Shard Your Shelf: Reliably monitoring of apps in near real-time

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Hi.

???

Guh-shev-itz from "Gwozdziewycz?"

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Operational Experience?

Heroku?

"So you wanna build a monitoring system?"

MetaaS: Metrics as a Service

Metrics as a Service

- service time histograms

- throughput (by status)

- memory usage

- load average

- errors

- restarts, deployments, etc...

Memory related JVM Metrics..

with other languages coming soon.

A note about monitoring...

1. Let your users do it.

2. Do it yourself.

Lesson 1: Your reliability and trustworthiness depends upon your own monitoring and operational practices.

Heroku Operations / SRE

Ingestion of events

Lesson 2: IATUS: It's about the user, stupid!

Memory, Load Averages, Deployments, Scale changes...

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- Rob Ewashuk's "My Philosophy on Alerting"

How do these events flow into our system?

Logs as data.

Logs are lossy... by design.

Lesson 3: Hold on to what you've got.

History: Logs to InfluxDB

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- Logger -> Proxy

- Proxy -> InfluxDB

- InfluxDB ... due to operator error

Kafka is Magic

Kafka™ is used for building real-time data pipelines

and streaming apps. It is is horizontally scalable,

fault-tolerant, wicked fast, and runs in production

in thousands of companies.

-- http://kafka.apache.org

Kafka is Magic

Kafka as a Service

Lesson 4: Don't run things you can't give your full attention to.

InfluxDB -> ???

Postgres as a Service

We've got metrics, and Visualizations...

Lesson 5: Kafka is Magic

```
cat raw-data | aggregate | kafka --to aggregates
```

`cat aggregates | persist-to-datastore`

cat aggregates | alert | kafka --to check-results

Lesson 6: The best thing about Unix is the philosophy on composition of small programs via pipes.

Lesson 7: Use reliable, trusted, off the shelf, components whenever possible.

"Off the shelf" components

- Process orchestration (Heroku, Kubernetes, AWS Container Services...

- Kafka

- Postgres

- Redis

- Operations processes

- Librato / Pingdom

Case in point: Uptime monitoring

Down for everybody or just me?

Lesson 8: Monitor what your users are seeing so you see it, too.

Summary

- Your reliability and trustworthiness depends upon your own practices

- It's about the user, stupid!

- Hold on to what you've got.

- Don't run things you can't give your full attention to

Summary

- Kafka is magic

- Composition of small programs via pipes, whenver possible

- Reliable, off the shelf, components whenever possible.

- Monitor what your user's see so you see it, too.

Shard your Shelf.