



I see what you did there!  
Tracing in Go

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What about you?



Why should I use tracing?

# Why should I use distributed tracing ?

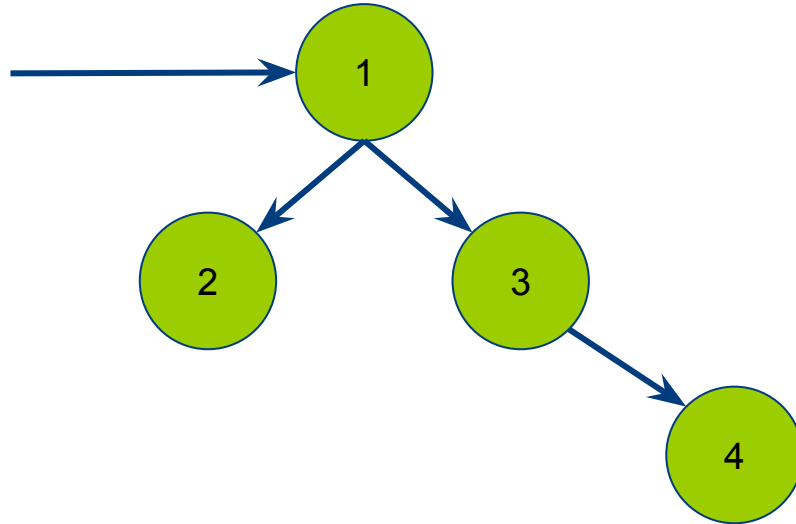
- Instrumentation doesn't show causality
  - or it's pretty hard (logs)
- Main feature is correlation between events
  
- “I want to know why call X didn't work”
- “Why is Y so slow ?”
- “How do we optimize the performance”

A close-up photograph of a hand holding a blue, spherical sensor. The sensor has a small, colorful, textured top and a blue band with the 'inovex' logo. The background is blurred, showing other similar sensors and a person's arm in a red sleeve. A semi-transparent blue rectangle is overlaid on the center of the image, containing the text 'Tracing basics'.

# Tracing basics

# Tracing Basics

A trace is a data/execution path through the system



# Tracing Basics

## Anatomy of a Span

**/toastoftheday** Service: **frontend** | Duration: **1.54ms** | Start Time: **0ms**

▼ **Tags**

http.method	"GET"
http.status_code	200
http.url	"/toastoftheday"
internal.span.format	"jaeger"
sampler.param	true
sampler.type	"const"
span.kind	"client"

▼ **Process**

client-uuid	"2a48d7a959457f63"
hostname	"502ae8af96da"
ip	"172.21.0.4"
jaeger.version	"Go-2.22.0"

▼ **Logs (1)**

> **1.44ms:** Toasts = [{Hawaii Monday} {Peperoni Tuesday} {Cheese Wednesday} {Ham Thursday} {Caprese Friday} {Avocado Saturday} {Honey Sunday}]

Log timestamps are relative to the start time of the full trace.

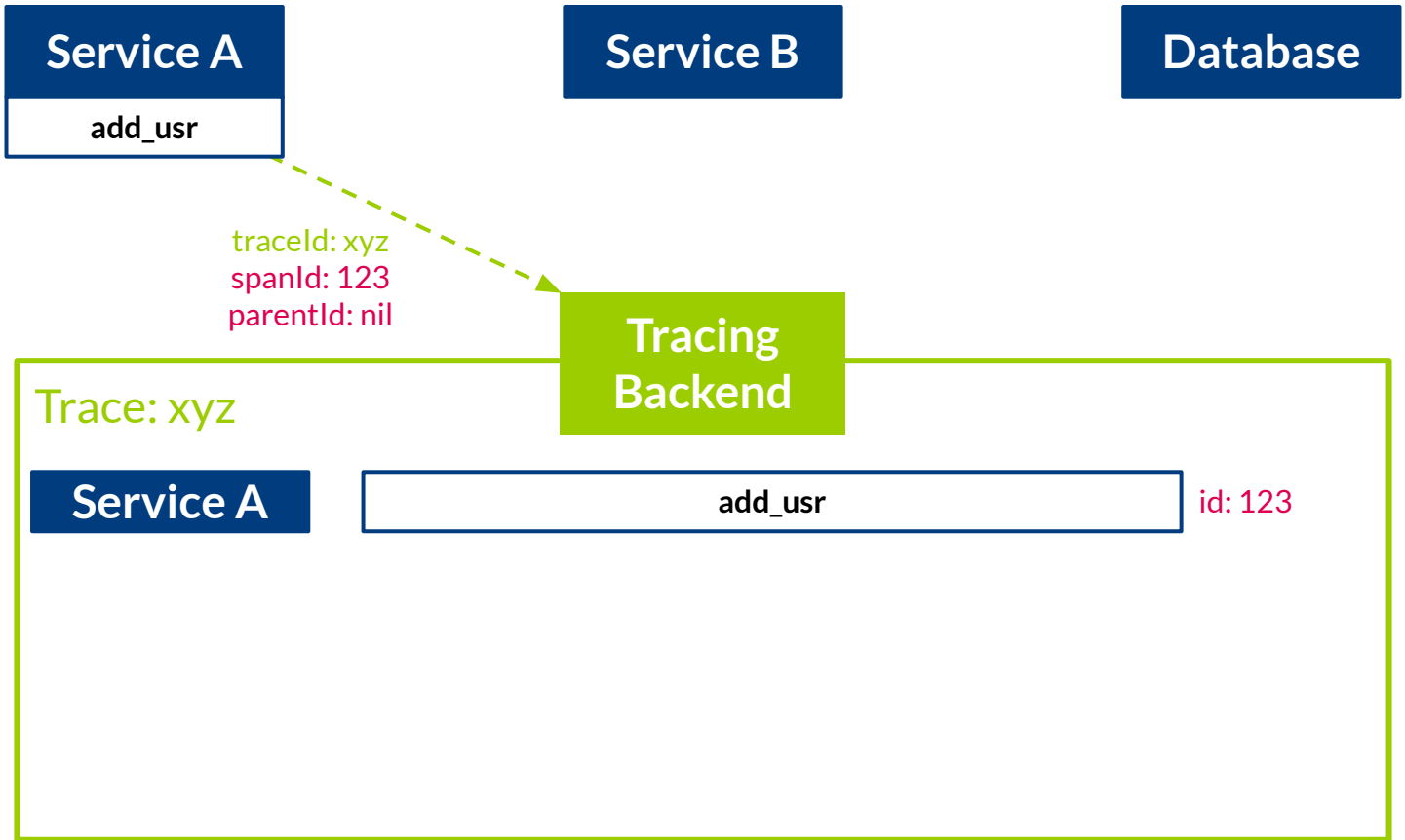


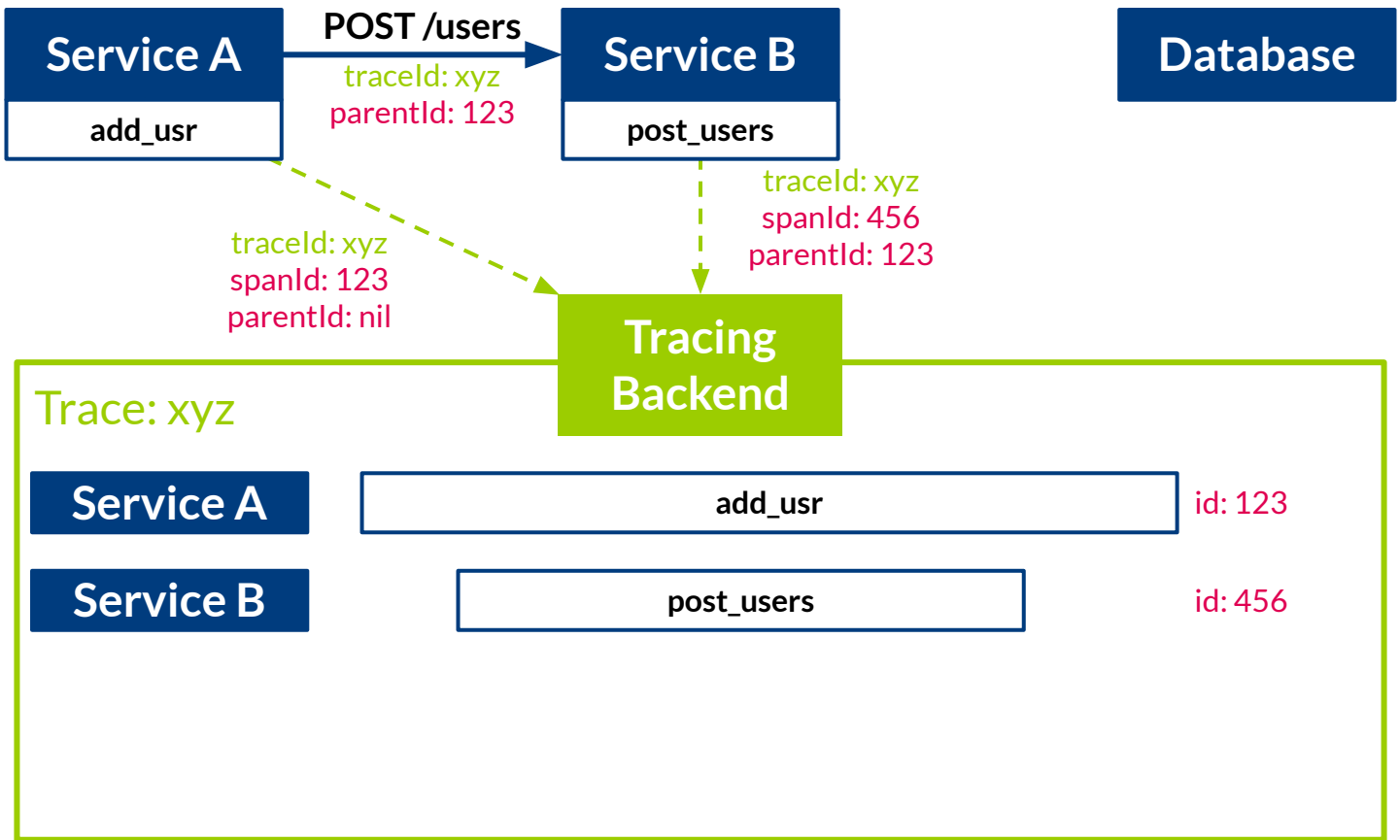
Service A

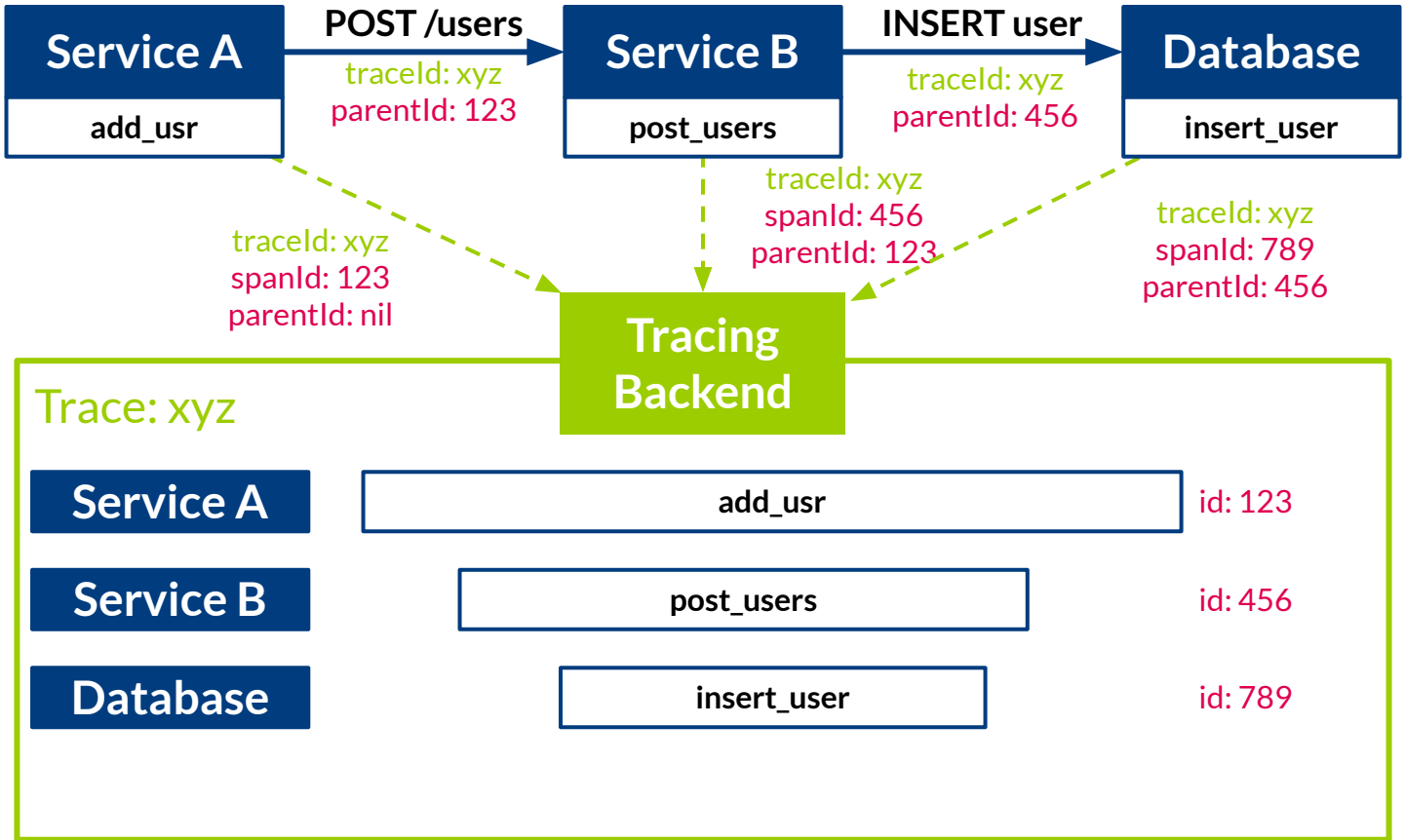
Service B

Database

Tracing  
Backend





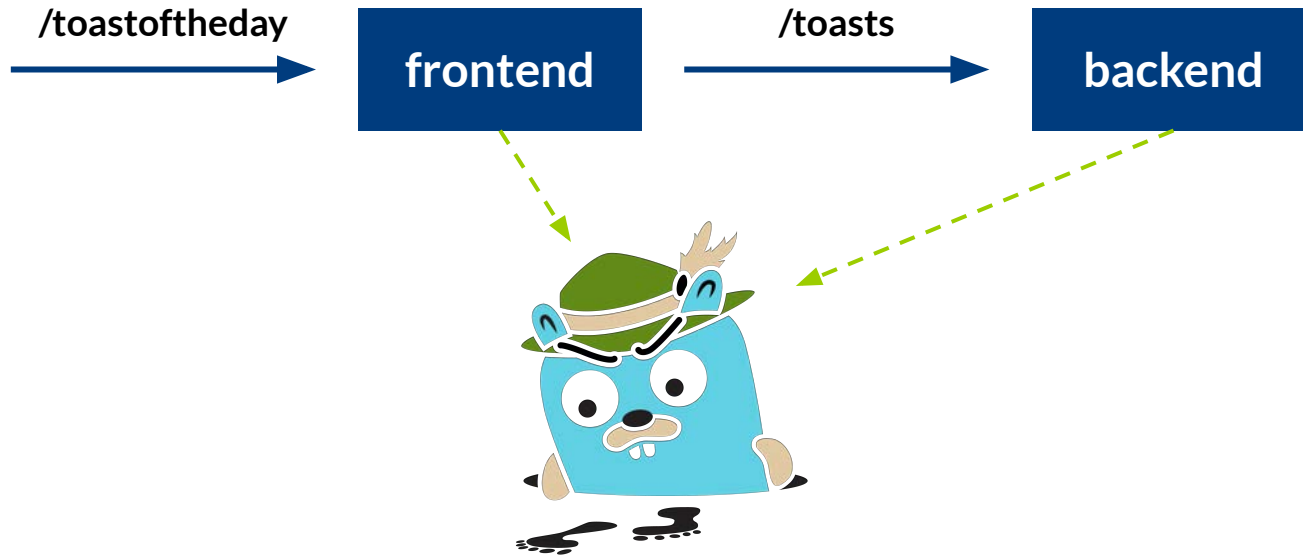




# Tracing in Go



# Demo Architecture



# Recap



# Recap

- Brings a huge value
  - Very useful in distributed systems
- Relativ simple to implement
- Can produce quite a lot of data
- Definitely worth a look
- OpenTracing offers a bunch of libraries



# Links

- <https://github.com/inovex/godays-demo>
- <https://opentracing.io>
- <https://opentracing.io/guides/golang/quick-start>
- <https://opentelemetry.io>

# Thank You

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