Bridging Platform Engineering and Observability:

Empowering Developers with Insights

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Who?

Developer Advocate at Dash0

KubeCon+CloudNativeCon EU/NA 24/25 Co-Chair

CNCF Ambassador

Golden Kubestronaut

CNCG Aarhus, KCD Denmark Organizer

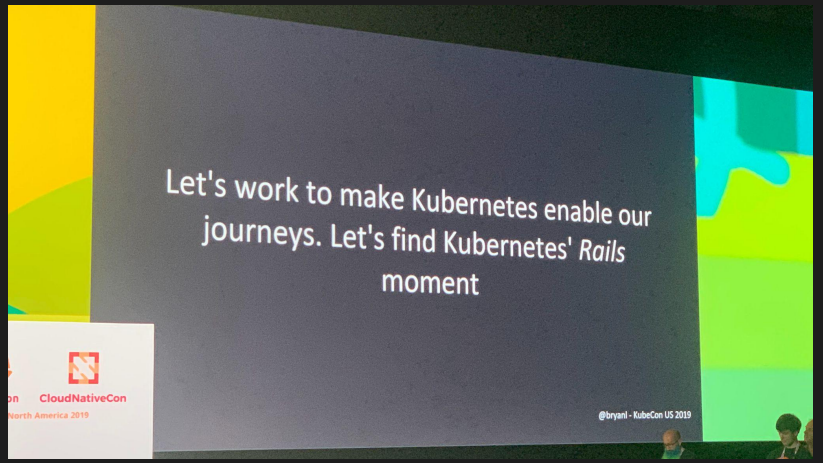
Co-founder & Community Lead Cloud Native Nordics

dash0

tl;dr

- OpenTelemetry is standardizing telemetry collection.
- Perses is standardizing dashboards.
- Applying Platform Engineering principles transforms observability from an afterthought into a seamless, scalable, and developer-friendly experience.

Kubernetes' Rails moment



Bryan Liles at KubeCon+CloudNativeCon North America 2019

To some degree, Platform Engineering is enabling the Rails moment for Kubernetes in many organizations.

The Principles of Platform Engineering

Self-Service Experience

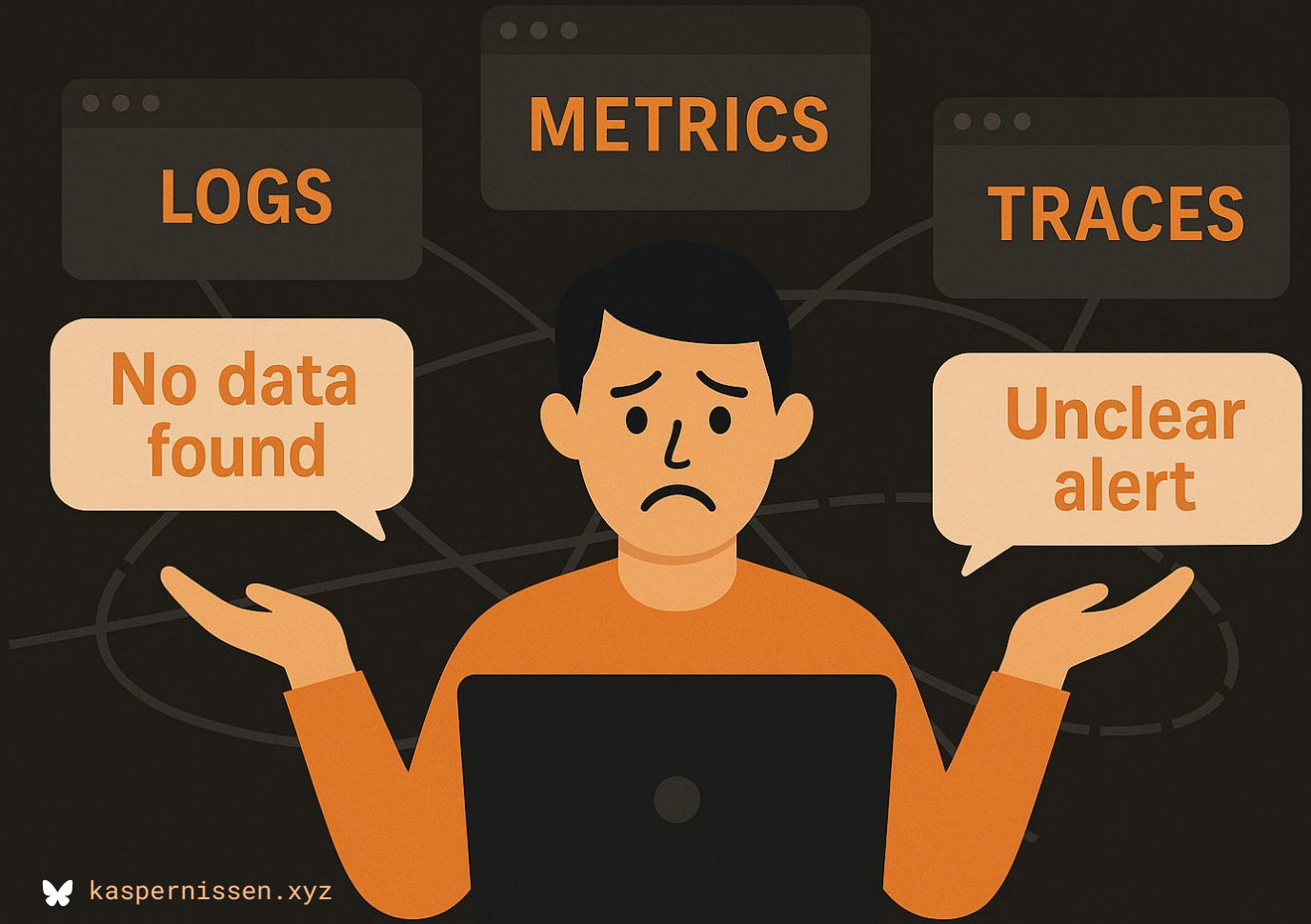
Explicit and Consistent APIs

Paved Paths/
Golden Paths

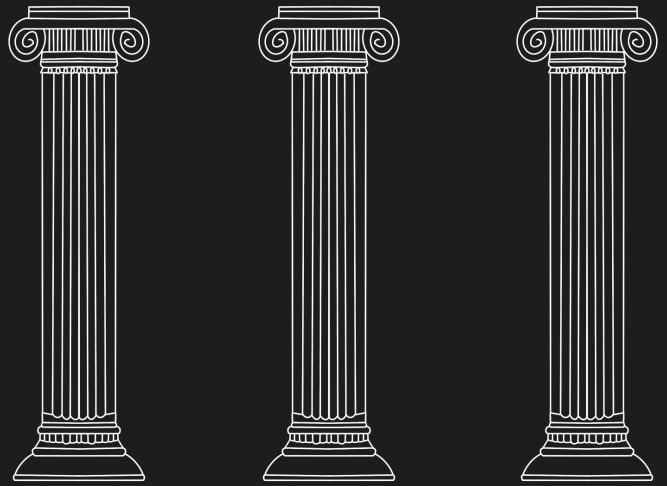
Modularity

Platform as a Product

Core Requirements


LOGS
METRICS
TRACES
No data found
Unclear alert

Observability is still fragmented



Metrics Logs Traces

Image by pngtree.com

Observability is still fragmented

**We don't have a *metrics* problem,
or a *tracing* problem.
We have *systems* problems.**

Metrics Logs Traces

Image by pngtree.com

Observability is often fragmented, leading to

Image by pngtree.com

Observability is often fragmented, leading to

Complex Query Languages

Image by pngtree.com

Observability is often fragmented, leading to

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Vendor lock-in

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Metadata Inconsistency

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Observability is often fragmented, leading to

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No instrumentation due to high complexity

Observability is often fragmented, leading to

Complex Query Languages

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Metadata Inconsistency

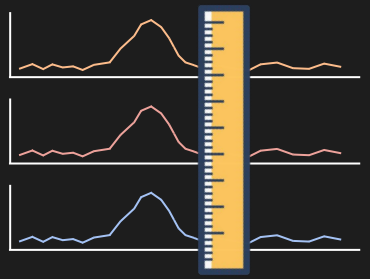
No instrumentation due to high complexity

Lack of unified insights

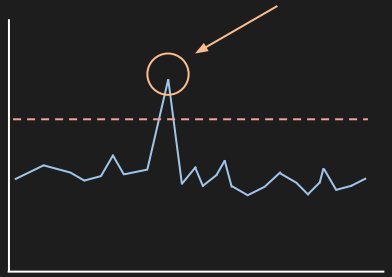
We need to find the Rails moment of Observability.

A shift is happening.

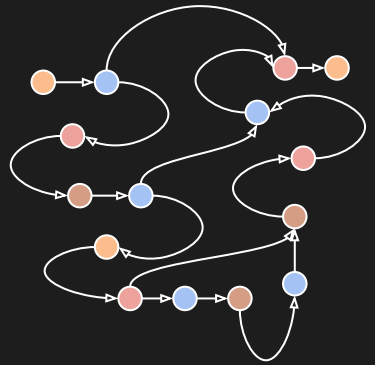
A shift toward correlation



Find related information

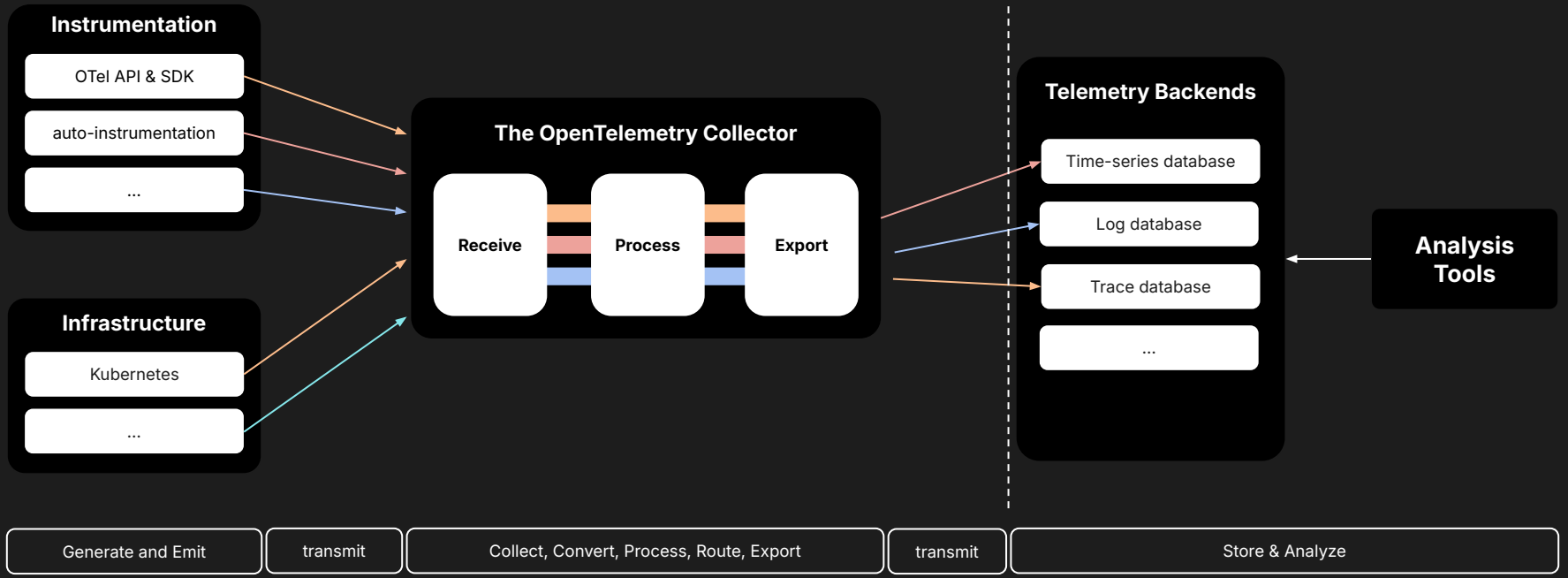


Jump between signals



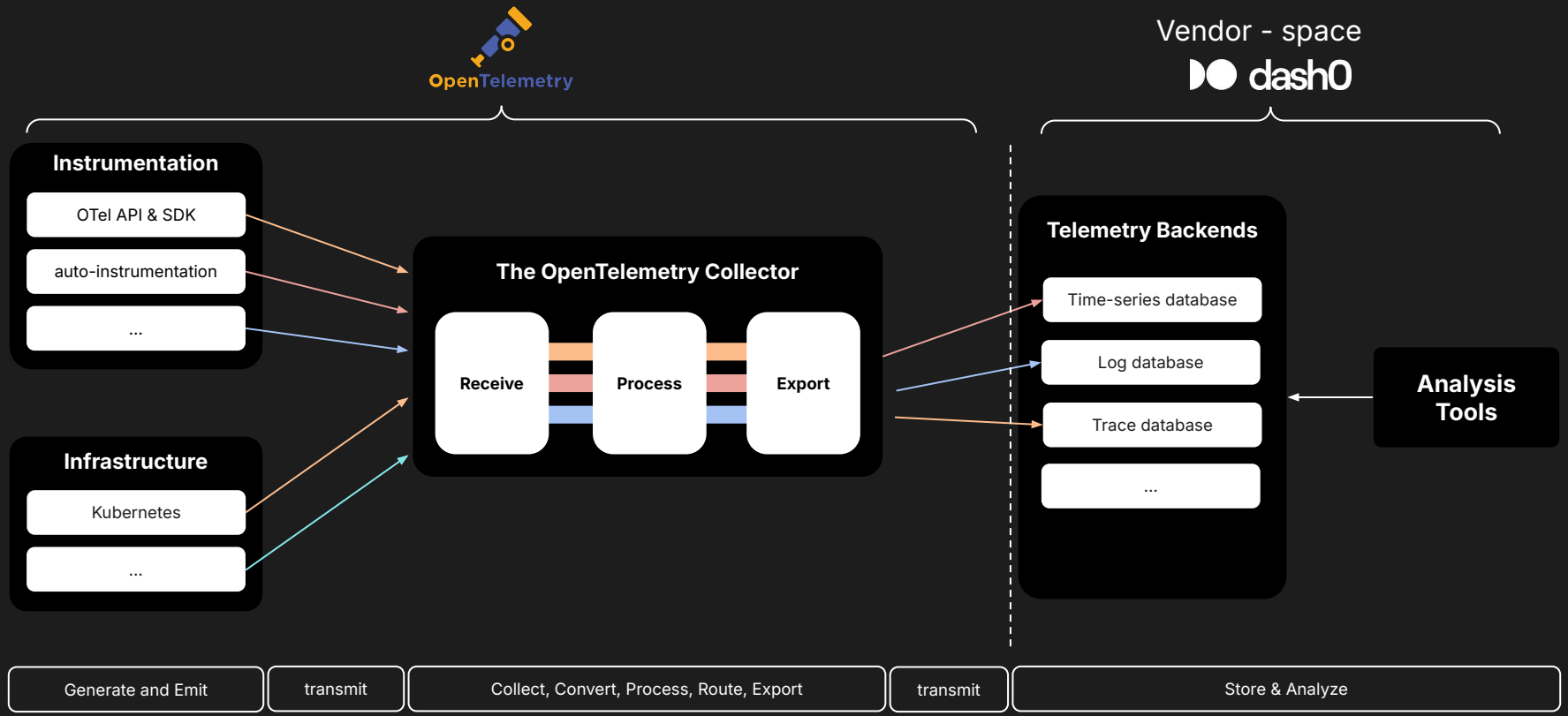
Reconstruct chain of events

A shift toward standardization



Inspired by visualizations from LFS148

dash0



Inspired by visualizations from LFS148

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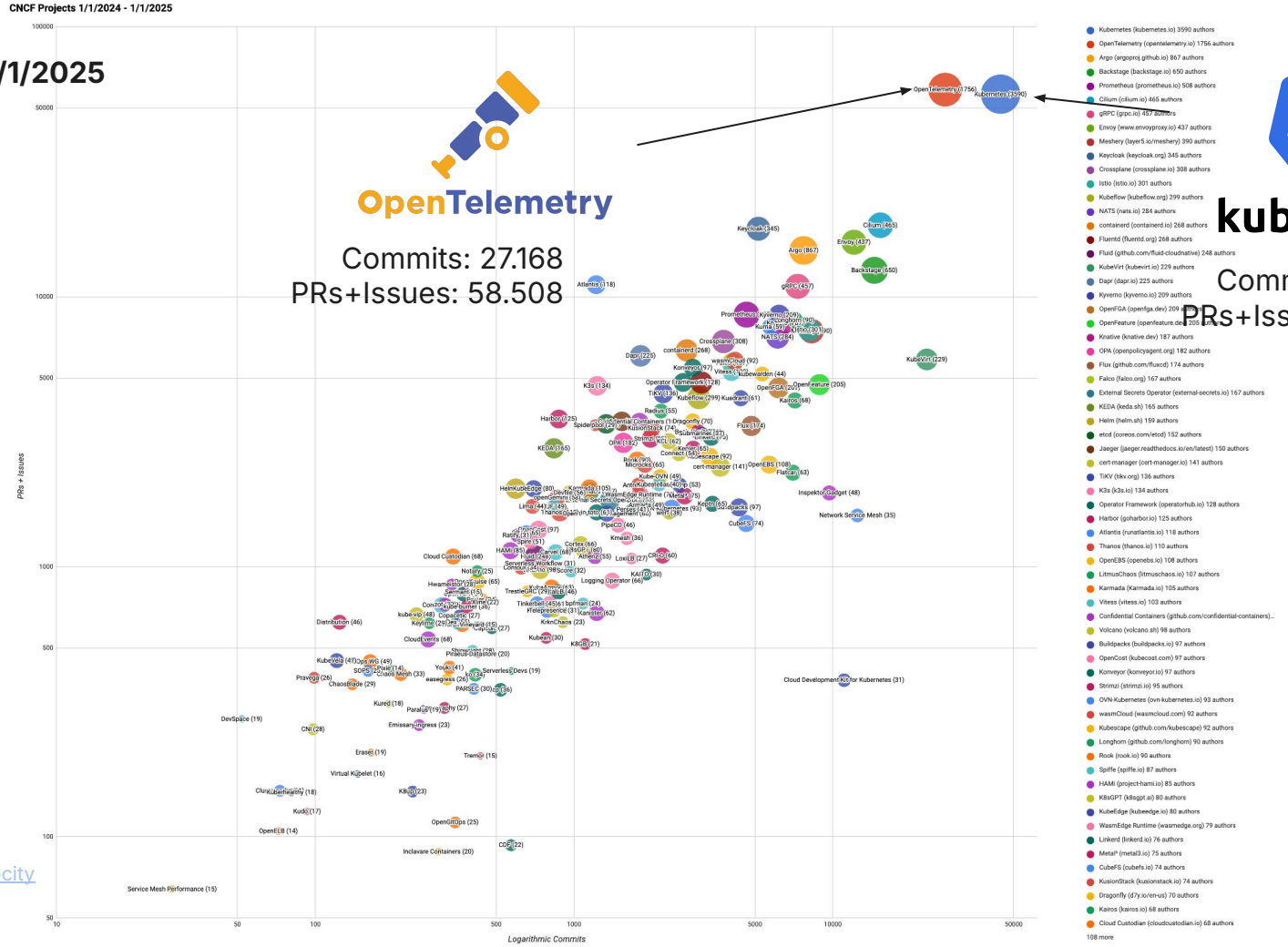
A shift toward...

1/1/2024-1/1/2025



OpenTelemetry

Commits: 27.168
PRs+Issues: 58.508

kubernetes

Commits: 44.486
PRs+Issues: 56.299

Source: [CNCF Velocity]

So, why OpenTelemetry?

Instrument once, use everywhere

Separate telemetry generation from analysis

Make software observable by default

Improve how we use telemetry

That’s all great, but how do I make it easily accessible for my developers?

Platform Engineering for Observability

Self-Service Experience

Explicit and Consistent APIs

Golden Paths

Modularity

Platform as a Product

Core Requirements

Platform Engineering for Observability

Self-Service Experience
Auto-Instrumentation

Explicit and Consistent APIs
Semantic Conventions

Golden Paths
Observability built-in

Modularity
Collector Pipelines

Platform as a Product
Documentation + Support

Core Requirements
Cross-signal correlation

OpenTelemetry Operator

`Instrumentation`

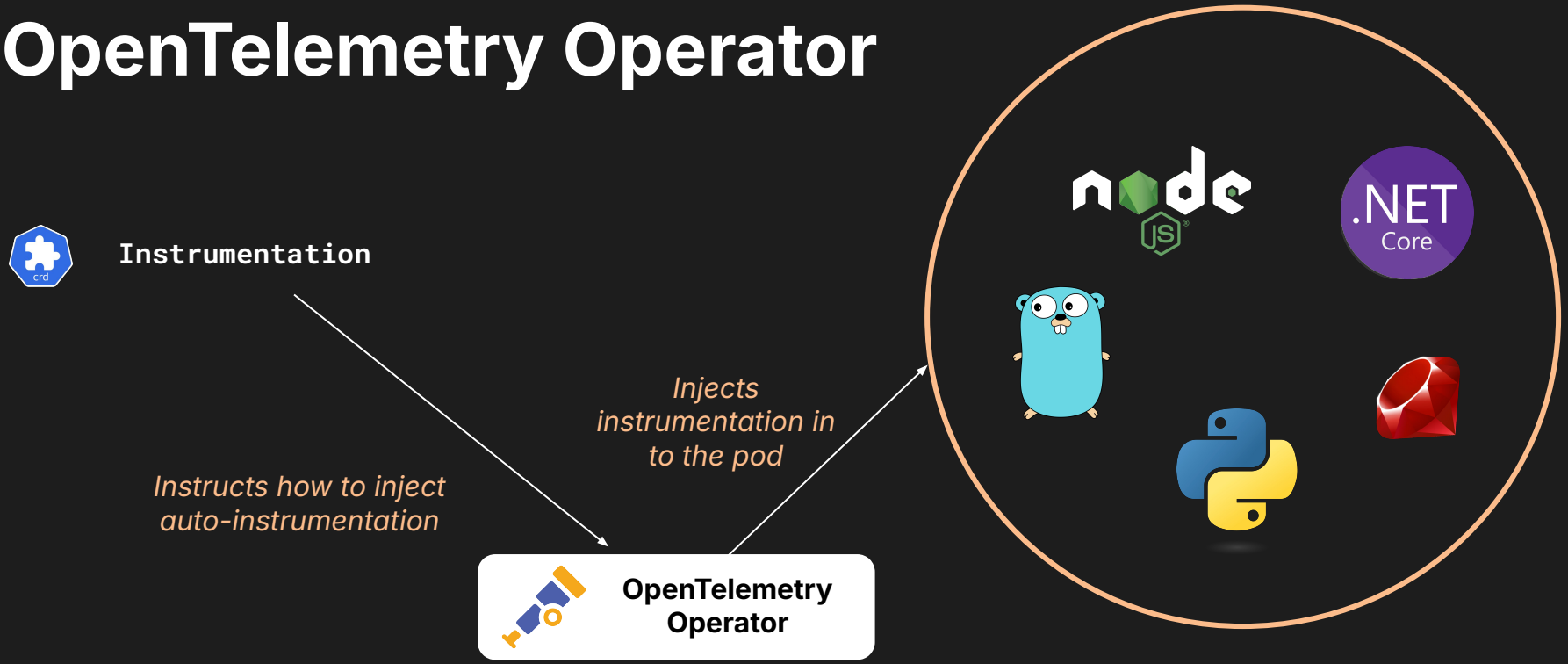
`OpenTelemetryCollector`

`OpAMPBridge`

`TargetAllocator`

OpenTelemetry Operator

Auto-Instrumentation with the OpenTelemetry Operator



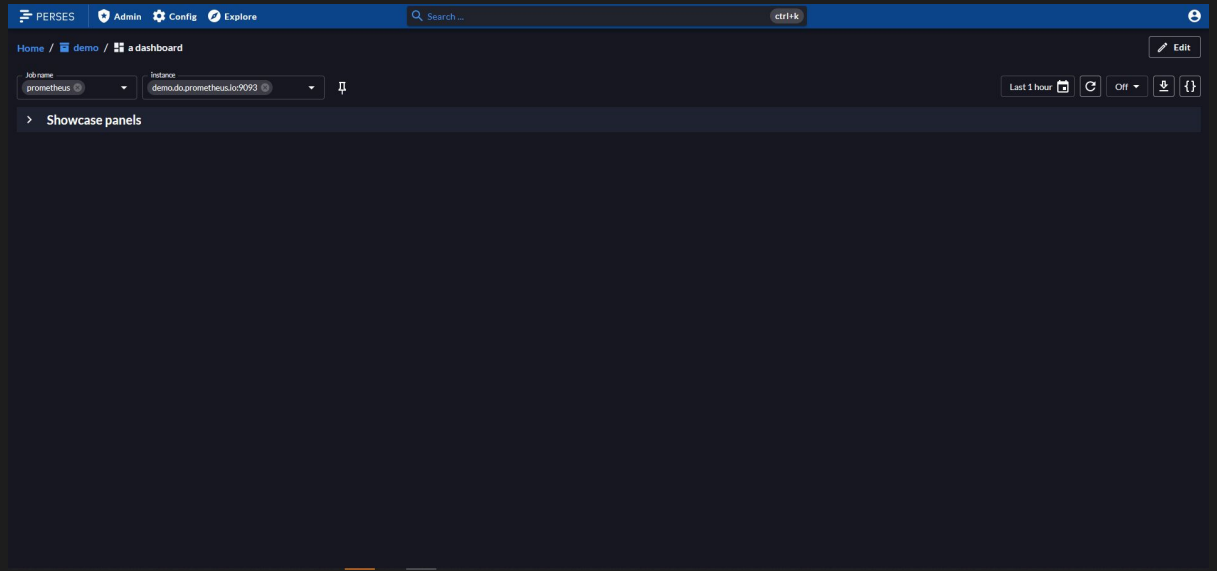
Observability doesn’t stop at instrumentation.

Perses

PERSES

An open specification for dashboards.

CNCF Sandbox project



CLOUD NATIVE COMPUTING FOUNDATION

Dashboards as Code

PERSES

YAML

CUE

Dashboards as Code

PERSES

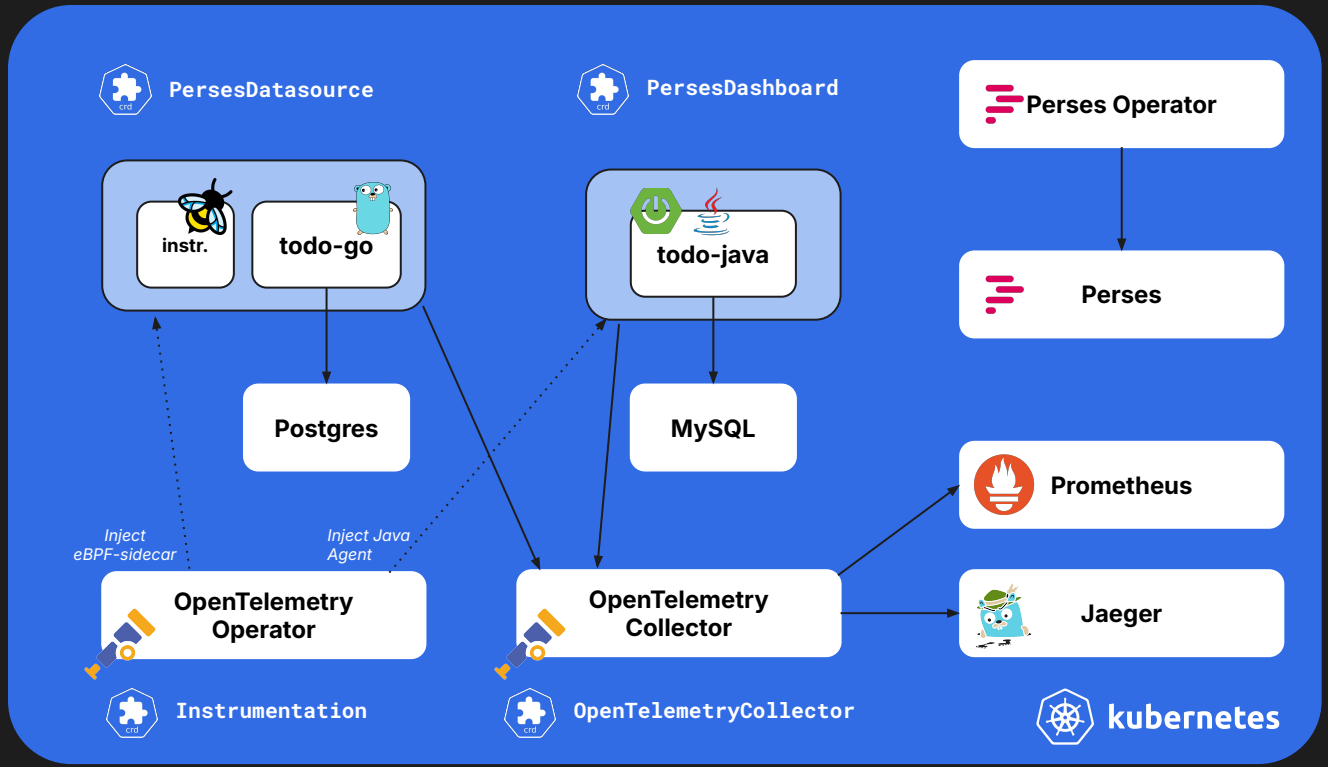
`Perses`

`PersesDatasource`

`PersesDashboard`

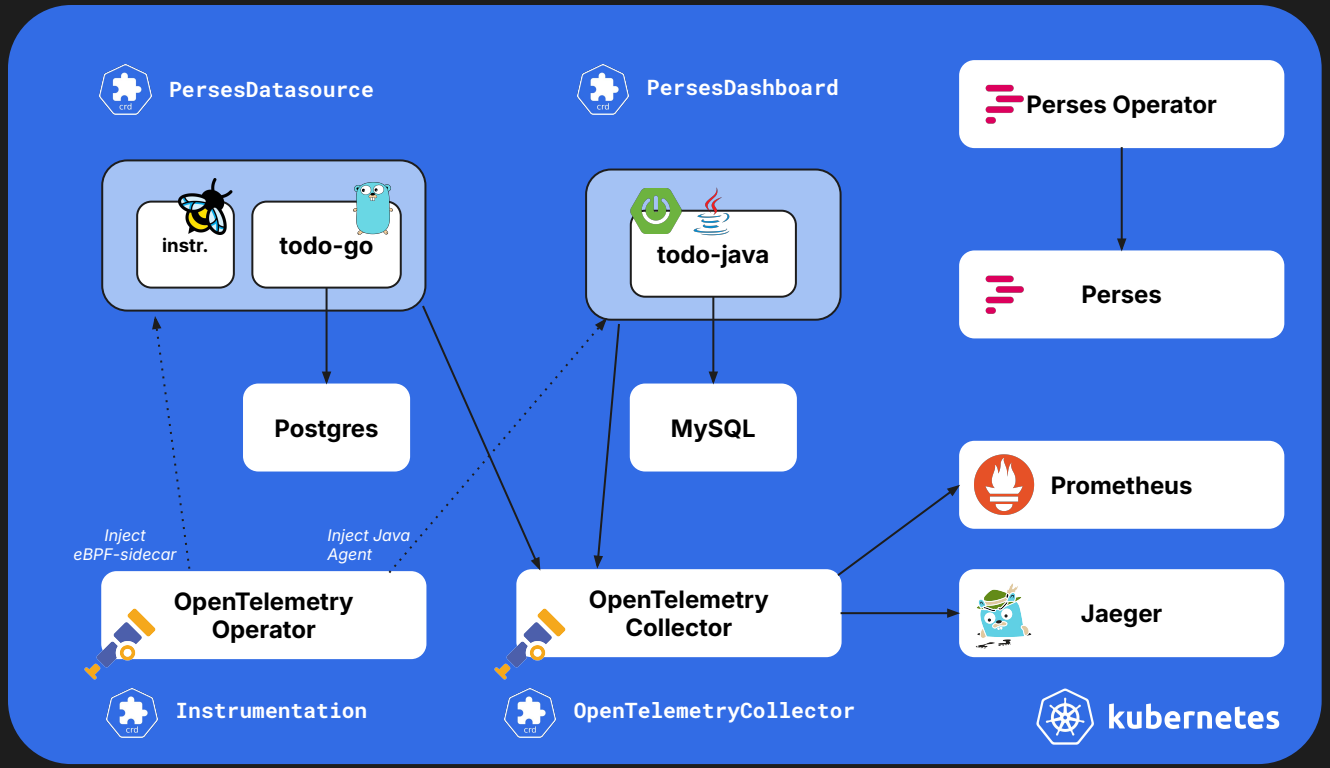
perses-operator

Demo


PersesDatasource
PersesDashboard
Perses Operator
instr.
todo-go
todo-java
Perses
Postgres
MySQL
Prometheus
Inject
eBPF-sidecar
Inject Java
Agent
OpenTelemetry
Operator
OpenTelemetry
Collector
Jaeger
Instrumentation
OpenTelemetryCollector
kubernetes

Demo time 🙏

Let’s recap...


PersesDatasource
PersesDashboard
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instr.
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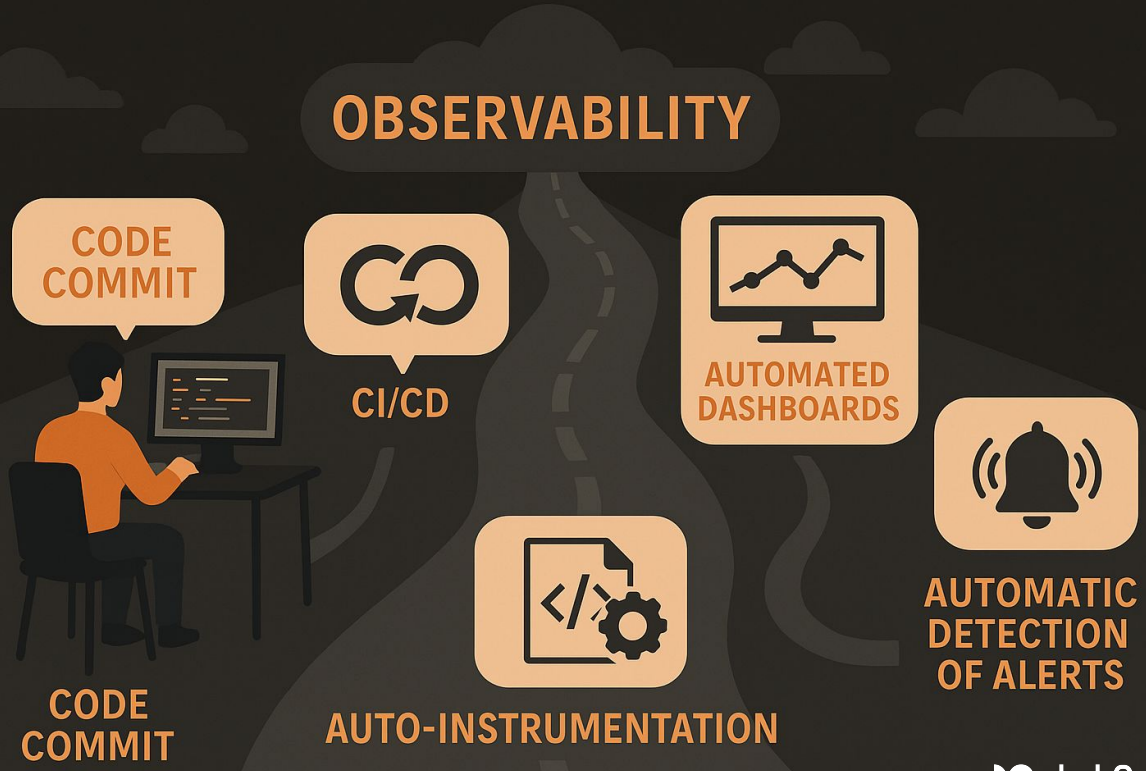
Prometheus
Inject eBPF-sidecar
Inject Java Agent
OpenTelemetry Operator
OpenTelemetry Collector
Jaeger
Instrumentation
OpenTelemetryCollector
kubernetes

The Real Goal: Observability as a Paved Path



Observability is evolving - fast.

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OpenTelemetry is standardizing telemetry collection.

Perses is standardizing dashboarding.

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Applying Platform Engineering principles can transform observability from an afterthought into a seamless, scalable, and developer-friendly experience.

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Observability is a systems problem
- not a tracing, logging, or metrics problem.

When we connect signals together,
we empower developers to solve problems faster.

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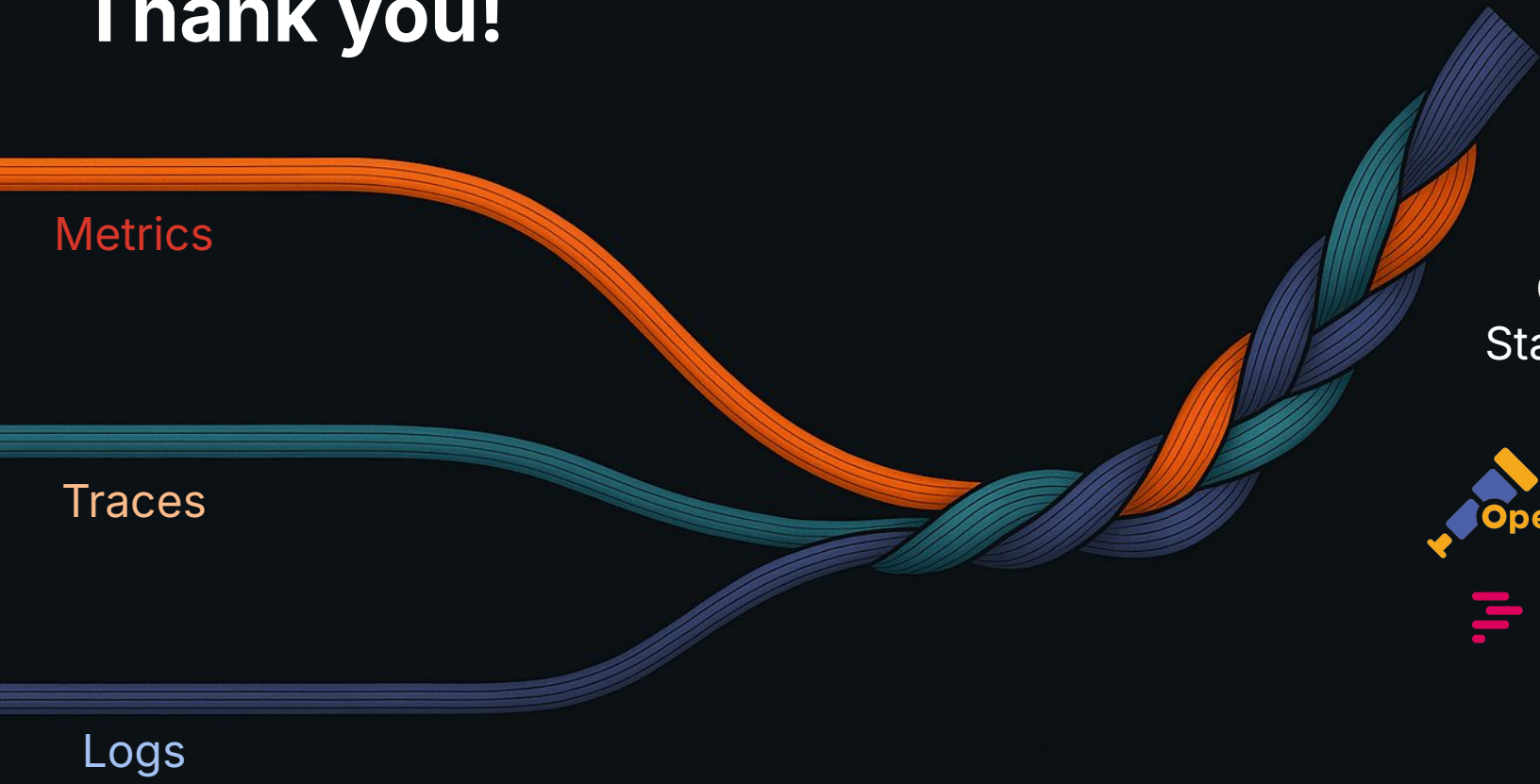
Thank you!



Open Standards

OpenTelemetry

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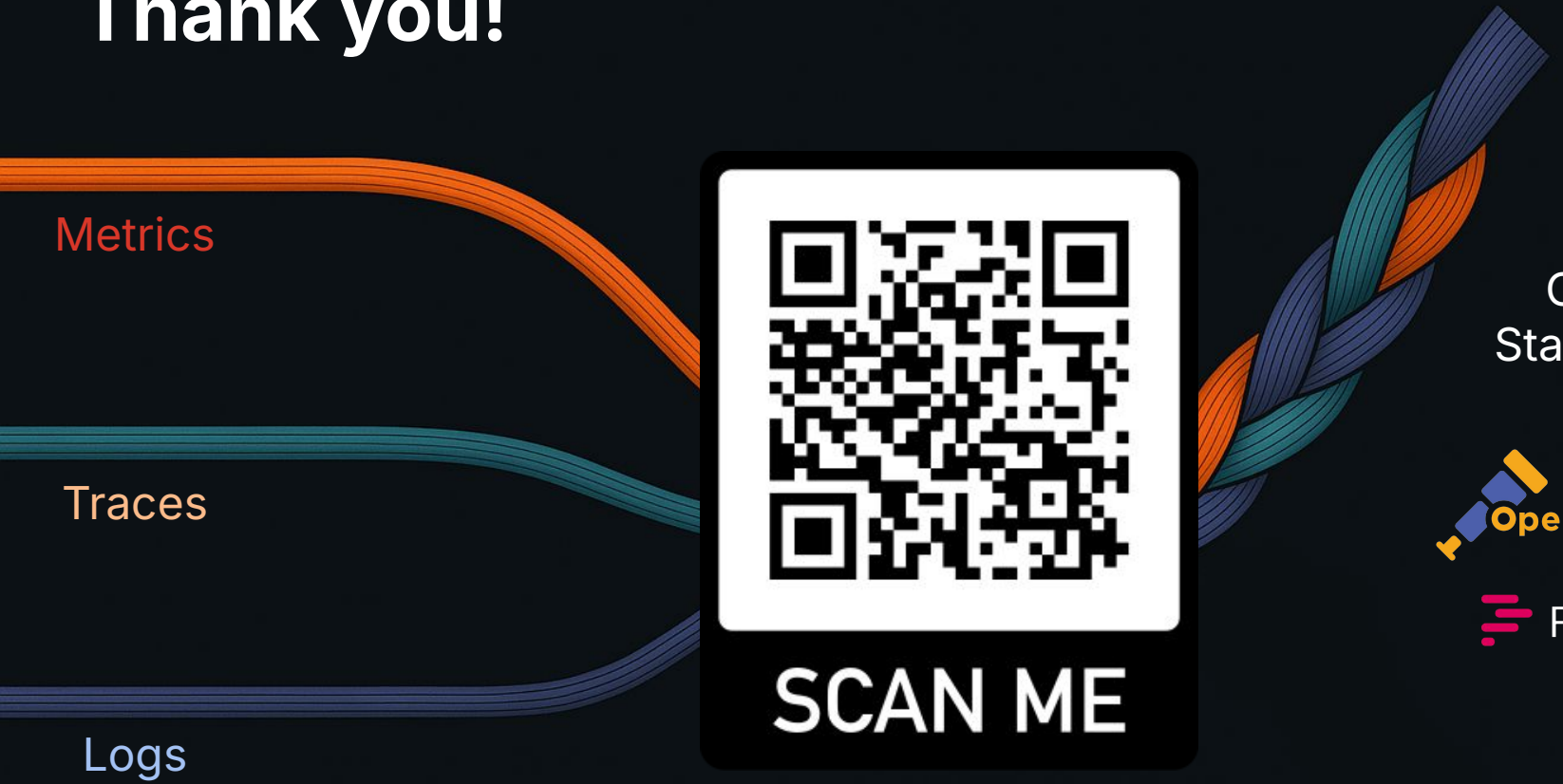
Thank you!



Open Standards

OpenTelemetry

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