

# Open Telemetry

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**Let's get started**



Elite. Java. Development.



# > Agenda

- 1 What is OpenTelemetry?
- 2 From Tracing and Census to Telemetry
- 3 Building blocks
- 4 Java: Agents, MicroProfile
- 5 Quarkus and Spring
- 6 Quick demo on Google Cloud
- 7 Conclusions
- 8
- 9



## > What is OpenTelemetry?

- Observability Framework
- Telemetry should be
  - Easy
  - Universal
  - Vendor-neutral
  - Loosely coupled
  - Built-in

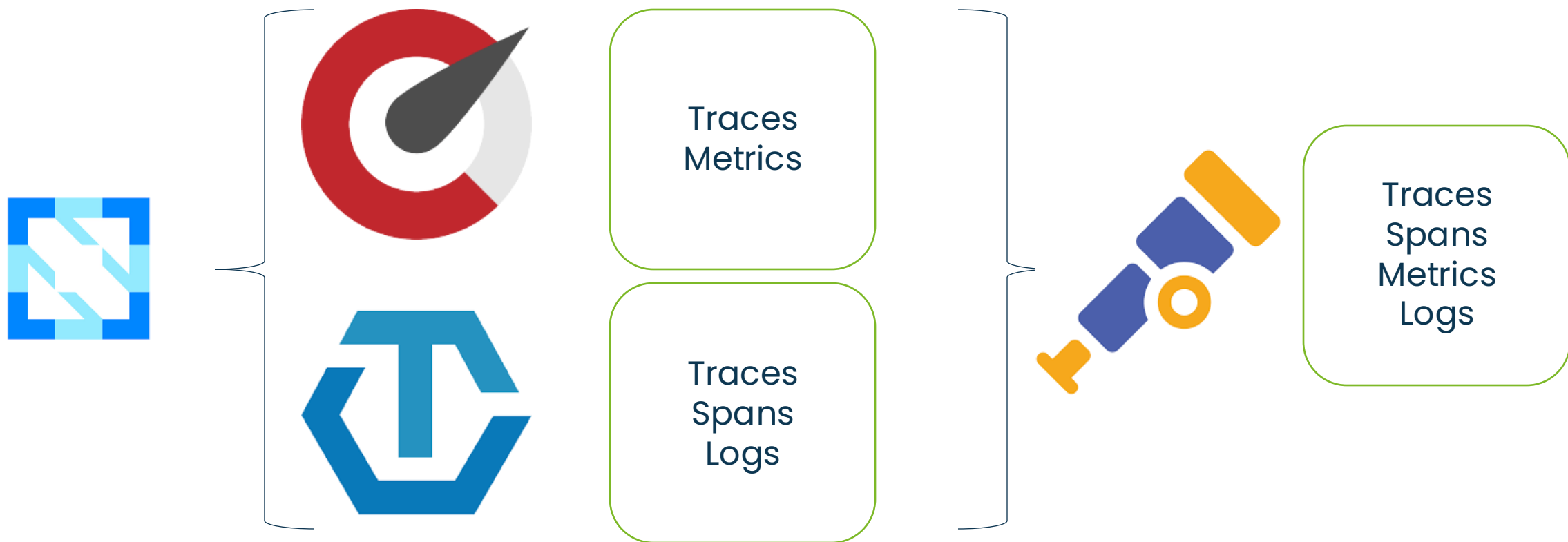


Traces

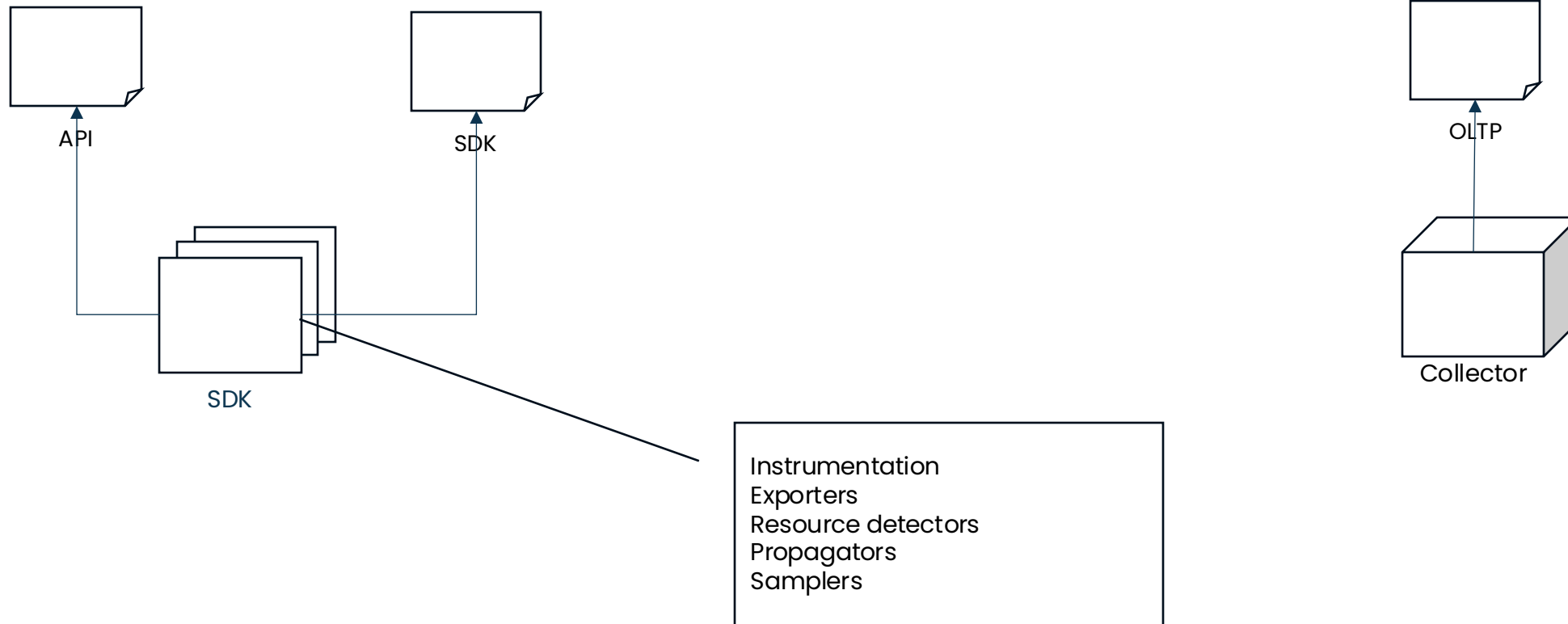
Metrics

Logs

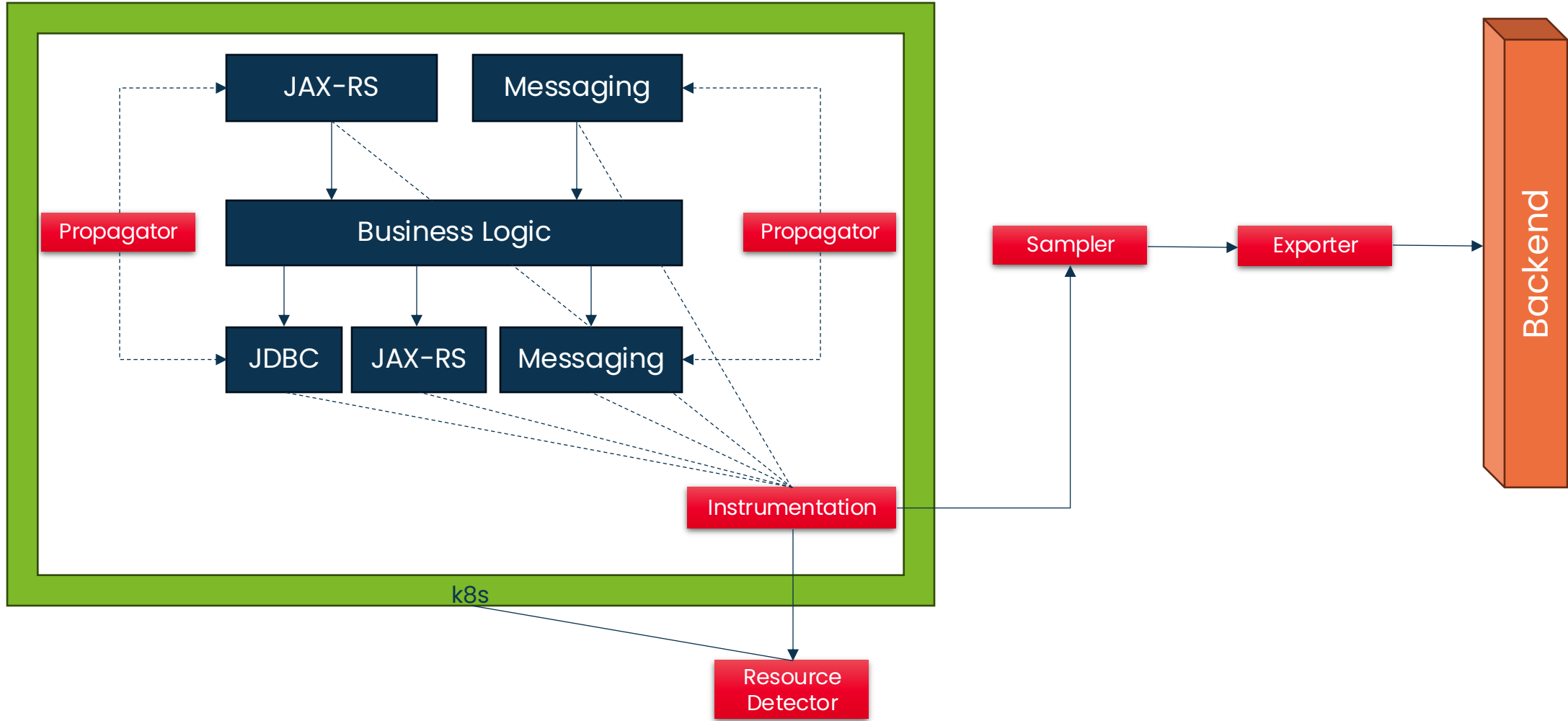
# > From Tracing and Census to Telemetry



# Building blocks (1)



# Building blocks (2)



## › Pure Java (agent based)

- Java Agent approach

```
export JAVA_TOOL_OPTIONS="-javaagent:PATH/TO/opentelemetry-javaagent.jar" \  
    OTEL_TRACES_EXPORTER=logging \  
    OTEL_METRICS_EXPORTER=logging \  
    OTEL_LOGS_EXPORTER=logging \  
    OTEL_METRIC_EXPORT_INTERVAL=15000
```

- Large collection of supported libraries
  - Cloud native tools (AWS/Azure/GCP, e.g. Firestore) is lacking

## › Increases application startup time

## > Microprofile

- MicroProfile Telemetry Tracing
  - Supersedes MP Tracing
  - Manual migration
- Tracing
  - JAX-WS & JAX-RS
- Metrics & Logging out of scope 😬



> **We wanted full telemetry, sadly only tracing for now**



## > Quarkus

- OpenTelemetry Metrics and Logging are not yet supported.
- OpenTelemetry Autoconfiguration for Traces using the quarkus.\* prefix.
- Direct instrumentation in extensions/libraries
- Use of OTEL Agent is not needed or recommend (propagation issues)



> **Support is growing but not fully available yet**

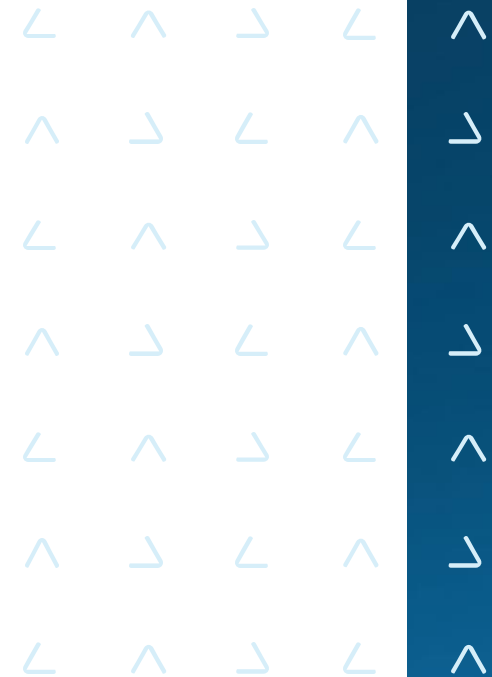
## > Spring

- Both Agent and Spring-boot-starter approach
  - Agent supports more libraries
  - Starter for native applications, faster startup
- Tracing, Metrics & Logging
  - Not all 100% mature yet



## > More mature than Quarkus

## > Quick demo on Google Cloud



## › Conclusions

- OTEL Goal: full telemetry
  - Tracing
  - Metrics
  - Logging
- Current state:
  - Still mostly tracing
  - Support is growing but needs time to get there
- Cloud-native solutions aren't widely supported yet

› **Assess → Trial**

# Questions?



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