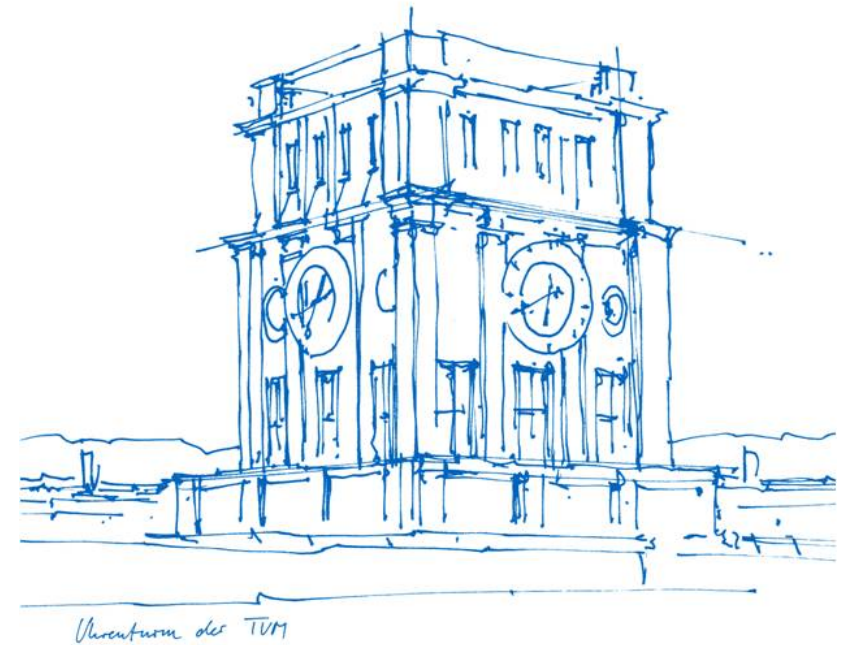# Tracing and Virtual Edge

Mohak Chadha

Outline

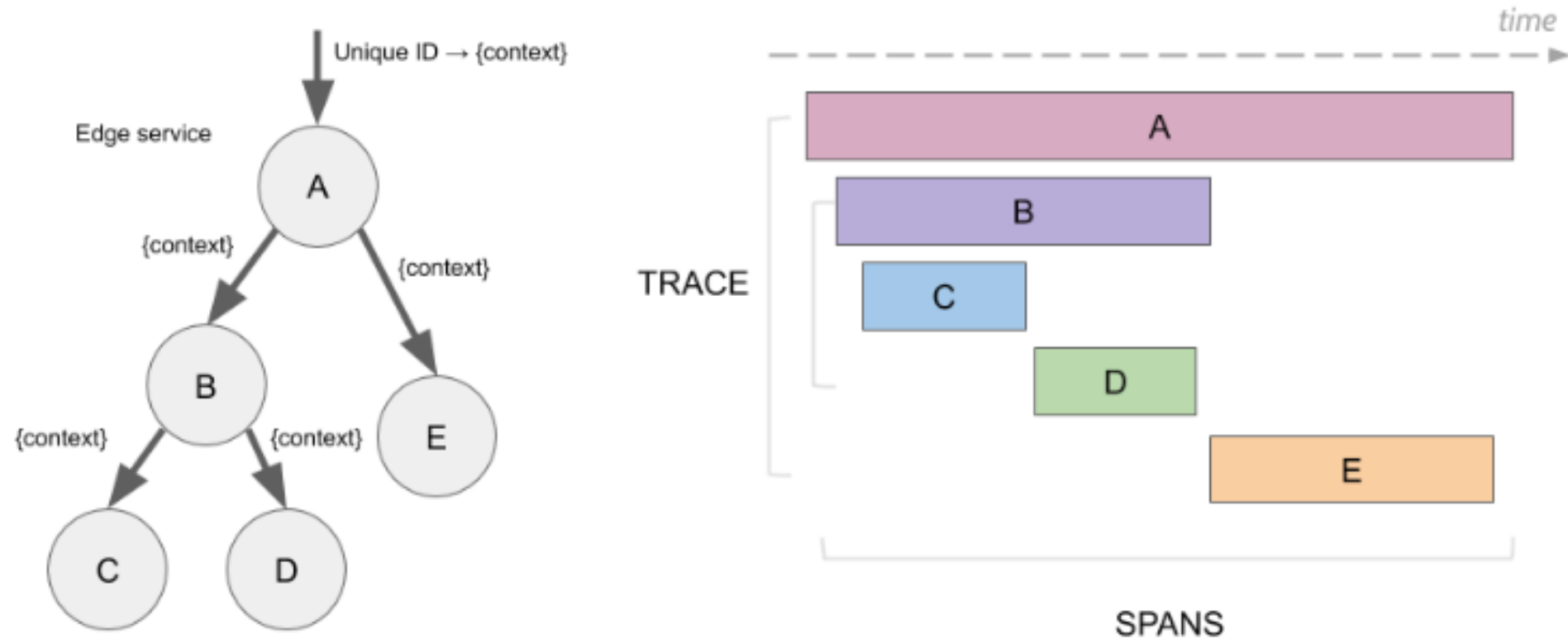- Distributed Tracing

- Virtual Edge
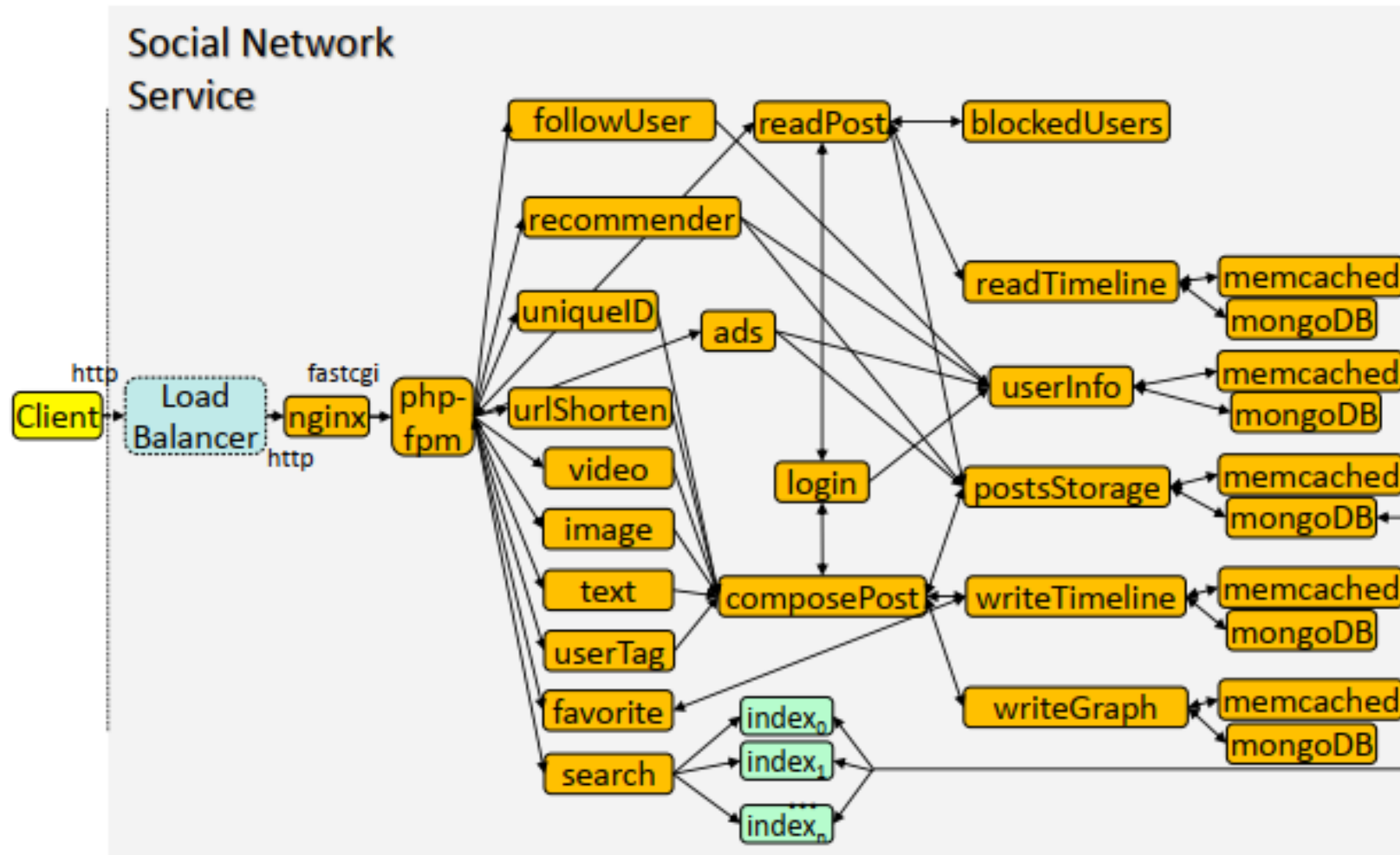
- Demo

Why Monitoring?

Make best use of your rented resources to reduce your costs and increase satisfaction of users of your services.

# Pillars of Monitoring

- Logs

- Metrics

- Traces

Context Propagation and Distributed Tracing

Example Application: Social Network

Distributed Tracing with Jaeger

- Open-source distributed tracing platform.

- Started at Uber in 2015.

- Donated to CNCF in 2017.

- Enables identification of problems in deep distributed systems.

- Collection/storage/visualization of traces.
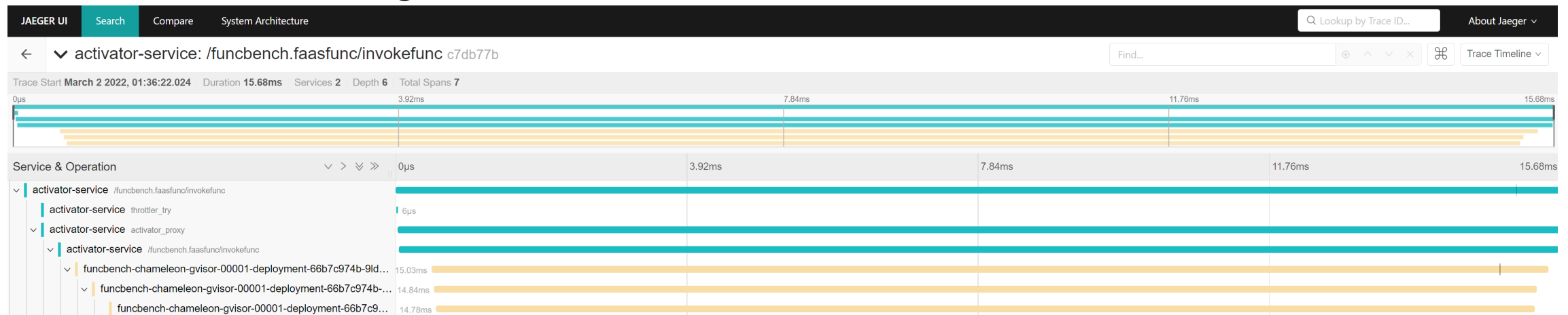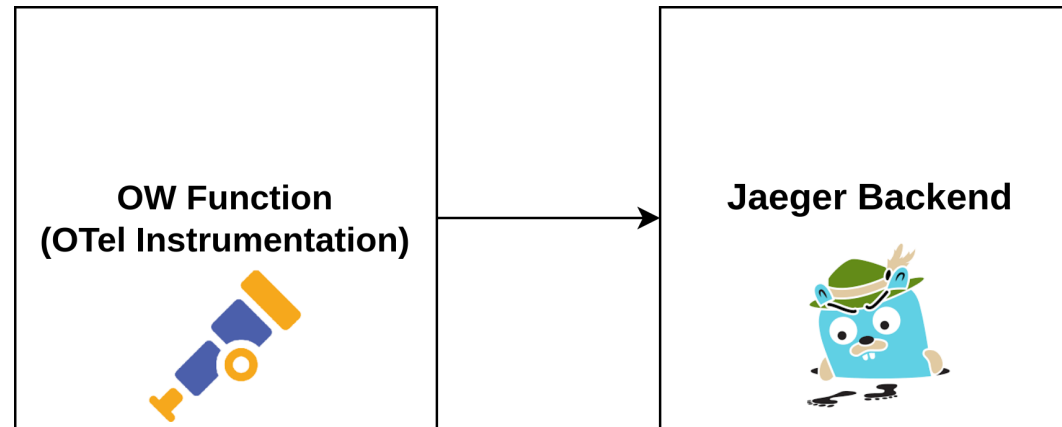
OpenTelemetry (OTel)

- Evolved from OpenTracing (CNCF) and OpenCensus (Google).

- Collection of standardized SDKs, APIs, and Tools.
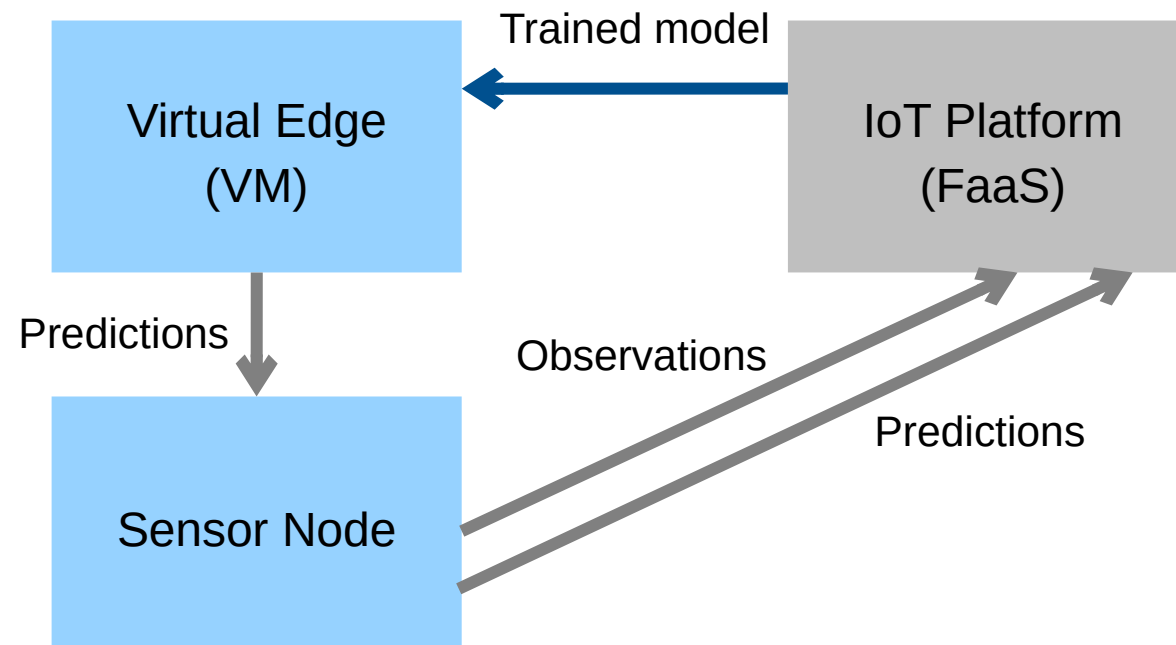
  Main Features:

  - Vendor-agnostic.

  - Support for various programming languages.

  - Support for automatic and manual instrumentation.

  - Support for multiple observability back-ends.

  - and much more..

Jaeger Architecture (Simplified)

Virtual Edge Integration

Virtual Edge Requirements

- Should run continuously to make the periodic predictions,
- Should use the prediction model that is stored on it by the executed function to make the predictions of the students' count,
- Should push the predictions to the IoT platform through the gateway,
- should provide the predictions to the sensor node.

DEMO