



Adding Metrics Support to OpenTelemetry

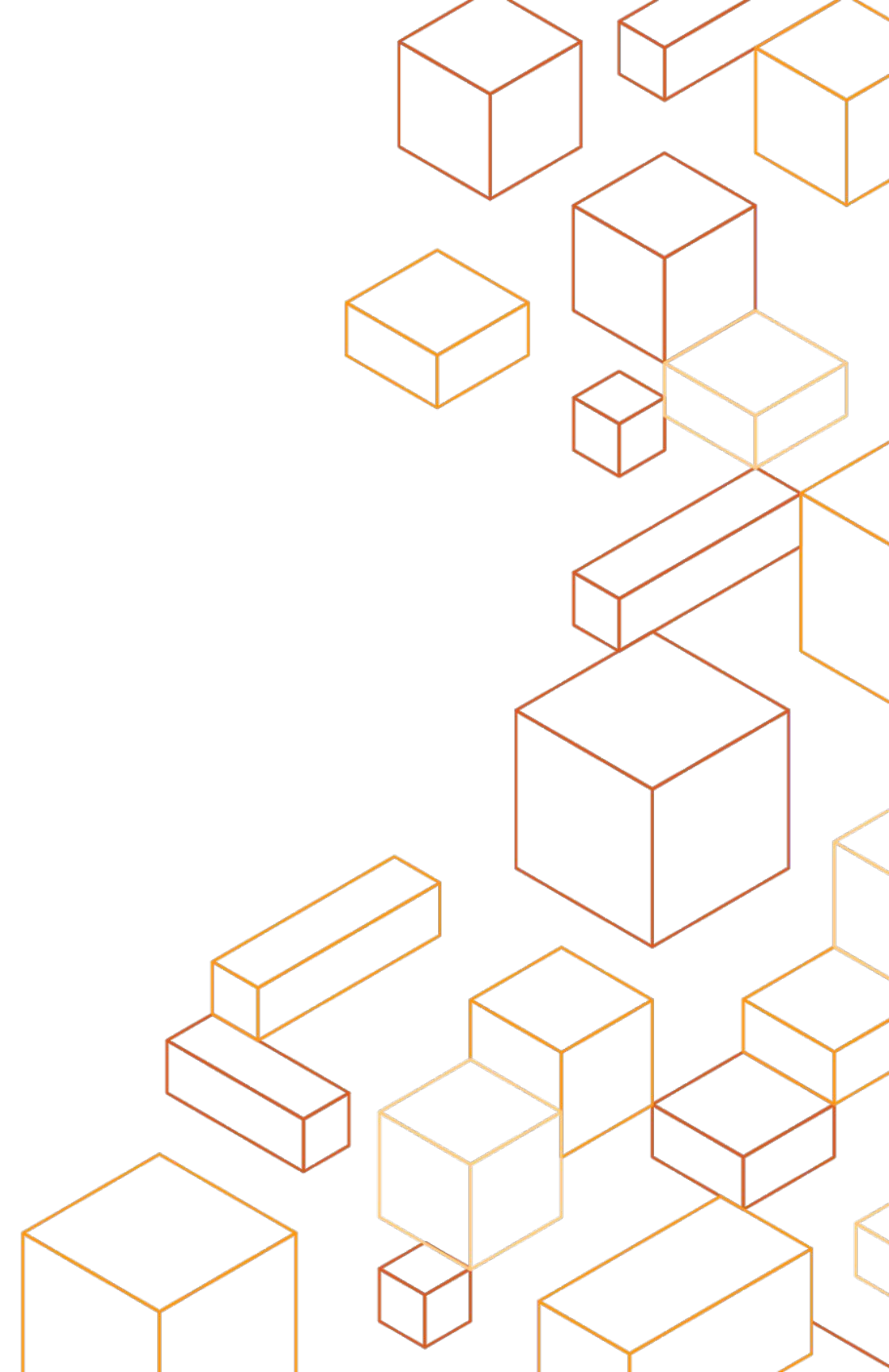
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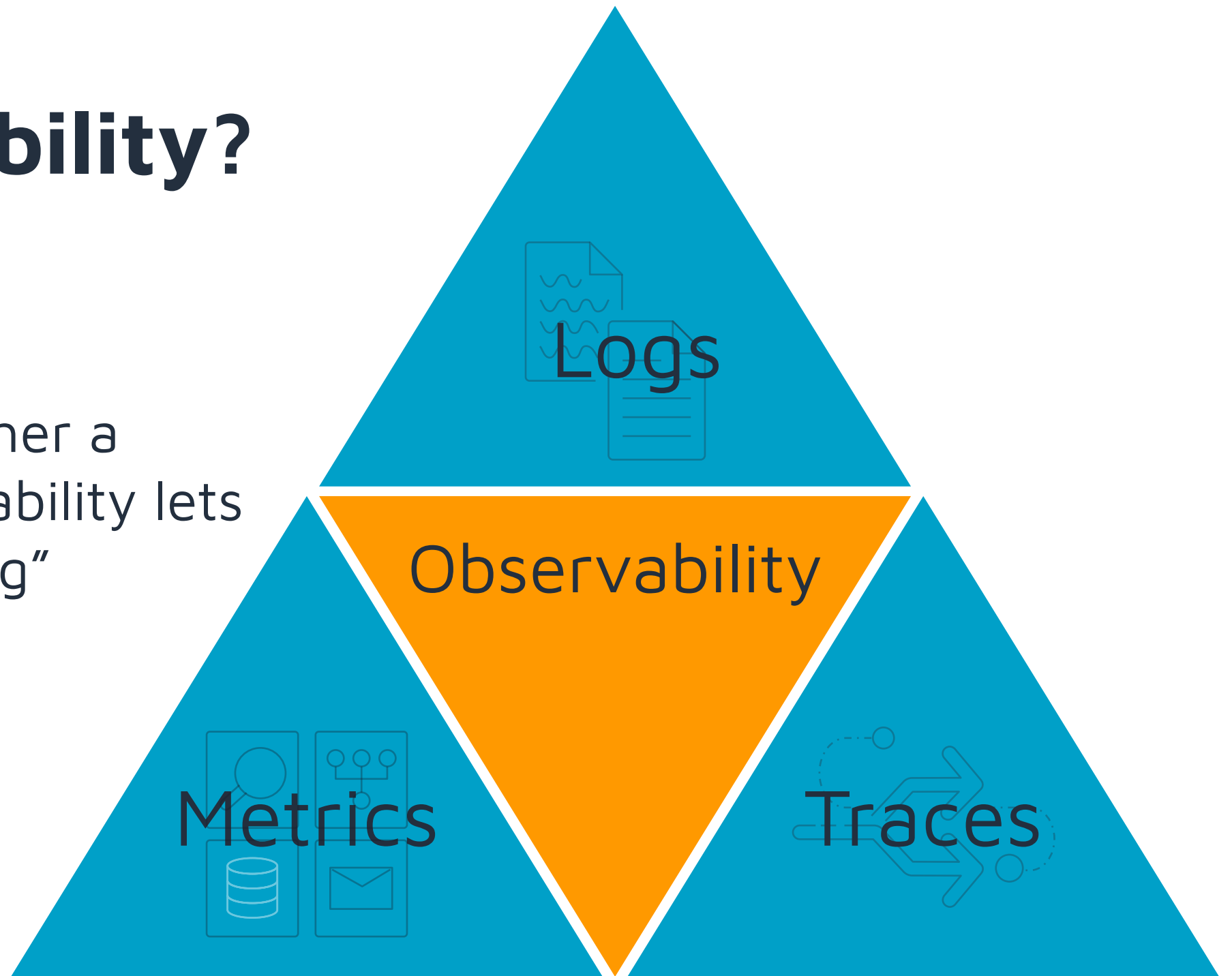
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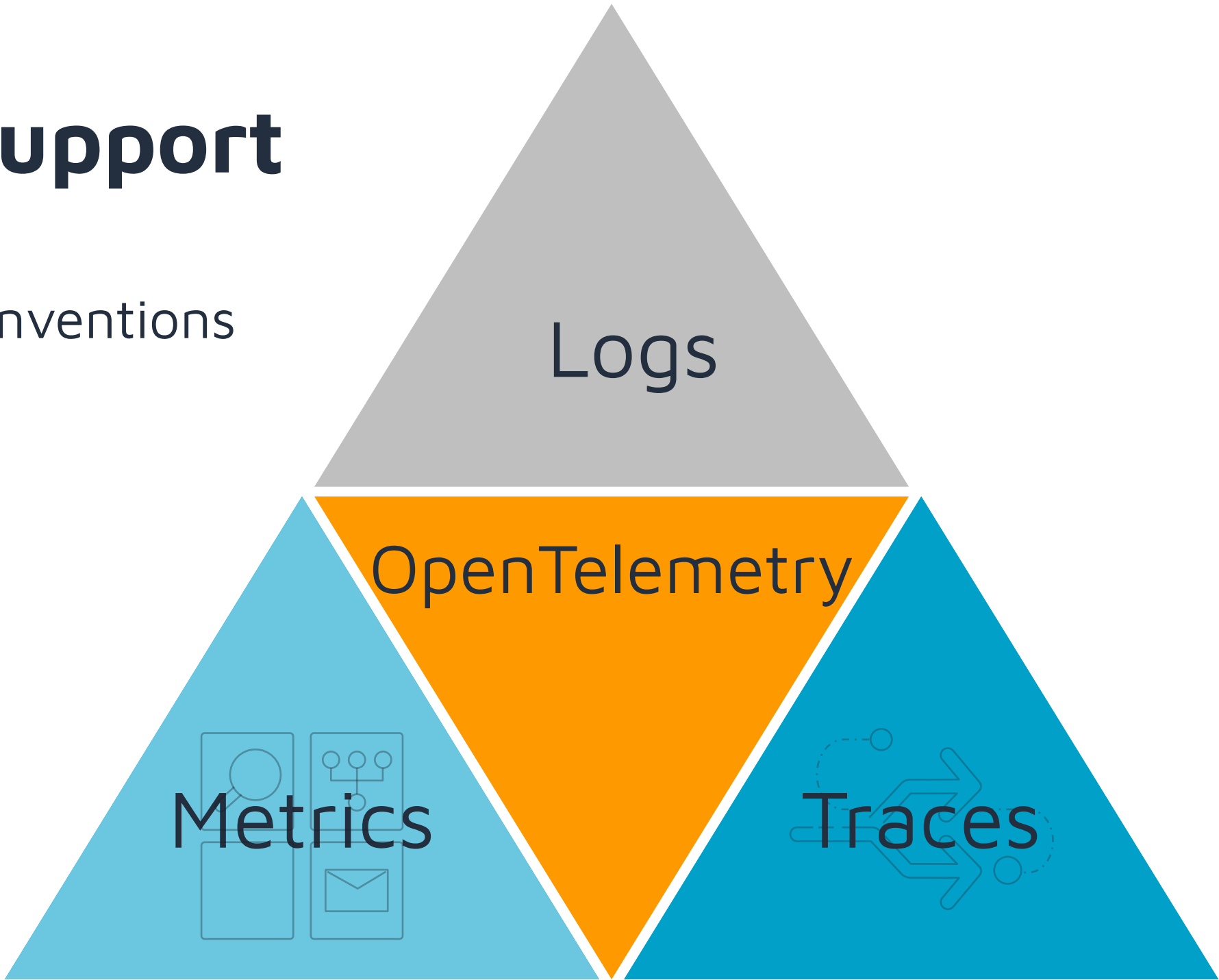
What is Observability?

“Monitoring tells you whether a system is working, observability lets you ask why it isn't working”



Adding Metrics Support

Specification - Semantic Conventions
Data Model
Data Protocol (OTLP)
Collector
Receivers
Exporters
Language SDKs



Adding Metrics Support - What

Getting it right means:

1. Data Model and OTLP Protocol
 - a. Instrumentation
 - b. Ensuring data model works for Prometheus and statsd compliance
 - c. OTLP supports Prometheus and statsd
2. API
 - a. Define and build easy-to-use API for each metric type
 - b. Enable API owners to update with stability assumption
3. SDK
 - a. Define how metric types work in the SDK
 - b. Enhance SDK if new metrics types need to be supported
 - c. Enable SDK can leverage new metrics within API
4. Collector
 - a. Support OTLP data ingestion and aggregation
 - b. Ensure push based implementation works (Prometheus and statsd support)
 - c. Enable pull based implementation scales

Adding Metrics Support - How

How do we do this?

1. Parallelize work
 - a. Multiple streams (workgroups in Metrics SIG) for
 - i. Metrics Data Model and OTLP Protocol
 - ii. Prometheus support
 - iii. API and SDK prototypes and implementation in 3 languages
 - iv. Collector
 1. Support OTLP data ingestion and aggregation
 2. Ensure OTLP pull based implementation works
 3. Enable Prometheus push based implementation works and scales
2. Each metric instrument is evaluated
 - a. Owner / Maintainer collects community feedback, drives discussions, owns implementation completion to stability

Adding Metrics Support - Work in Progress

 OPENTELEMETRY

 Documentation

 Registry

 Status

 Community

 Blog

Checking the current status for each client in the README of its [github repo](#) is recommended. Client support for specific features can be found in the [specification compliance tables](#).

Tracing

API: stable

SDK: stable

Protocol: stable

Collector: experimental

- The tracing specification is now completely stable, and covered by long term support.
- The tracing specification is still extensible, but only in a backwards compatible manner.
- OpenTelemetry clients are versioned to v1.0 once their tracing implementation is complete.

Metrics [↔](#)

API: draft

SDK: draft

Protocol: stable

Collector: experimental

- OpenTelemetry Metrics is currently under active development.
- The data model is stable and released as part of the OTLP protocol.
- Experimental support for metric pipelines are available in the Collector.
- Collector support for Prometheus is under developemnet, in collaboration with the Prometheus community.
- The metric API and SDK specification is currently being protoypted in Java, .NET, and Python.

<https://opentelemetry.io/status/>



Thanks!

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