

Observability For You and Me with OpenTelemetry

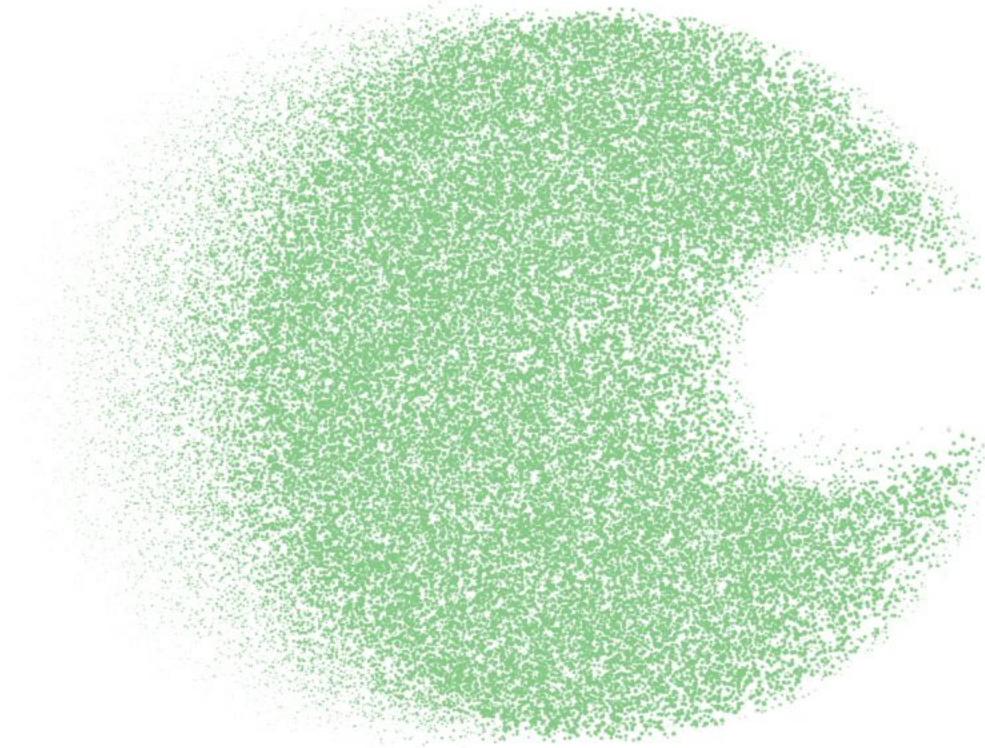
KCD Denmark

Eric D. Schabell

Director Evangelism

@ericschabell{@fosstodon.org}

14 Nov 2023





Cloud Native O11y (at scale)

Nuts & Bolts of OpenTelemetry

Getting Your Feet Wet

Cloud Native Observability at Scale



Cloud Native



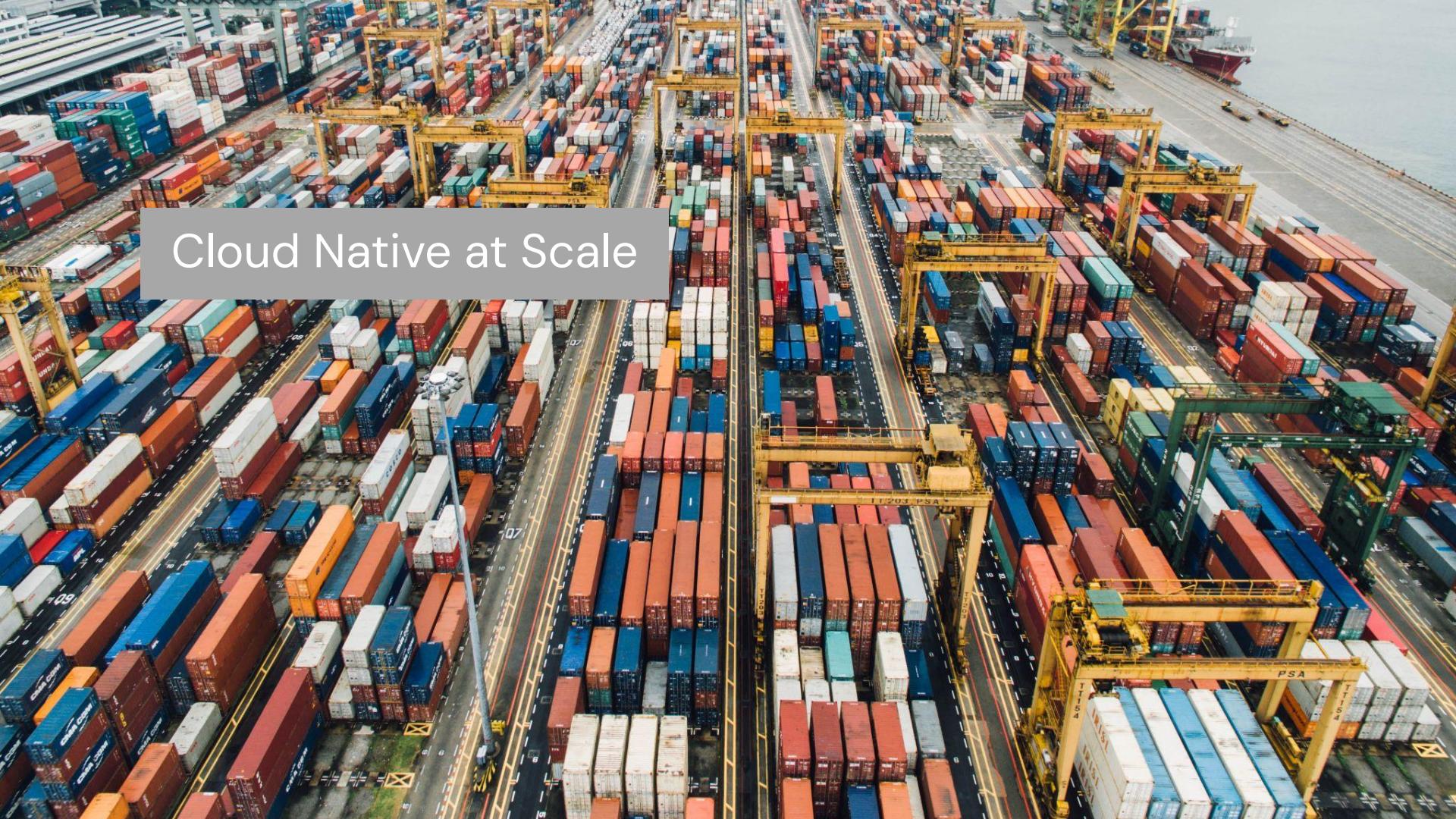


Data volume

Experiment:

- *Hello World app on 4 node Kubernetes cluster with Tracing, End User Metrics (EUM), Logs, Metrics (containers / nodes)*
- *30 days == +450 GB*



An aerial photograph of a large shipping port. The scene is filled with thousands of shipping containers stacked in organized rows. Large yellow gantry cranes are positioned between the stacks, some with containers suspended above them. The port is situated next to a body of water, with a few large cargo ships visible at the dock. The overall impression is one of a highly efficient and scaled industrial operation.

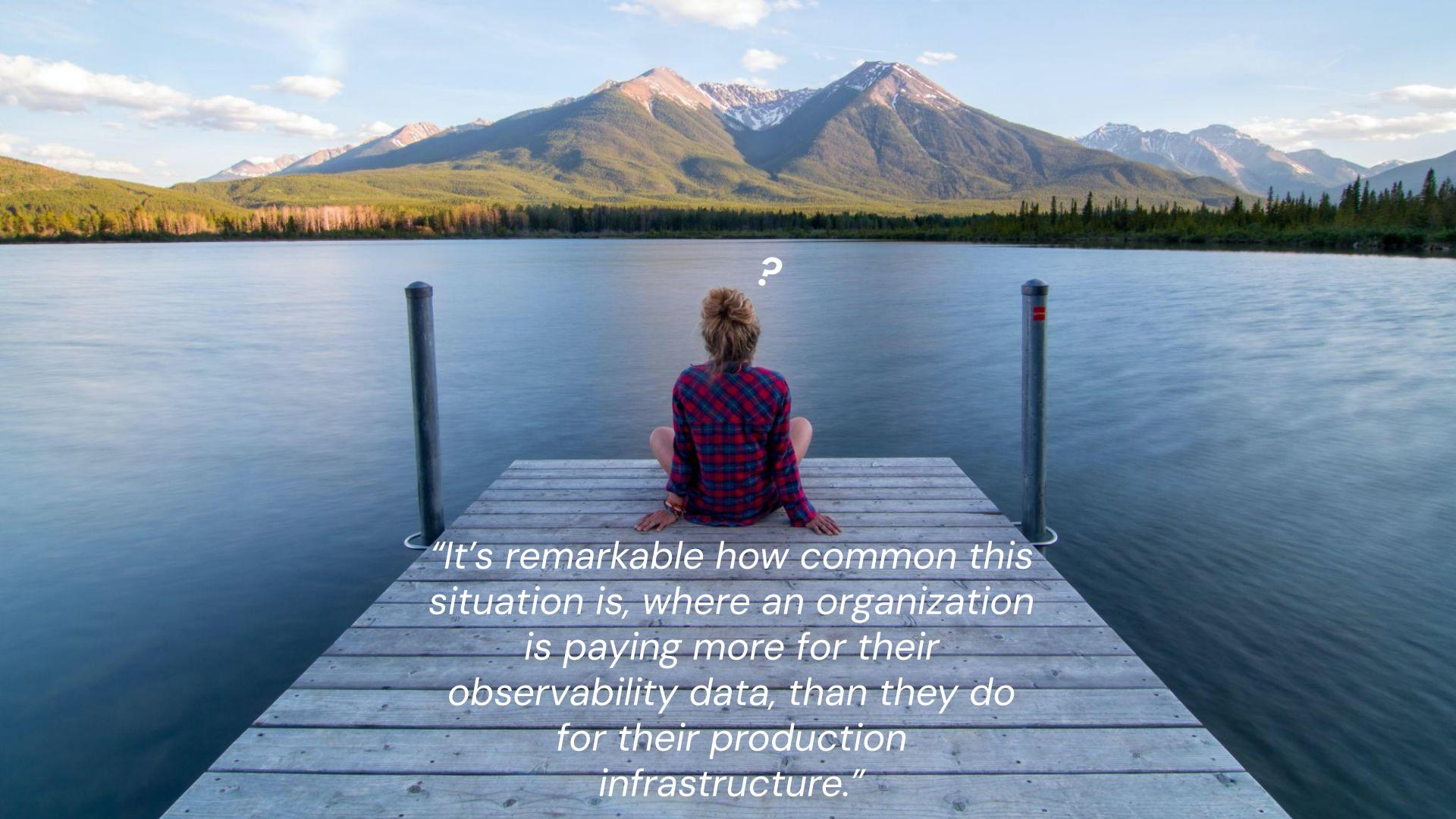
Cloud Native at Scale



Simple Objy

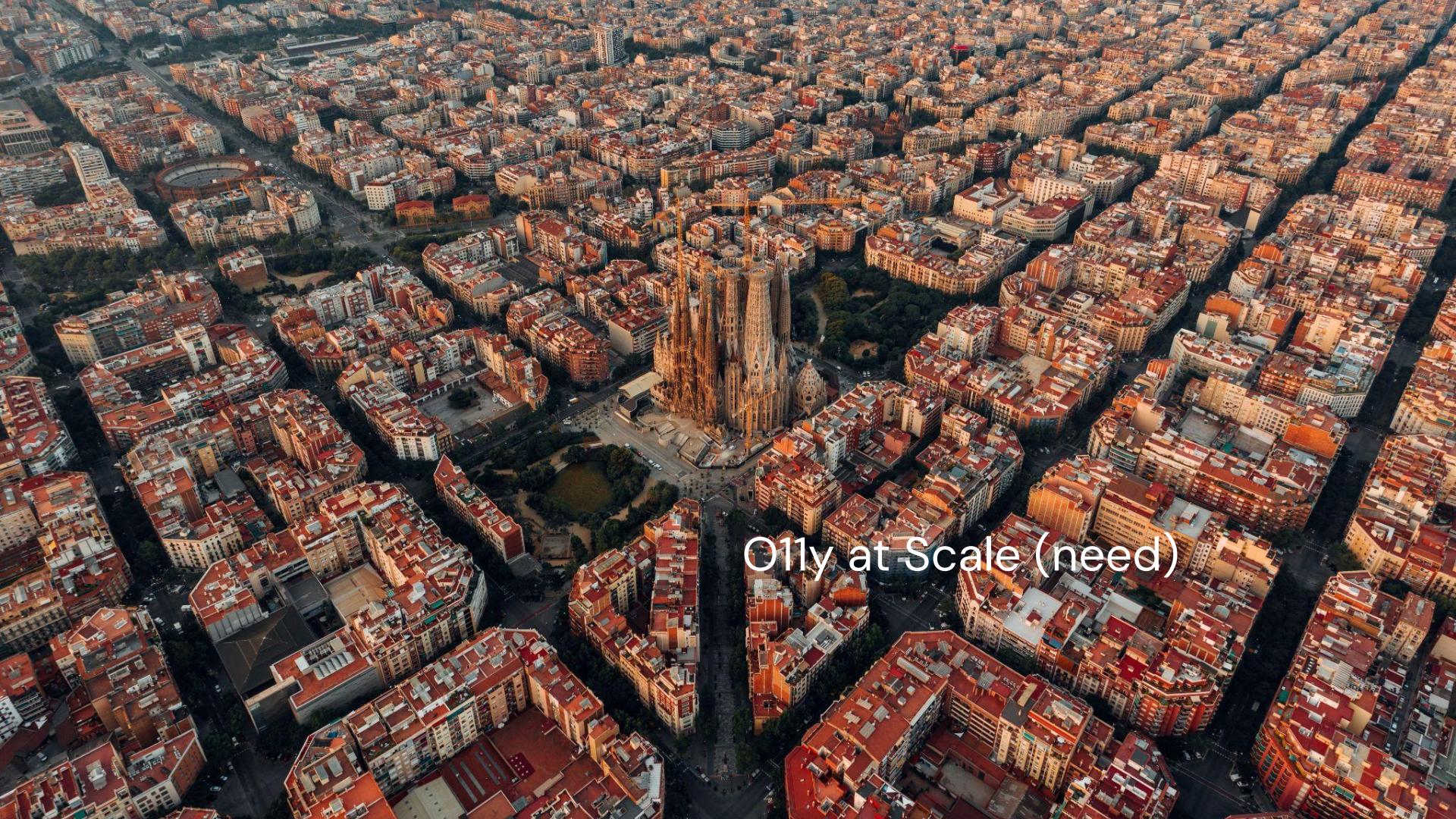
A dark, desolate photograph of an abandoned industrial building. The building is multi-story, with visible brickwork and concrete structures. The ground in front is covered in debris, including broken bricks and metal. Graffiti is visible on the left wall. Bare trees stand in the background against a bright sky.

Ollie at Scale (over time...)



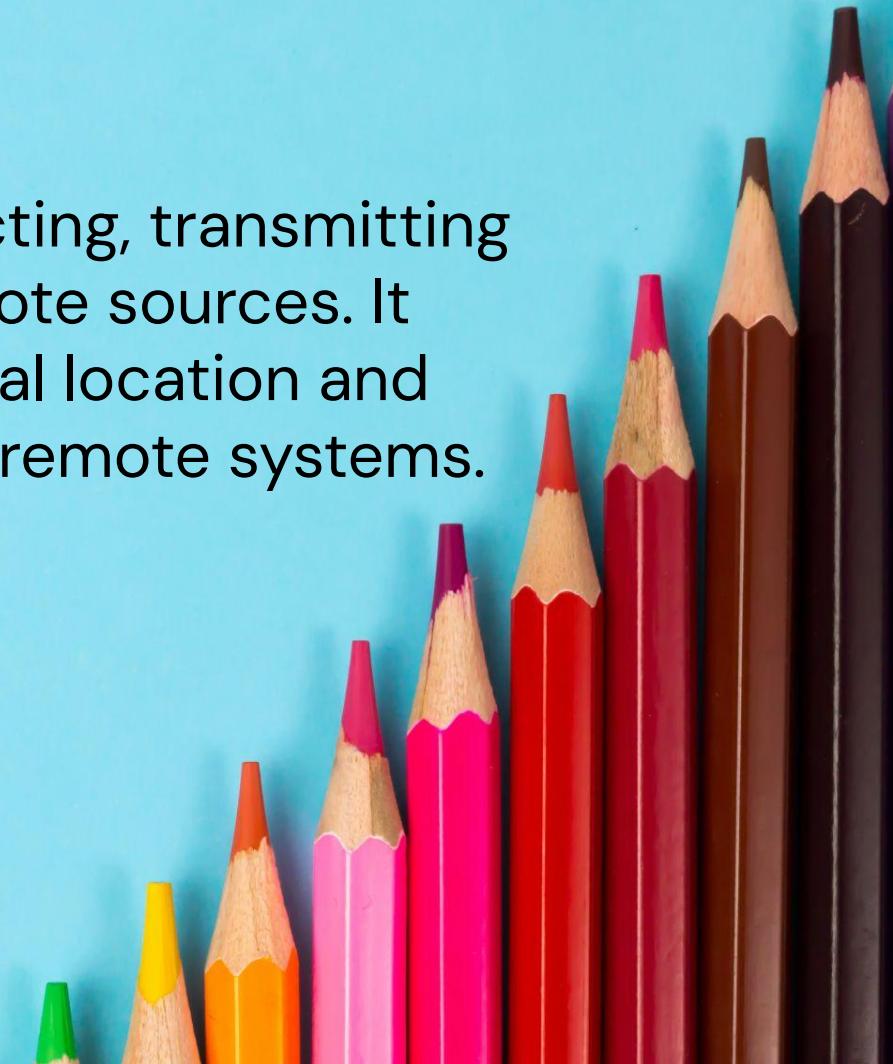
?

“It’s remarkable how common this situation is, where an organization is paying more for their observability data, than they do for their production infrastructure.”

An aerial photograph of the city of Barcelona, Spain, showing the dense grid of residential buildings and the Sagrada Família cathedral. The Sagrada Família is a prominent feature in the center, with its unique architecture and multiple spires. The surrounding city is filled with smaller apartment buildings, roads, and green spaces. The lighting suggests it's either sunrise or sunset, casting a warm glow over the scene.

Oily at Scale (need)

Telemetry is automatically collecting, transmitting and measuring data from remote sources. It transmits data back to a central location and analyzes to monitor and control remote systems.



Nuts & Bolts of OpenTelemetry





High-quality, ubiquitous, and portable telemetry to enable effective observability

[Learn more](#)

[Try the demo](#)

Get started based on your role

Dev

Ops

<https://opentelemetry.io>

OpenTelemetry is not an observability back-end.



Traces give us the big picture and understanding the full *path* a request takes in your application.

Spans represents a unit of work or operation and are building blocks of *traces*.

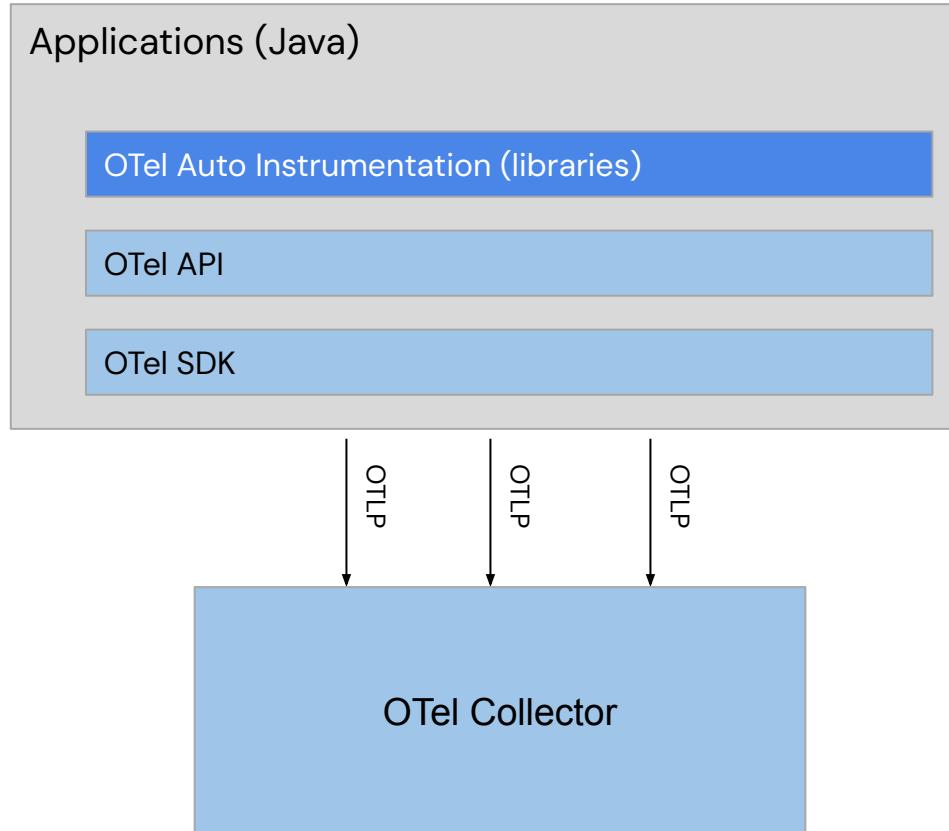


Specification

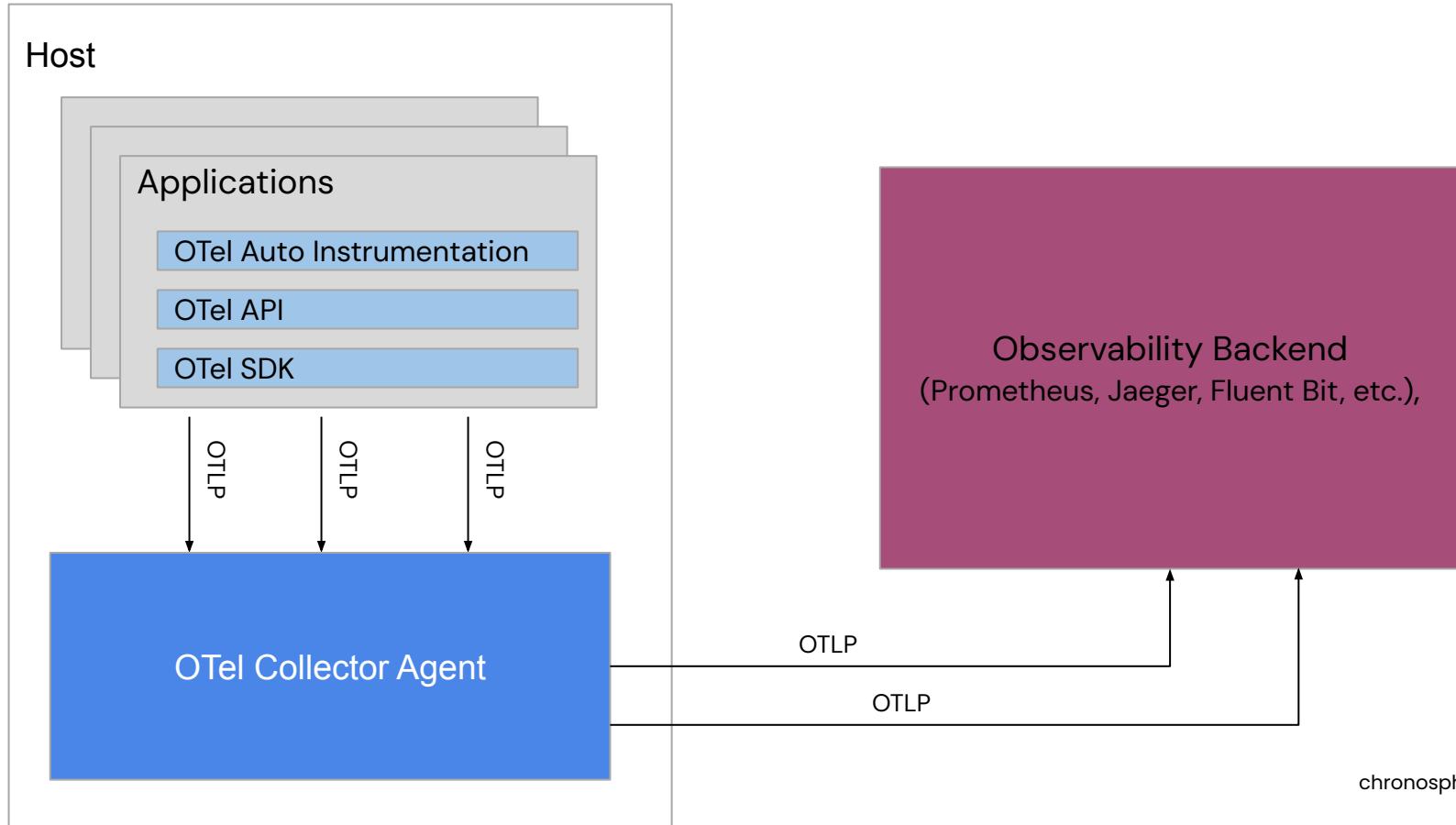
LET'S GET STARTED.

- API - generating & correlating tracing data
- SDK - language specific impl
- Data - OpenTelemetry Protocol (OTLP)

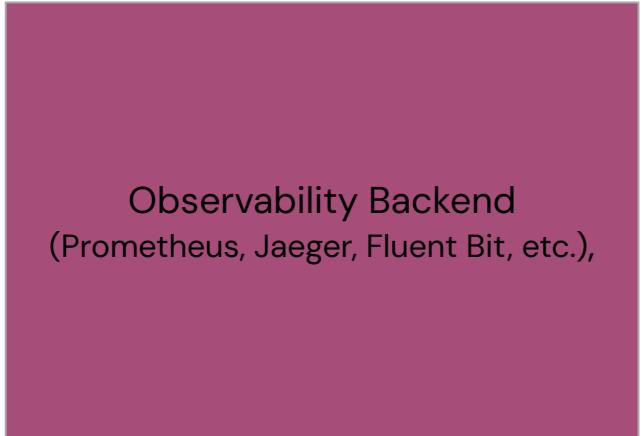
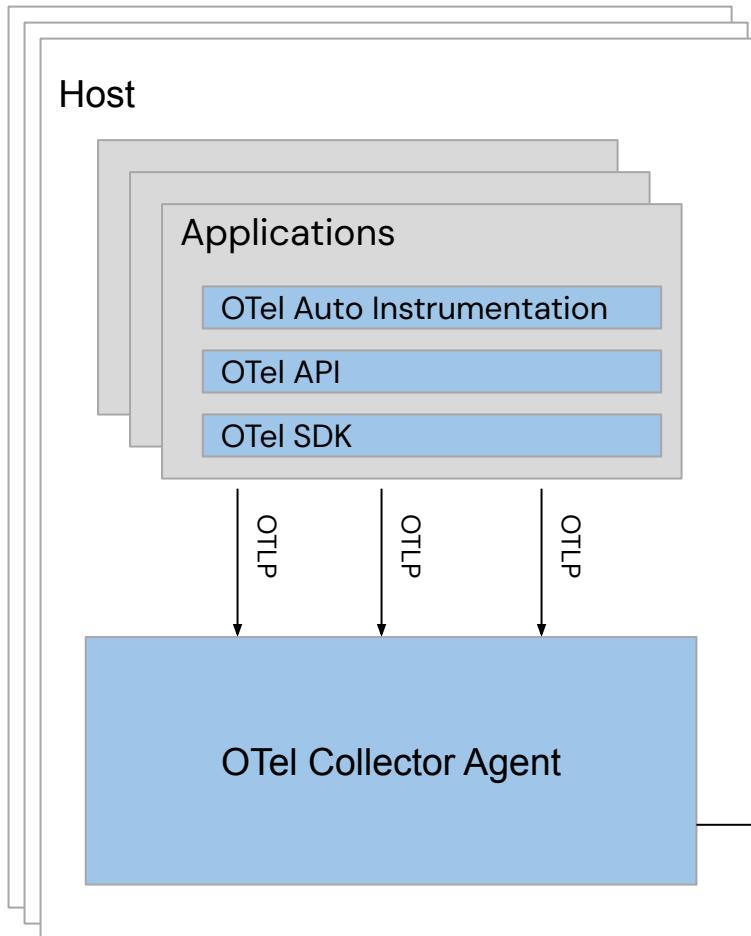
(Auto) instrumentation



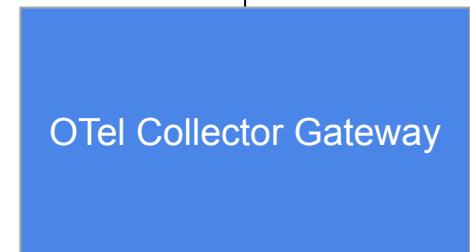
Collector (agent)



Collector (gateway)

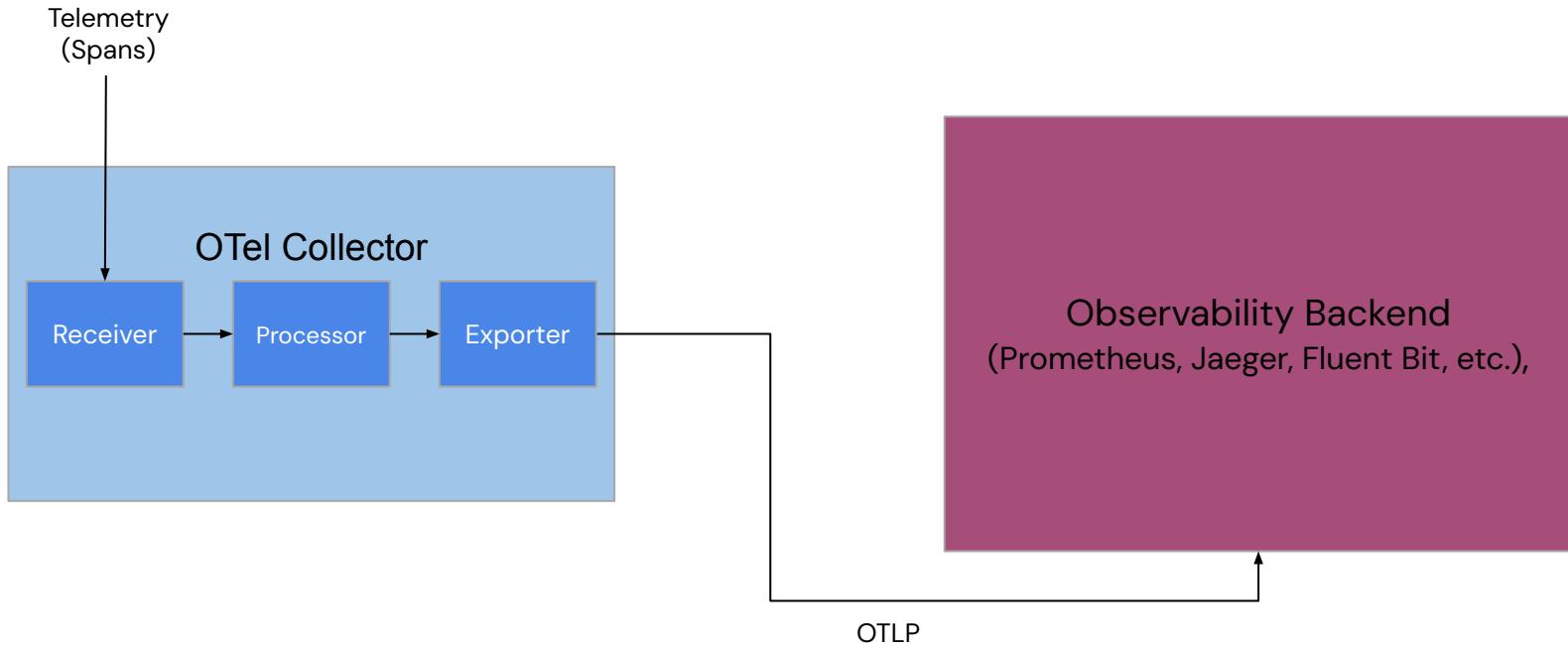


Observability Backend
(Prometheus, Jaeger, Fluent Bit, etc.),

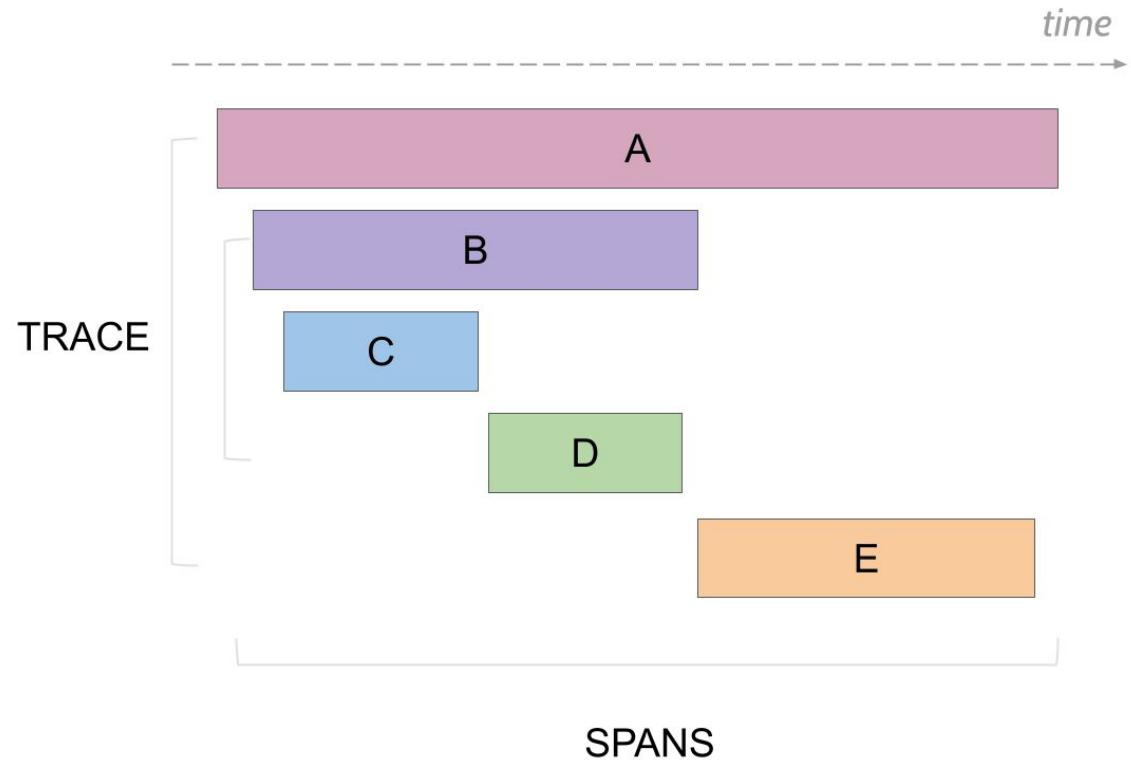
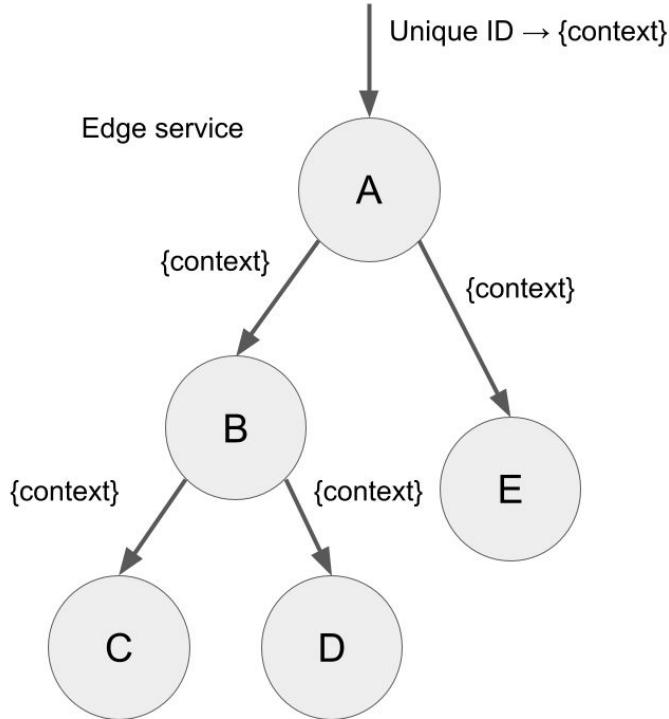


OTel Collector Gateway

Collector (internals)



Spans and Traces



Kubernetes Operator





Getting Your Feet Wet

CNCF - cloud-native.slack.com

Cloud Native Computing Foundation

- Threads
- Direct messages
- Mentions & reactions
- Drafts & sent
- Saved items
- More

Channels

- # general
- # hallway
- marketing
- # promcon
- # prometheus
- # random
- # socialmedia
- # tag-observability
- # telemetry-analysis

All channels

Q opentelemetry

Q opentelemetry

opentelemetry

4,927 members · OpenTelemetry community chat! Use this channel for basic questions about

otel-collector

2,286 members · OpenTelemetry Collector questions and discussion. opentelemetry-collecto

otel-dotnet

559 members · OpenTelemetry .NET SIG for discussions about opentelemetry-dotnet><https://github.com/open-telemetry/opentelemetry-dotnet> and opentelemetry-dotnet-contrib>

otel-logs

809 members · OpenTelemetry Logs: opentelemetry-specification/tree/main/specification/logs><https://github.com/open-telemetry/opentelemetry-specification/tree/main/specifica...>

otel-php (formerly # opentelemetry-php)

213 members · OpenTelemetry PHP Channel - opentelemetry-php><https://github.com/open-telemetry/opentelemetry-php>

opentelemetry-bootcamp

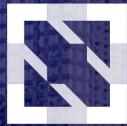
372 members · The OpenTelemetry Bootcamp! A video series that brings you everything you need to know to get started with OpenTelemetry. From zero to hero, this is where you ge...

otel-go

916 members · OpenTelemetry Go

otel-metrics

892 members · OpenTelemetry Metrics opentelemetry-specification/tree/main/specification/metrics><https://github.com/open-telemetry/opentelemetry-specification/tree/main/spe...>



KubeCon

CloudNativeCon

North America 2023

SAVE THE DATE

NOVEMBER 6-9, 2023

CHICAGO, ILLINOIS

#KUBECON + #CLOUDNATIVECON



- Threads
- Direct messages
- Mentions & reactions
- Drafts & sent
- Saved items
- More

Channels

- # general
- # hallway
- # marketing
- # promcon
- # prometheus
- # random
- # socialmedia
- # tag-observability**
- # telemetry-analysis

+ Add channels

▶ Direct messages

Apps

+ Add apps

7 Pinned + Add a bookmark

Feb 15th

Thursday, February 16th



1 reply 28 days ago

Tuesday, February 21st

Alolita Sharma 9:00 AM

Hi Folks - we're meeting for our TAG meeting now. Please join if you're available 😊

Matt Young 9:49 AM

Hello! If interested in joining the [CNCF Landscape Graph](#) project, please see this issue, and leave a comment to indicate your interest! Our first project meeting will be next week!*Specific time/day TBD - doodle for those interested will be distributed later this week.*<https://github.com/cncf/tag-observability/issues/96> (edited)[cncf/landscape-graph](#)

Website

<https://github.com/orgs/cncf/projects/7/vi>

Stars

ews/6

Added by GitHub

#96 cncf/landscape graph - kickoff!

cnfc/tag-observability Feb 21st Added by GitHub

Alolita Sharma 10:03 AM

Thanks @Zain Asgar for the excellent Pixie walkthrough and demo!



1 reply 16 days ago

Alolita Sharma 10:04 AM

The recording will be available on YT 😊



2 replies Last reply 10 days ago

Special Interest Groups

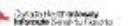
B I S | ↕ | ⌂ | ⌂ | ⌂ | ⌂ | ⌂ | ⌂

Message #tag-observability

Nonprofit

Academic

CNCF - End User Community



End User Supporter



Questions?

Eric D. Schabell

Director Evangelism

@ericschabell{@fosstodon.org}

