

# OpenTracing: one instrumentation for metrics, logs and traces.

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

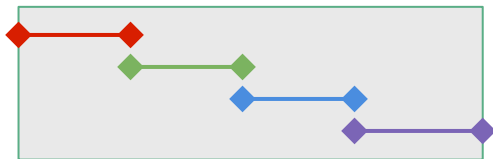
# Agenda

- What is Distributed Tracing
- OpenTracing
- Demos, demos, demos...

# Distributed Tracing

# Transaction Monitoring for Microservices

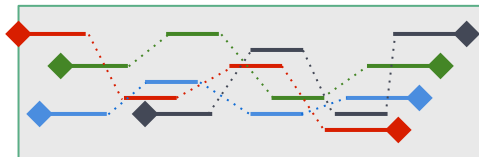
**“The Simple [Inefficient] Thing”**



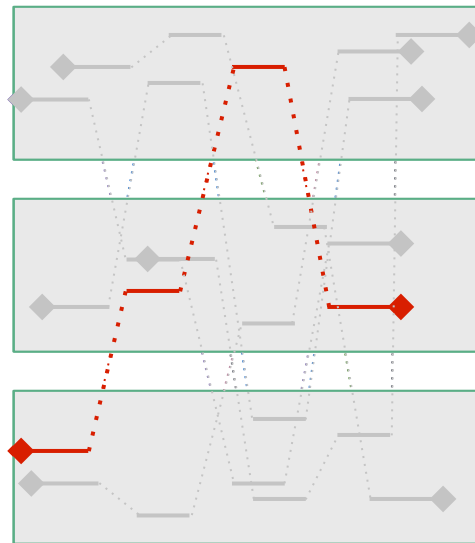
**Basic Concurrency**



**Async Concurrency**

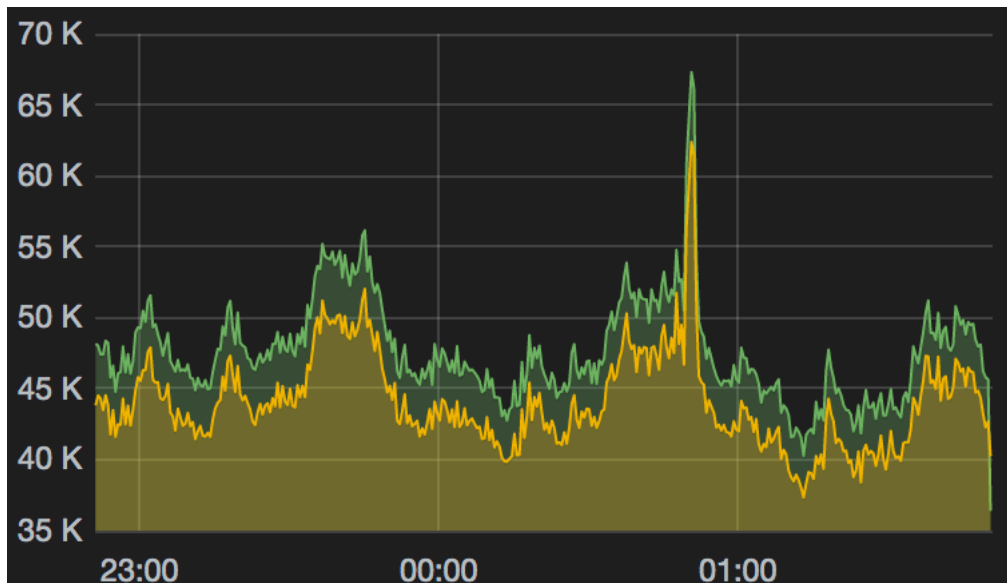


**Distributed Concurrency**



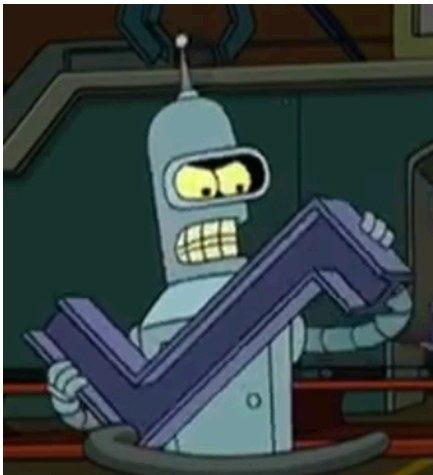


# Metrics do not explain things



# Logging Fails Us

```
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!



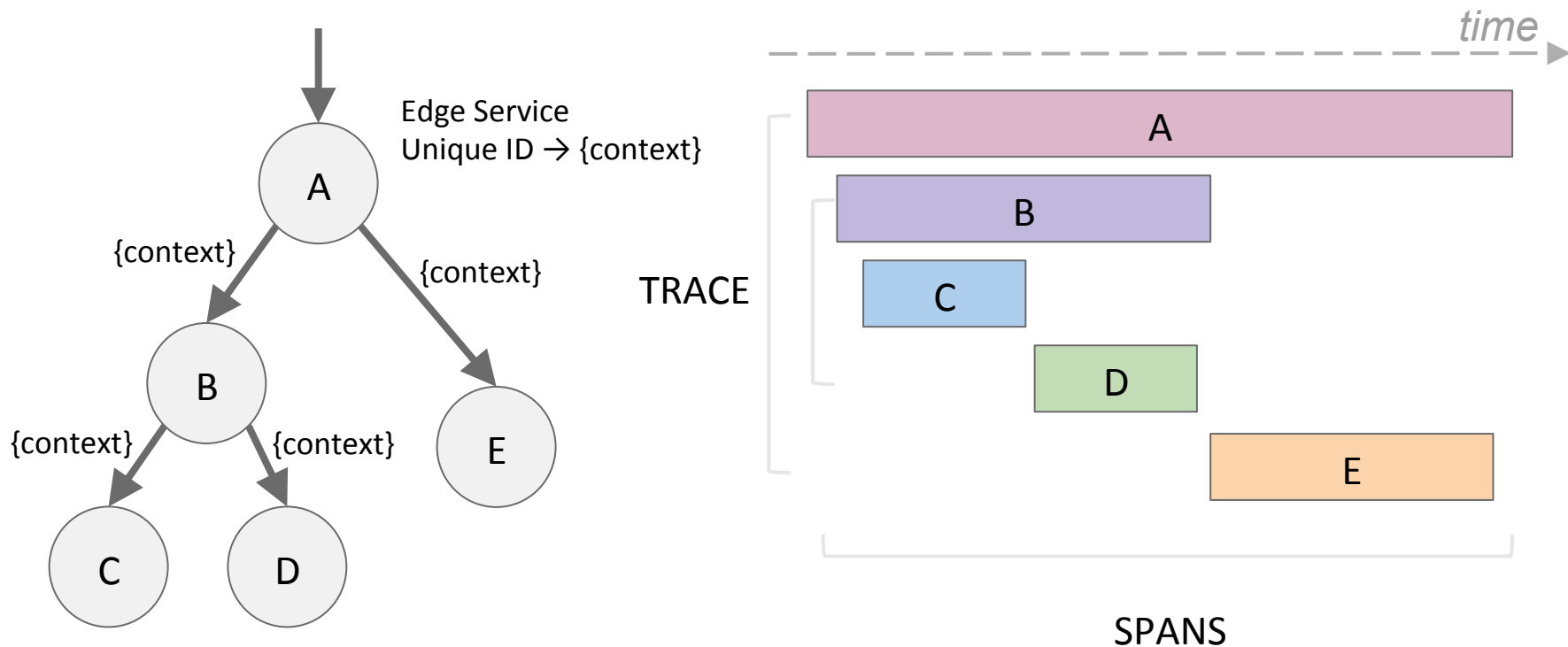
I'm new.  
How's the Feng Shui here?

# Distributed Tracing == Logging with Context

```
func Bender() {  
    log.info("start bending")  
    // ...  
    log.info("stop bending")  
}
```

```
11:50:01 INFO T1 start bending  
11:50:02 INFO T2 start bending  
11:50:03 INFO T2 stop bending  
11:50:04 INFO T3 start bending  
11:50:05 INFO T1 stop bending  
11:50:06 INFO T4 start bending  
11:50:07 INFO T5 start bending  
11:50:08 INFO T4 stop bending  
11:50:09 INFO T3 stop bending
```

# Context Propagation & Distributed Tracing



# OpenTracing

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



OPENTRACING

<http://opentracing.io>

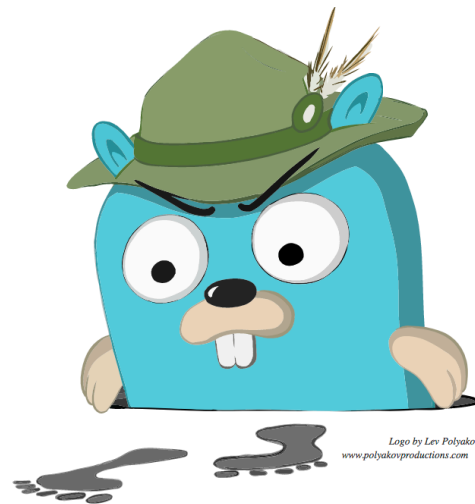


**CLOUD NATIVE**  
COMPUTING FOUNDATION



# Jaeger

- Distributed tracing system
- Started by UBER two years ago
- Open-sourced in April 2017
- /'yāgər/, 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

THE LINUX FOUNDATION

