From New Cluster to Insight: Deploying Monitoring and Logging to Kubernetes
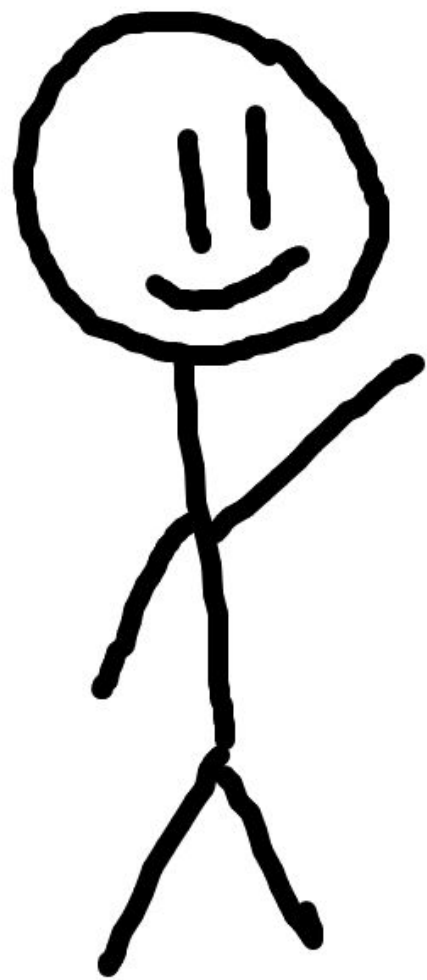
Eddie Zaneski

@eddiezane

Dawn of
The Second Day
-48 Hours Remain-

https://landscape.cncf.io

Cloud Native Landscape

App Definition and Development

Database · **Streaming & Messaging** · **Application Definition & Image Build** · **Continuous Integration & Delivery**

Orchestration & Management

Scheduling & Orchestration · **Coordination & Service Discovery** · **Remote Procedure Call** · **Service Proxy** · **API Gateway** · **Service Mesh**

Runtime

Cloud-Native Storage · **Container Runtime** · **Cloud-Native Network**

Provisioning

Automation & Configuration · **Container Registry** · **Security & Compliance** · **Key Management**

Platform

Certified Kubernetes - Distribution

Certified Kubernetes - Hosted

Certified Kubernetes - Installer

PaaS/Container Service

Observability and Analysis

Monitoring

Logging

Tracing

Chaos Engineering

Serverless

Cloud

Public

Special

Kubernetes Certified Service Provider

Kubernetes Training Partner

l.cncf.io

This landscape is intended as a map through the previously uncharted terrain of cloud native technologies. There are many routes to deploying a cloud native application, with CNCF Projects representing a particularly well-traveled path

CLOUD NATIVE COMPUTING FOUNDATION

CLOUD NATIVE Landscape

Redpoint · Amplify

Observability and Analysis

Monitoring

Prometheus — CNCF Graduated

Amazon CloudWatch, APPDYNAMICS, AppNeta, appoptics, Azure Monitor, bluematador

catchpoint, centreon, CloudHealth, cortex, DATADOG, dynatrace

Google Stackdriver, Grafana, graphite, Honeybadger, honeycomb, iCINGA, influxdata, INSTANA

IRONdb, LIGHTSTEP, LogicMonitor, Nagios, netdata, New Relic, NexClipper, NODESOURCE

NUTANIX, OPENMETRICS, OPENTSDB, Outlyer, replex, riverbed, Sensu, SENTRY

SignalFx, StackState, STORMFORGER, Sysdig, Thanos, 听云 TINGYUN, trickster, WAVEFRONT by vmware

weave cloud, weave scope, ZABBIX

Logging

fluentd — CNCF Graduated

elastic, Grafana loki, graylog, HUMIO, logdna, LOGGLY

logstash, logz.io, loom Systems, SCALYR, sematext, splunk>

sumo logic

Monitoring
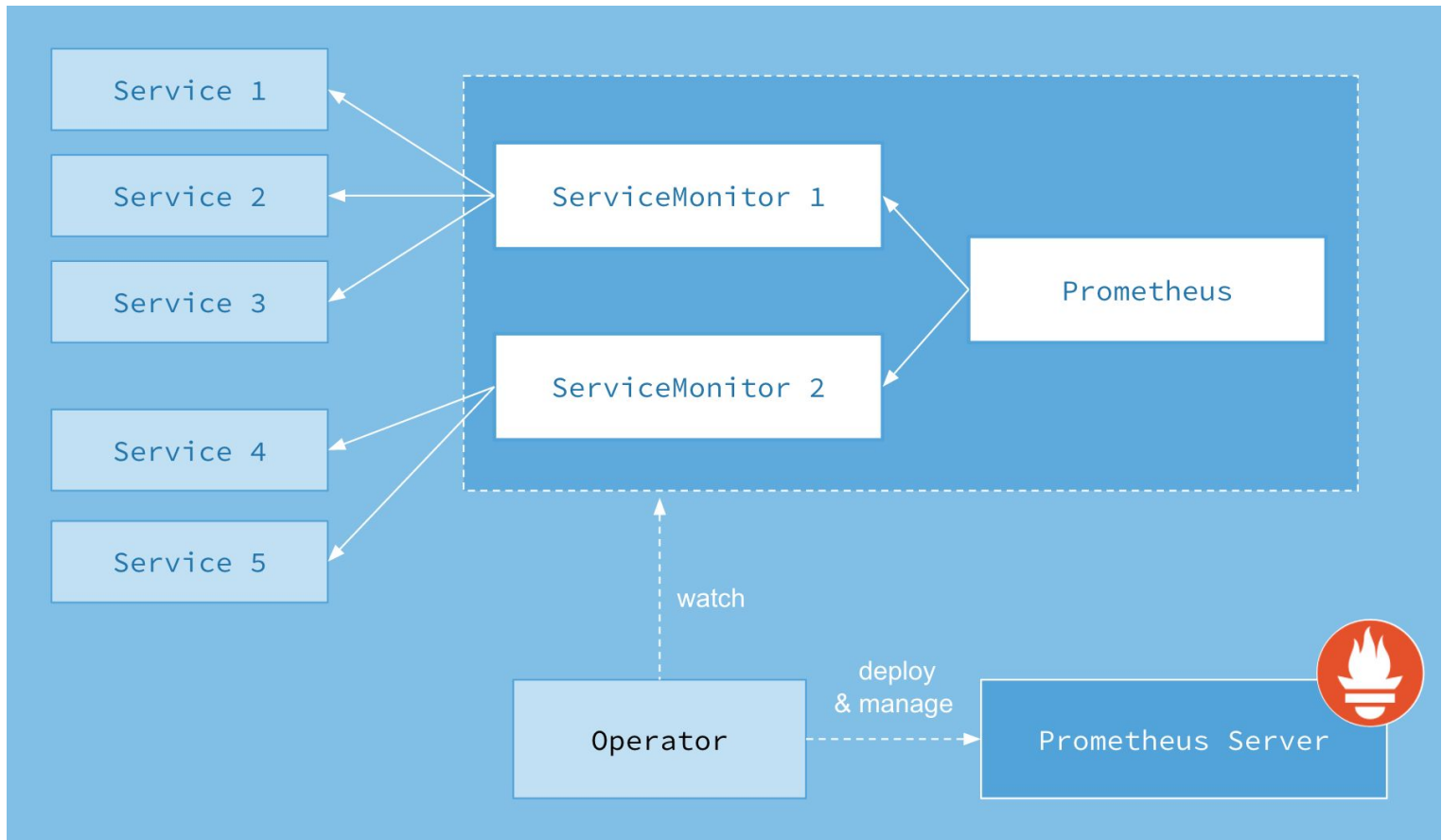
Things to monitor

- Nodes

- Pods

- kube-system

  - kube-apiserver

  - kube-scheduler

  - etc(d)...

- APM

  - Requests per second

  - Error rates
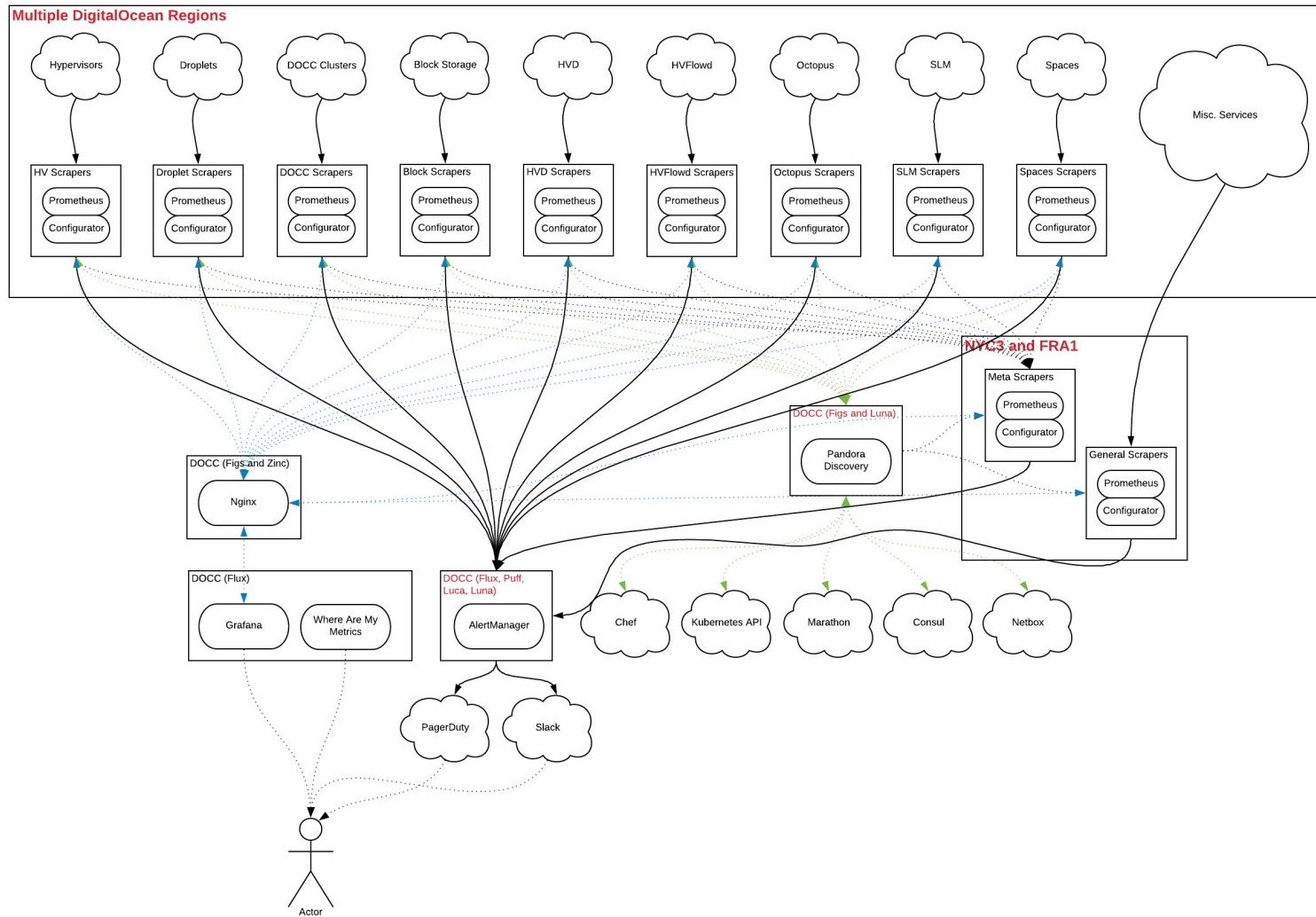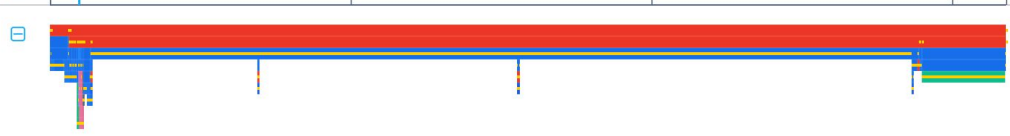
- App specific metrics

  - Top selling product

- 4.5 million metrics samples a second

0   167ms   1.8s   3.6s   5.4s 5.72s

OPERATION	SERVICE	DURATION
120 configureClusterAPIToken	k8saassvc-reconciliation: k8saassvc-reconciliation	7.58ms
119 ValidateToken	k8saassvc-reconciliation: k8saassvc-reconciliation	7.47ms
118 /tokencrud.TokenCRUD/ListTokens	k8saassvc-reconciliation: k8saassvc-reconciliation client	7.31ms
117 /tokencrud.TokenCRUD/ListTokens	tokencrud: tokencrud server	5.66ms
configureClusterBootstrapToken	k8saassvc-reconciliation: k8saassvc-reconciliation	52µs
configureClusterProxyToken	k8saassvc-reconciliation: k8saassvc-reconciliation	45µs
6 configureVPC	k8saassvc-reconciliation: k8saassvc-reconciliation	5.28ms
5 /vpcs.VpcAPI/ResolveVPC	k8saassvc-reconciliation: k8saassvc-reconciliation client	5.16ms
16 configureTags	k8saassvc-reconciliation: k8saassvc-reconciliation	13.4ms
6 syncClusterTags	k8saassvc-reconciliation: k8saassvc-reconciliation	6.6ms
autoUpgradeCluster	k8saassvc-reconciliation: k8saassvc-reconciliation	23µs

Operation
configureVPC

Service
k8saassvc-reconciliation: k8saassvc-reconciliation

Tags

commit_hash	38546d84fa36808119220375b96ab3a4 43f5b19c
component	k8saassvc-reconciliation
docc.cluster	puff
env	production
filename_end	do/teams/compute/k8saas/k8saassv c/reconciliation/resources.go:239
filename_start	do/teams/compute/k8saas/k8saassv c/reconciliation/resources.go:210
package	do/teams/compute/k8saas/k8saassv c/reconciliation
peer.hostname	k8saassvc-reconciliation-6dfb9d8c-cbr4x
pid	1
region	nbg1
type	*clusterReconciler
vpc_uuid	b357c1a7-dc84-11e8-8650-3cfdfea9f8c8

Logs

41µs	validating existing vpc uuid for cluster

Additional Details

Span Start
05-21-2019 14:00:23
1558440023313810 µs

Span Finish
05-21-2019 14:00:23

Help

Logging

Things to log

- All the things

Shippers

Ingesters
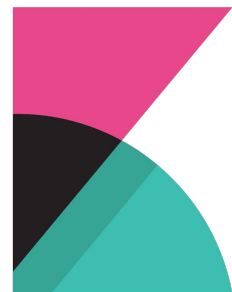
fluentd

elasticsearch

kibana

CHALLENGER APPROACHING
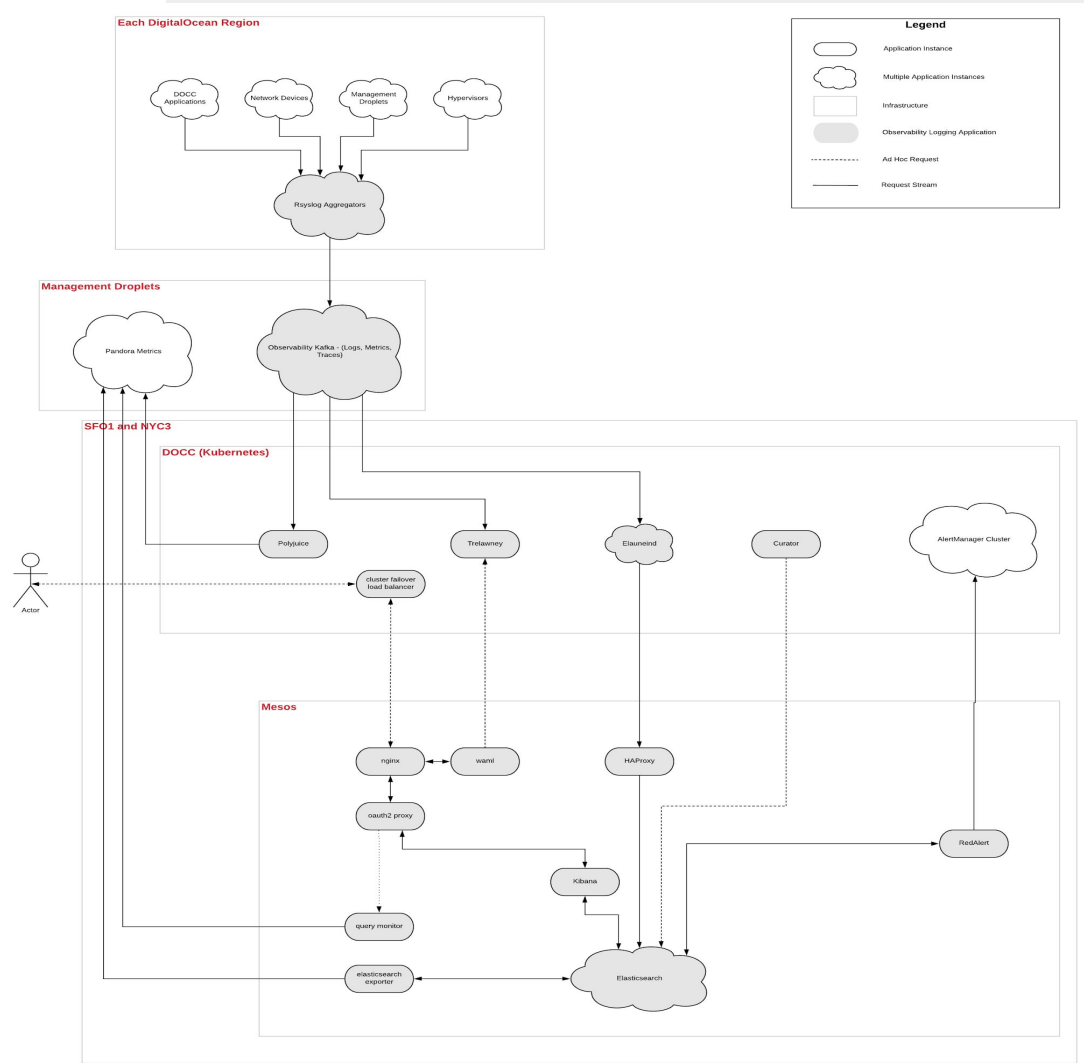
A new foe!

P 1

Grafana loki

- rsyslog

- 100% availability ingesting

- 30k log lines ingested a second

- 10+ regional aggregators

Demo

Thanks!

@eddiezane

https://github.com/eddiezane/kubernetes-observability-example

https://do.co/c