I'm a Builder

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DevOps/AppSec @ Soluto

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Soluto's (ilustrated) Kubernetes Story

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If You Build It,

Will They Come?

PVC

Ingress

Deployment

Service

HPA

Pod

Secret

Config Map

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https://cdn.chrisshort.net/The-Illustrated-Childrens-Guide-to-Kubernetes.pdf
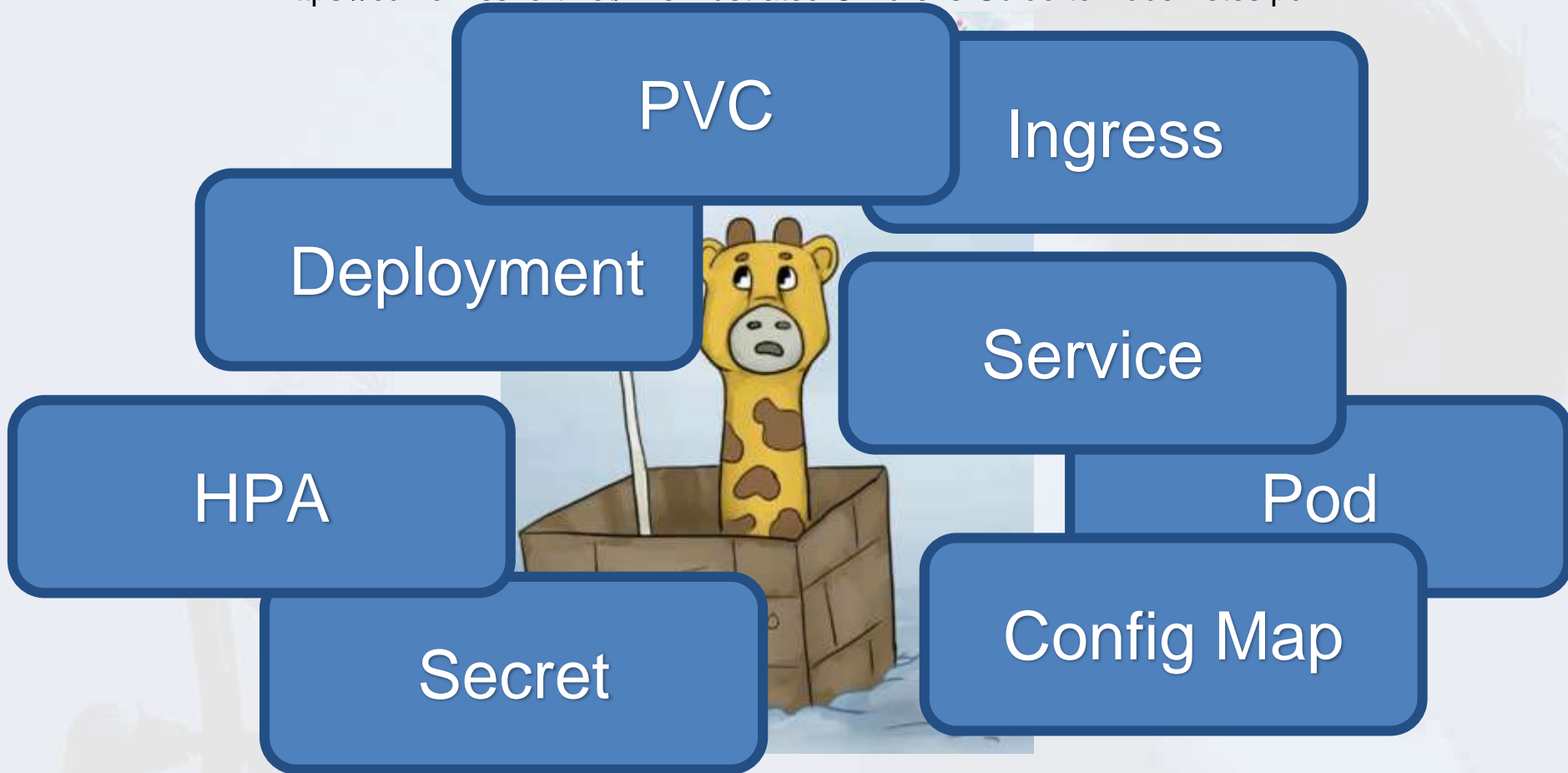
All APIs are the Same

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http://www.nbcnews.com/id/23468364/ns/technology_and_science-science/t/was-moses-high-mount-sinai/#.W7ZWYhMzYnU

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What is Helm?

- Kubernetes Package Manager
- Packages called "Charts"
- Releases are a specific chart install in a cluster

Why Helm?

- Customizable Kubernetes Files
- Built-in life-cycle management
- Extendable
- A CNCF project

One Chart to Rule Them All

Source: http://lego-lord-of-the-rings.wikia.com/wiki/File:The_One_Ring.jpg

It's Demo Time!

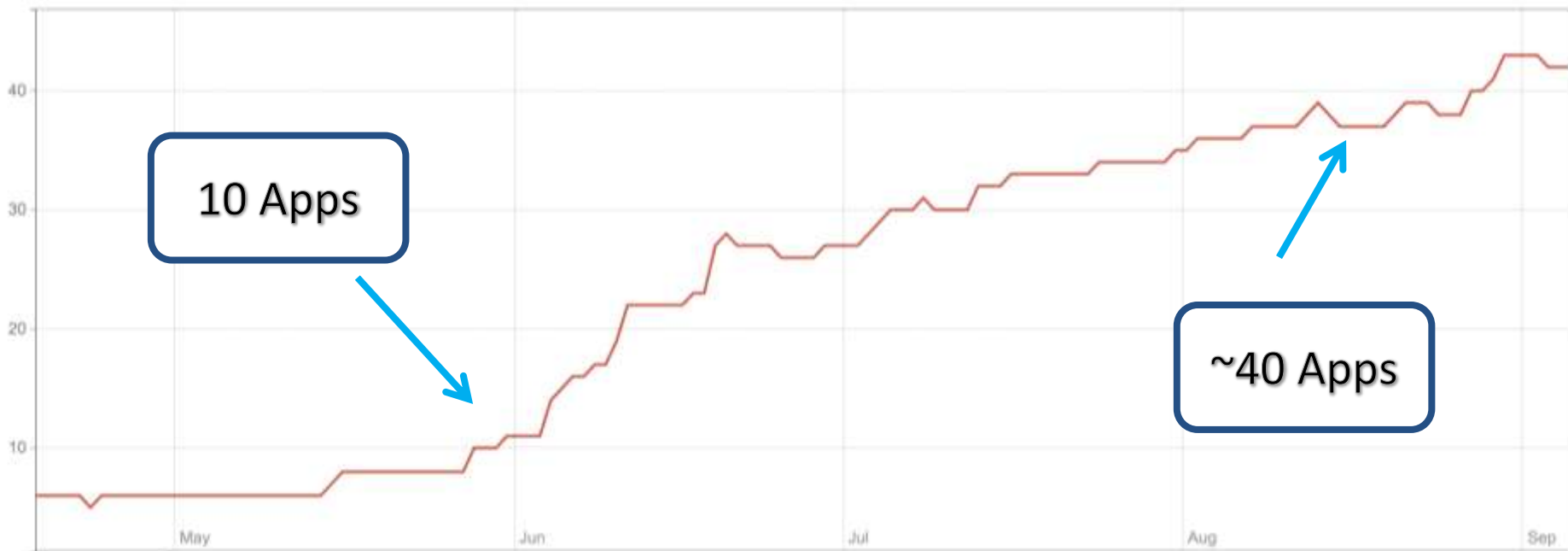- Requirements:
  - A Kubernetes Cluster
  - Helm

https://github.com/omerlh/k8s-helm-talk

If You Build It,

Will They Come?

How it affected Soluto?

10 Apps

~40 Apps

count(count(up) by (release))

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But Not Everything is Perfect…

- Composition is Hard
- Testing is not simple
- Abstraction is a Challenge

Future Features

- Secret Management
- UI is a challenge
- Helm Bugs
- Are there more types?

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What About Alternatives?

- Kustomize

- Draft/Spinnaker/Jenkins

- Ksonnet

A Quick Note About Security

Can you spot a security issue?

```yaml
spec:
  containers:
    - name: worker
      image: local/worker:2
      imagePullPolicy: IfNotPresent
      ports:
        - containerPort: 8080
    - name: api
      image: local/api:2
      imagePullPolicy: IfNotPresent
      ports:
        - containerPort: 8080
      livenessProbe:
        httpGet:
          path: /isAlive
          port: 8080
      readinessProbe:
        httpGet:
          path: /isAlive
          port: 8080
      securityContext:
        privileged: true
        readOnlyRootFilesystem: true
      volumeMounts:
        - name: testing
          mountPath: "/var/run/docker.sock"
```

Our Story Almost Ended…

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Feedback is much appreciated!

All Day DevOps

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https://cdn.chrisshort.net/The-Illustrated-Childrens-Guide-to-Kubernetes.pdf

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And they lived happily ever after

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Resources

- https://github.com/omerlh/k8s-helm-talk
- https://blog.solutotlv.com/deploying-kubernetes-like-a-pro/

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