Jaeger
SIG Project Update

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Agenda

- Project introduction

- Demo

- Roadmap

- Discussion

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Jaeger, a Distributed Tracing System

https://jaegertracing.io

Jaeger - /ˈyāgər/, *noun*: hunter

- Inspired by Google's Dapper and OpenZipkin

- Started at Uber in August 2015

- Open sourced in April 2017

- Official CNCF project, Sep 2017

- Built-in OpenTracing support

- https://jaegertracing.io

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Technology Stack

- Go backend
- Pluggable storage
  - Cassandra, Elasticsearch, memory, ...
- React/Javascript frontend
- OpenTracing Instrumentation libraries

Community

- 10 full time engineers at Uber and Red Hat

- 30+ contributors on GitHub

- Already used by many organizations

  - including Symantec, Red Hat, Base CRM, Massachusetts Open Cloud, Nets, FarmersEdge, GrafanaLabs, Northwestern Mutual, Zenly

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Let's look at some traces

demo time: http://bit.do/jaeger-hotrod

Distributed Tracing Systems

distributed transaction monitoring

performance and latency optimization

root cause analysis

service dependency analysis

distributed context propagation

Announcing Release 1.0

- UI performance and usability improvements to view large traces

- Storage backends: Cassandra and ElasticSearch

- Spark job for building service dependencies diagram

- Client libraries: Go, Java, Python, Node.js, C++ (new)

- Integration with other CNCF projects

  - Templates for deploying Jaeger on Kubernetes

  - All Jaeger components expose Prometheus metrics by default

  - Integration with Envoy/Istio

- Drop-in replacement for Zipkin backend

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Roadmap

Things we are working on

Adaptive Sampling

- APIs have endpoints with different QPS

- Service owners do not know the full impact of sampling probability

Adaptive Sampling is per service + endpoint, decided by Jaeger backend based on traffic

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Data Pipeline

- Based on Kafka and Apache Flink

- Support aggregations and data mining

- Examples:

  - Pairwise dependencies diagram

  - Path-based dependencies diagram

  - Latency histograms

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Q & A

Open Discussion

Jaeger at CloudNativeCon

- SIG Jaeger Deep Dive Session

  - Thursday, December 7 • 2:00pm - 3:20pm

- Jaeger Project Salon

  - Friday, December 8 • 2:00pm - 3:20pm

- OpenTracing Salon

  - Thursday, December 7 • 3:50pm - 4:50pm

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