OpenTracing: one instrumentation for metrics, logs and traces.

Yuri Shkuro, Uber Technologies
Juraci Paixão Kröhling, Red Hat
Agenda

• What is Distributed Tracing
• OpenTracing
• Demos, demos, demos...
Distributed Tracing
Transaction Monitoring for Microservices

"The Simple [Inefficient] Thing"

Basic Concurrency

Async Concurrency

Distributed Concurrency
Metrics do not explain things
func BenderRodriguez() {
    log.info("start bending")
    // ... cheese it ...
    log.info("stop bending")
}

11:50:01 INFO start bending
11:50:02 INFO start bending
11:50:03 INFO stop bending
11:50:04 INFO start bending
11:50:05 INFO stop bending
11:50:06 INFO start bending
11:50:07 INFO start bending
11:50:08 INFO stop bending
11:50:09 INFO stop bending
Context Matters!

I’m new. How’s the Feng Shui here?
func Bender() {
    log.info("start bending")
    // ...
    log.info("stop bending")
}
Context Propagation & Distributed Tracing

Edge Service
Unique ID → {context}

TRACE

SPANS
OpenTracing

- Instrumentation API
  - Context propagation
  - Distributed tracing
  - Contextualized logging
  - Contextualized metrics
- Vendor neutral, cross language
- A CNCF project

http://opentracing.io
Jaeger

- Distributed tracing system
- Started by UBER two years ago
- Open-sourced in April 2017
- /ˈyāɡər/, noun: a hunter
- https://github.com/uber/jaeger
Demo Time

https://t.co/dr0jnrLVB0
Recap

- Transaction monitoring
- Latency analysis
- Root cause analysis
- Contextualized logs
- Contextualized metrics
- Open source instrumentation

"What'd we learn Palmer?"
OPEN SOURCE SUMMIT
NORTH AMERICA