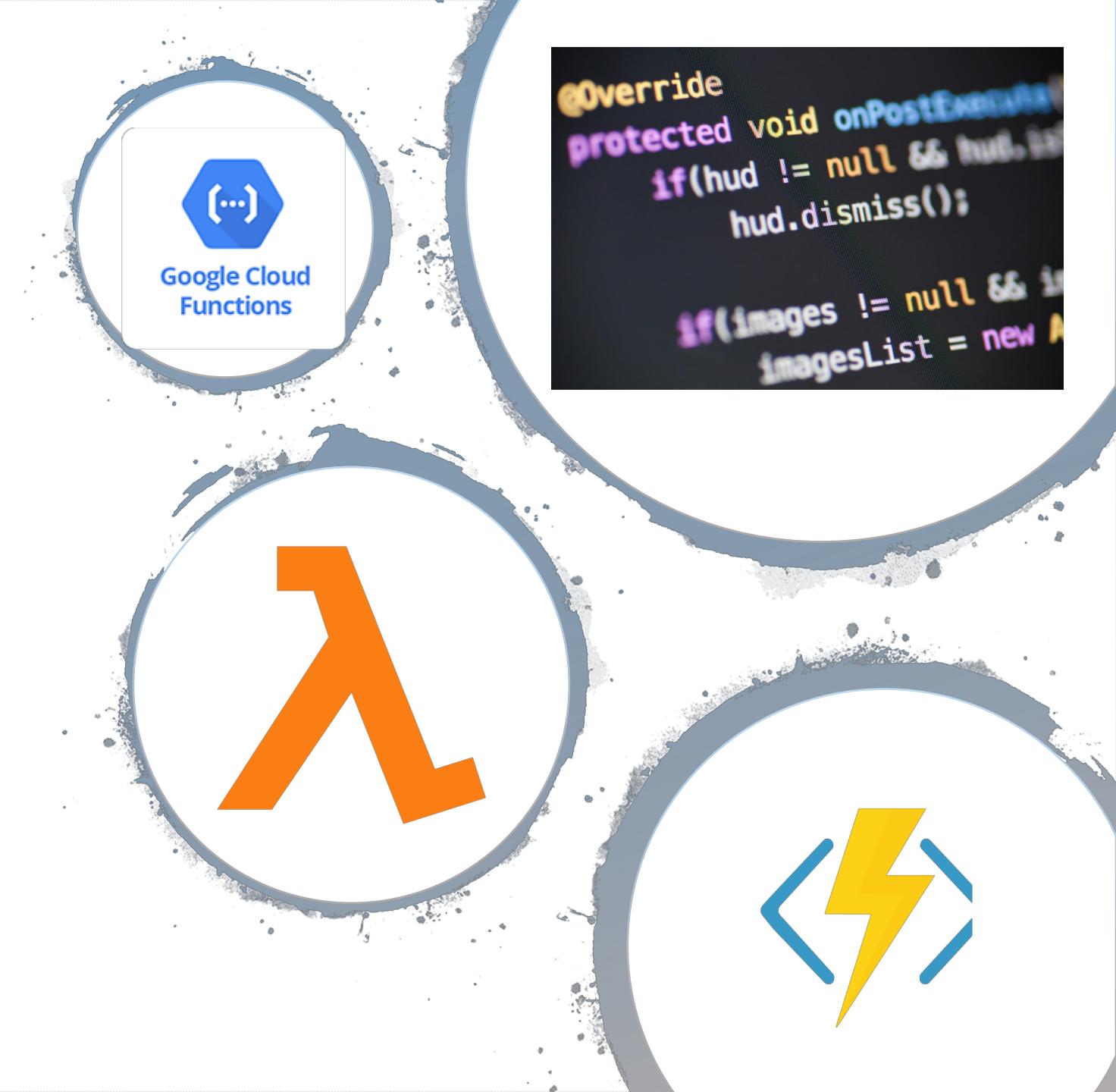




Bit of History...

Why not use serverless in public cloud?

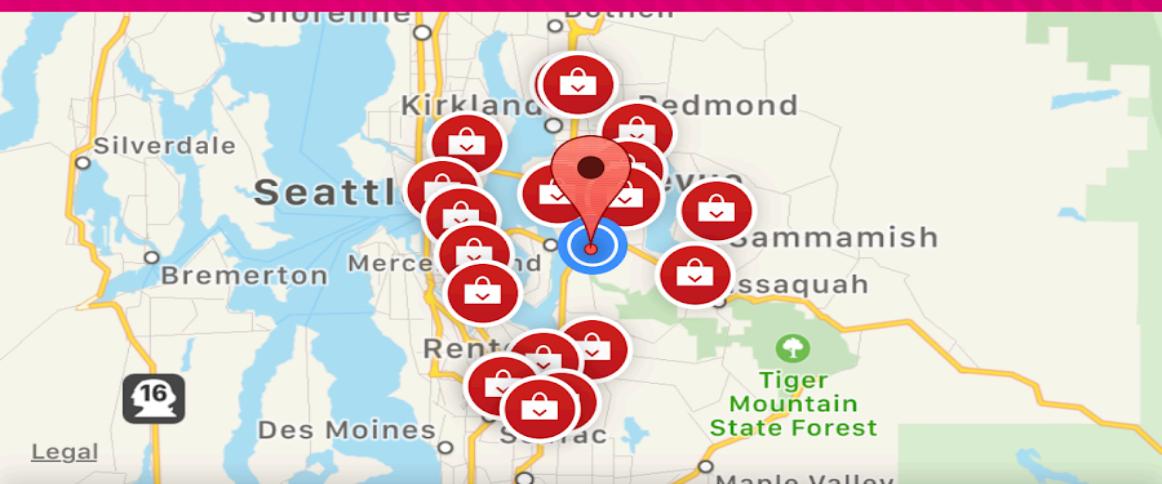
- Cloud Provider lock-in
- No portability story
- Not an option for On-Premises workloads



< 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

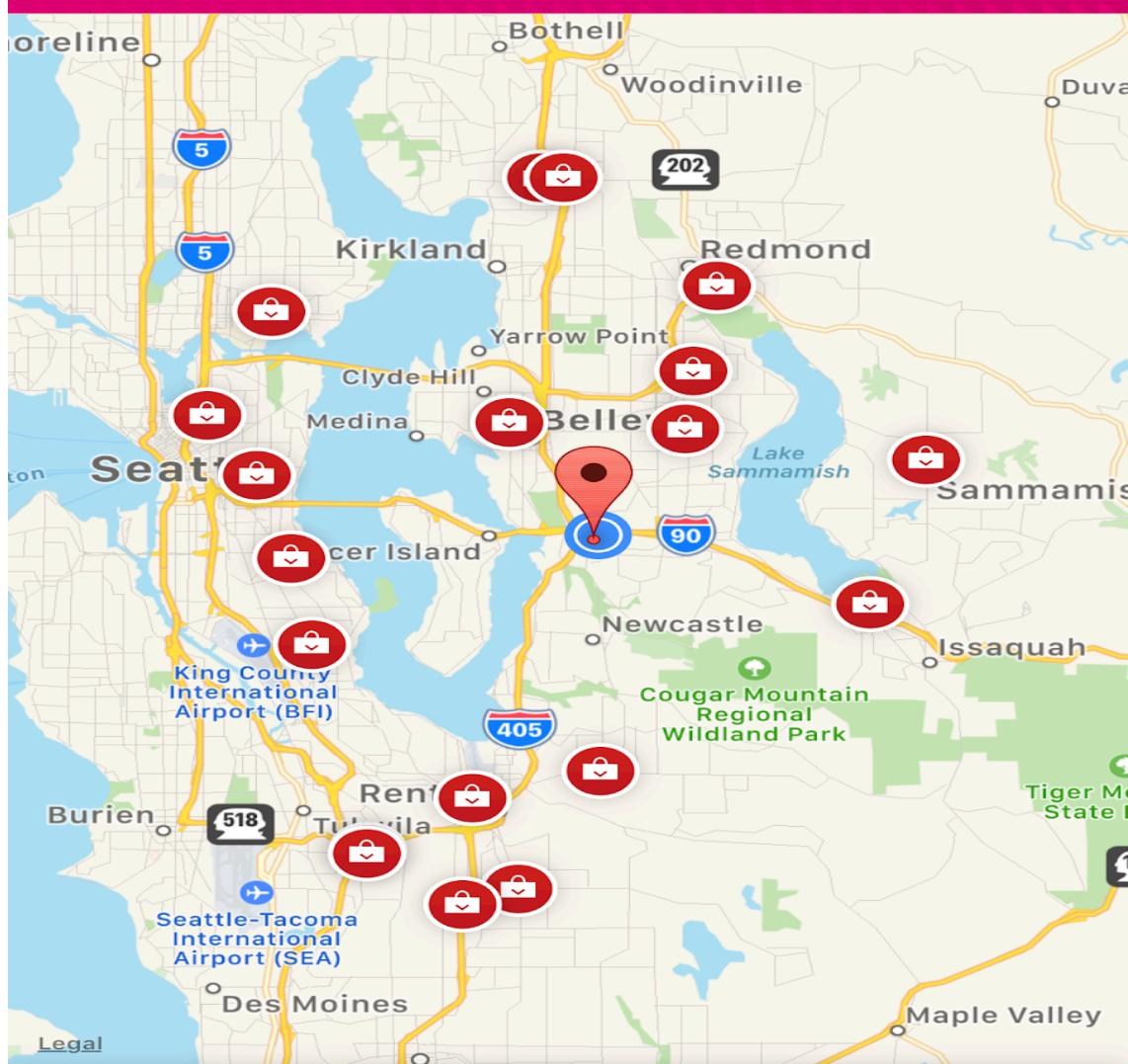
1012 Bellevue Square
Bellevue, WA • 3.3 mi.
Open • Closes 9:30 PM



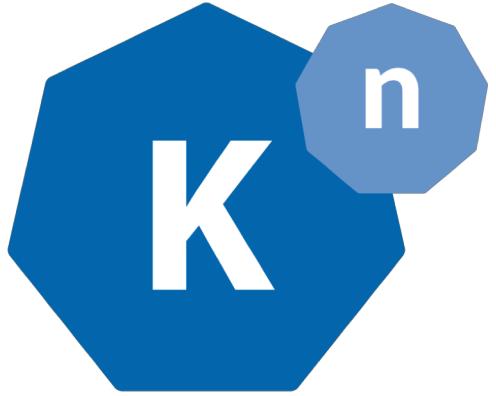
< Menu



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

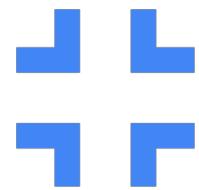


Automatic

Automatically deploys containers and provision ingress

Scale based on requests

Scale down to zero



Extendable

Easy to configure event sources

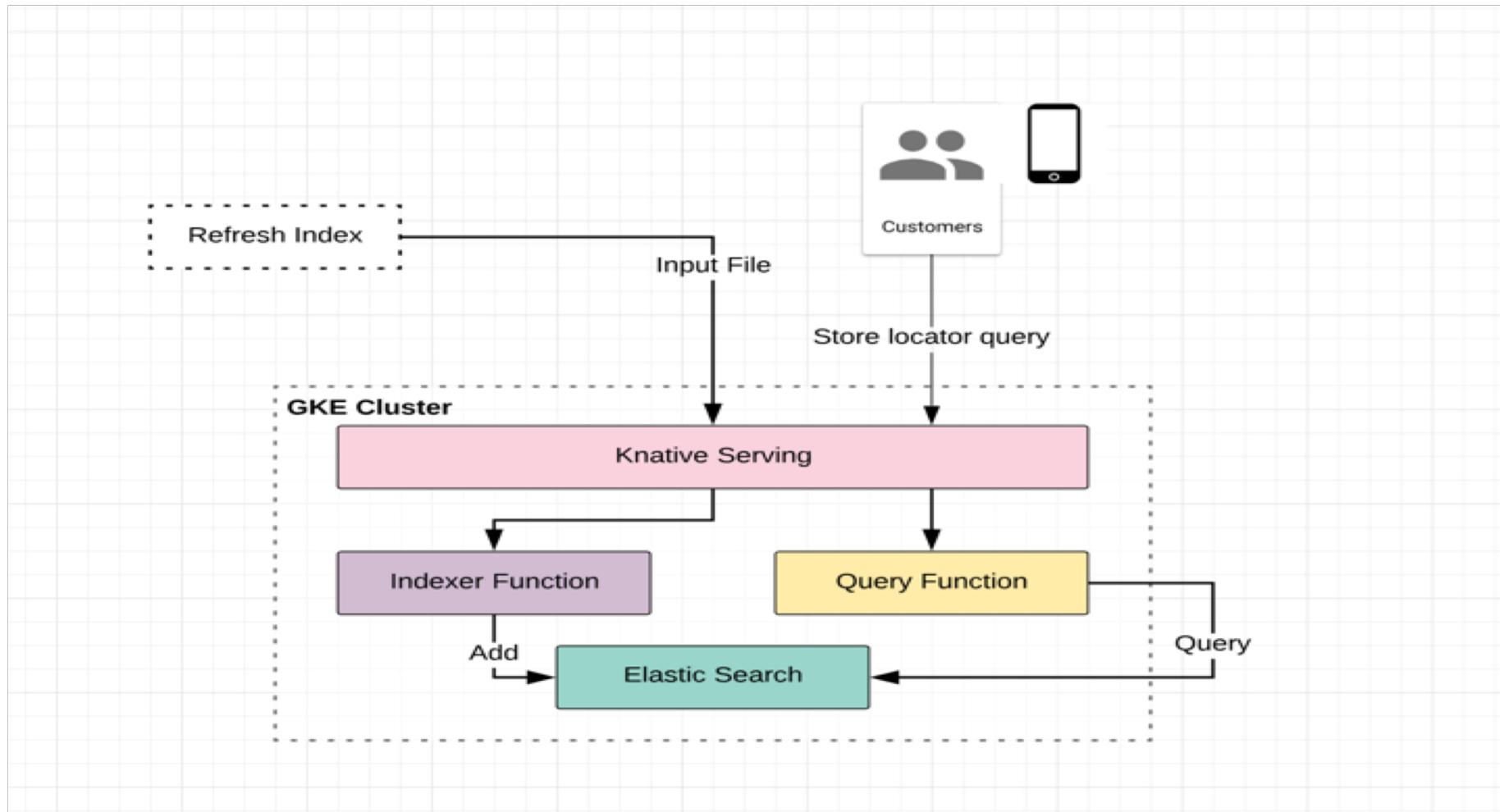
Plugable event bus and persistence

Join Knative community
knative/docs/community

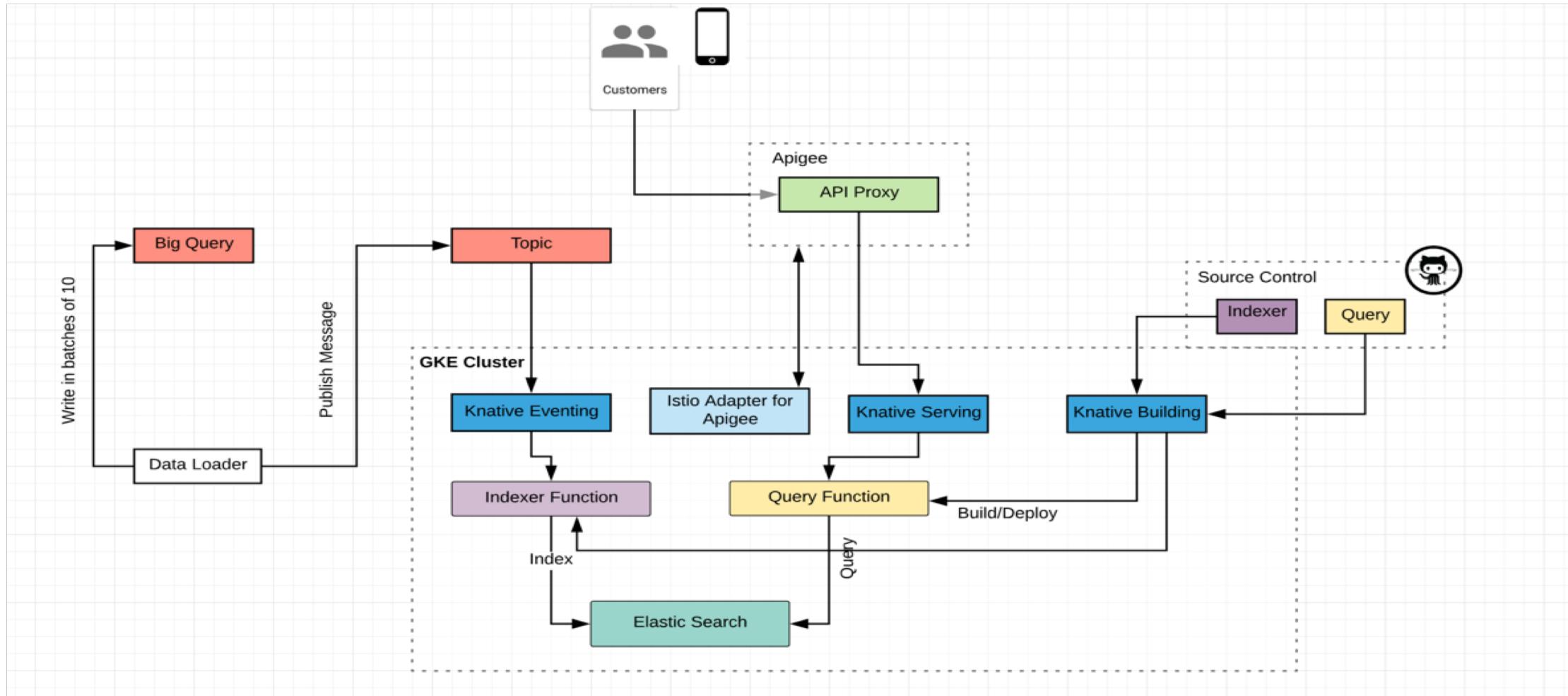
Have questions?
Knative.slack.com

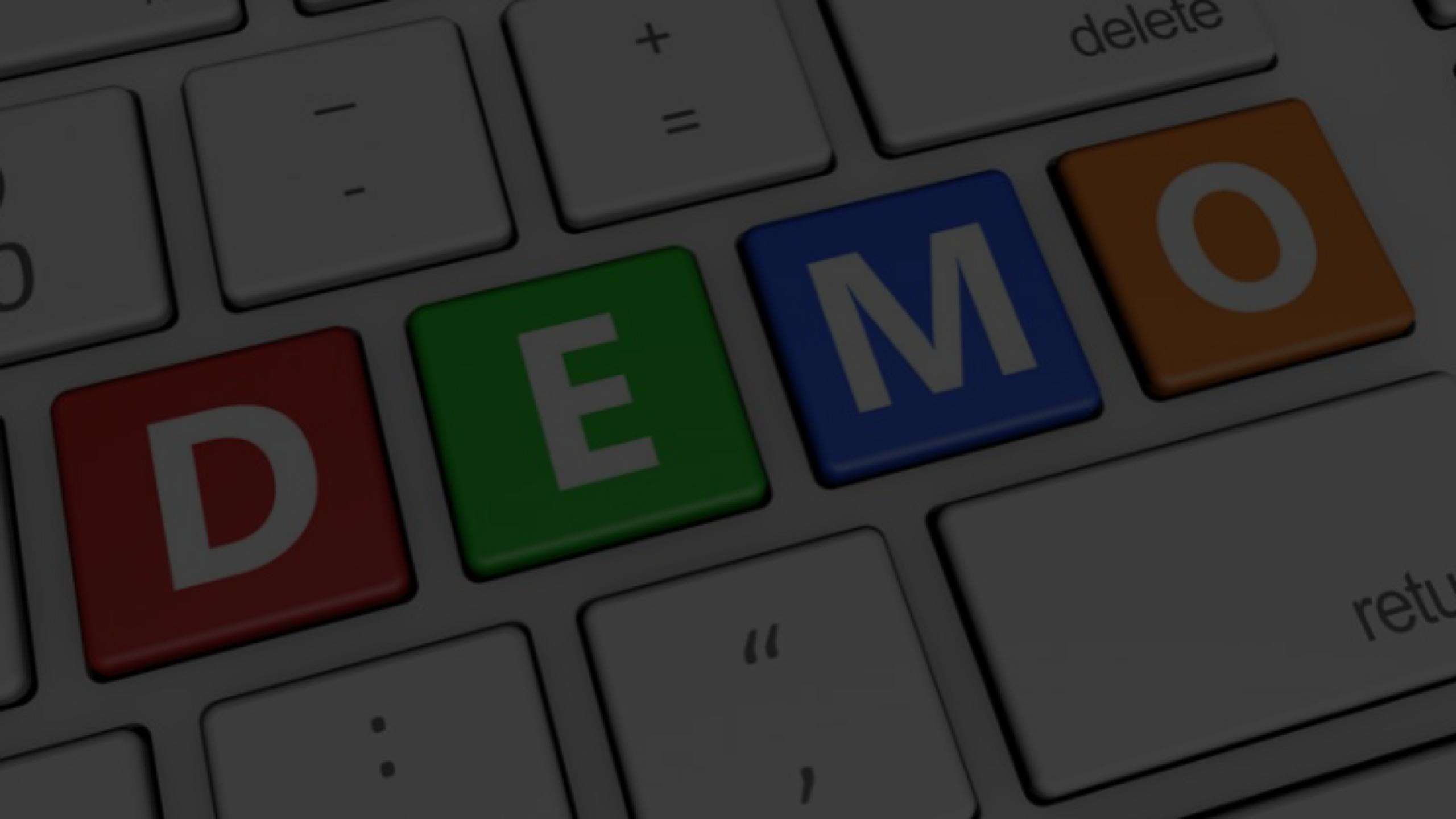
Knative News?
@KnativeProject

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

- Most of our Architecture guiding principles were met right out of the gate by Knative
- Future of Serverless and Cloud Native App development
- Find a use case, build a POC, test drive all the Knative components,
- Join the community, provide feedback
- Enhance and Improve

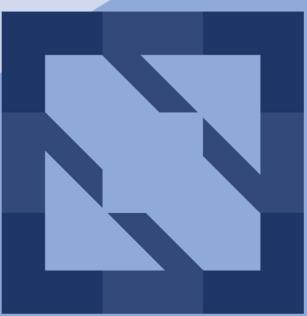




Q/A

Getting in touch

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