

Collector Pipelines Visual Language

Harmonizing OpenTelemetry Configuration and Operation with a Shared Visual Vocabulary

3 min read · Apr 24, 2023



Devrim Demiroz

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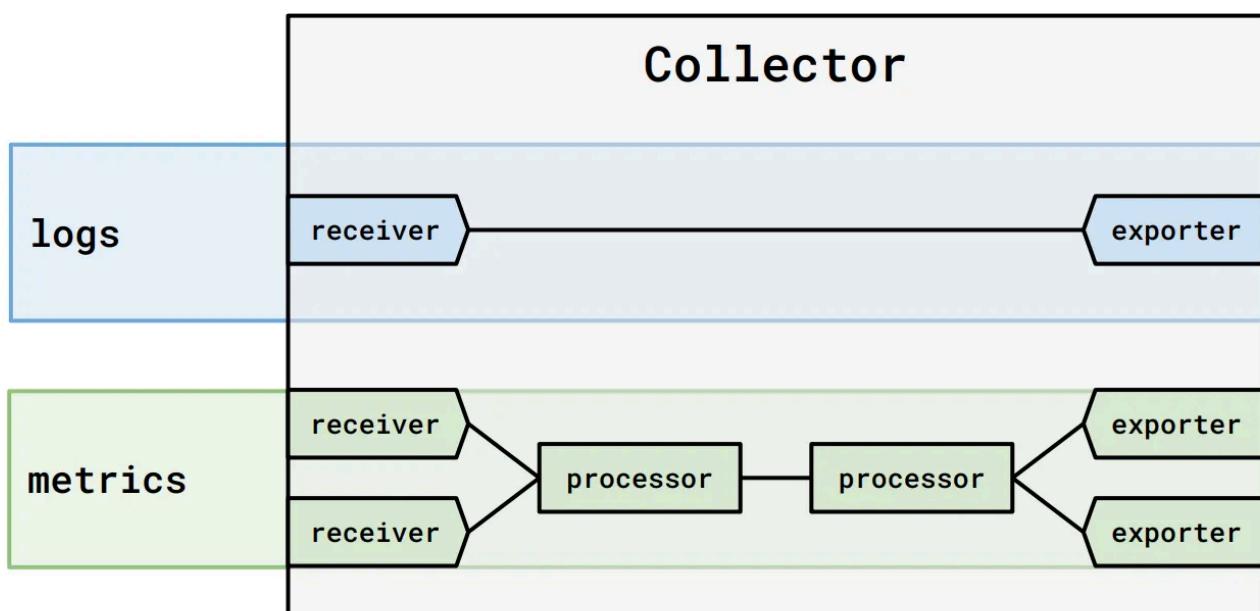
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This is a quick experiment using the visual symbols used in KubeCON 23 EU session [Connected Observability Pipelines in the OpenTelemetry Collector – Dan Jagłowski, observIQ](#)

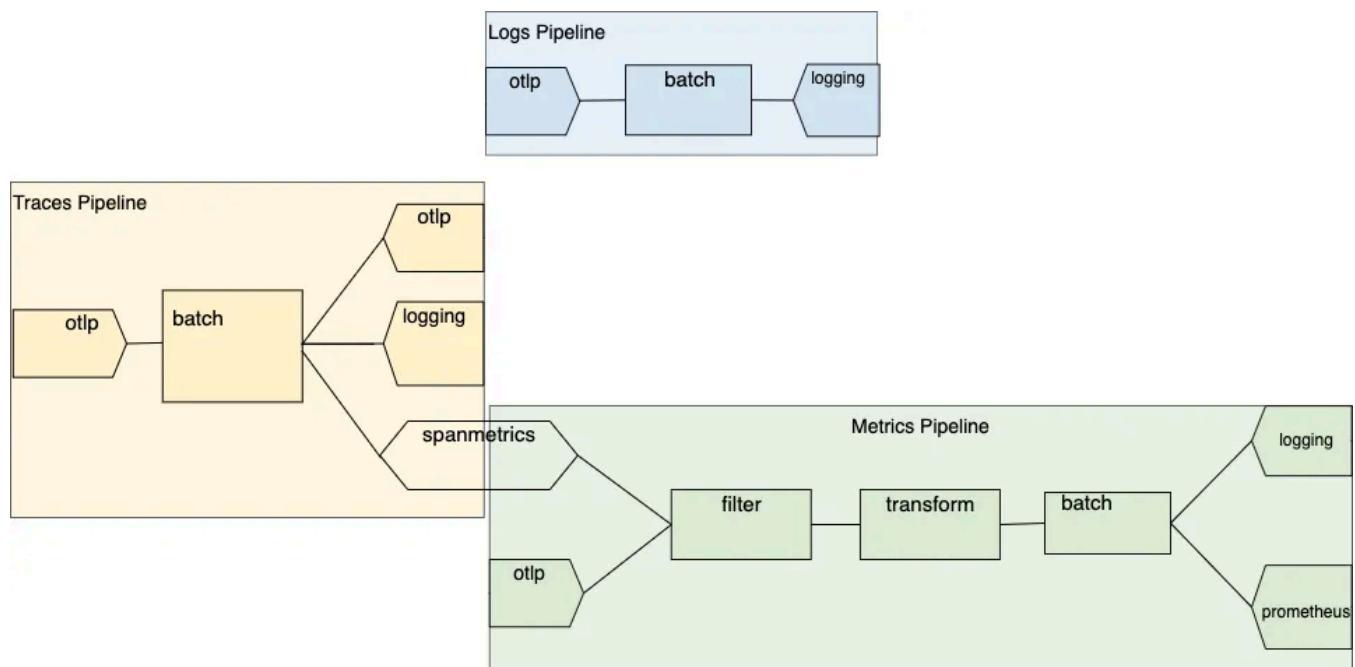
I highly recommend watching Dan Jagłowski's session as it is not just about symbols, but much more about how you can use OpenTelemetry Collector in an intelligent way. Be sure to watch it on [CNCF channel](#).

Base Symbols from Kubecon Presentation



Sample representation of a collector configuration

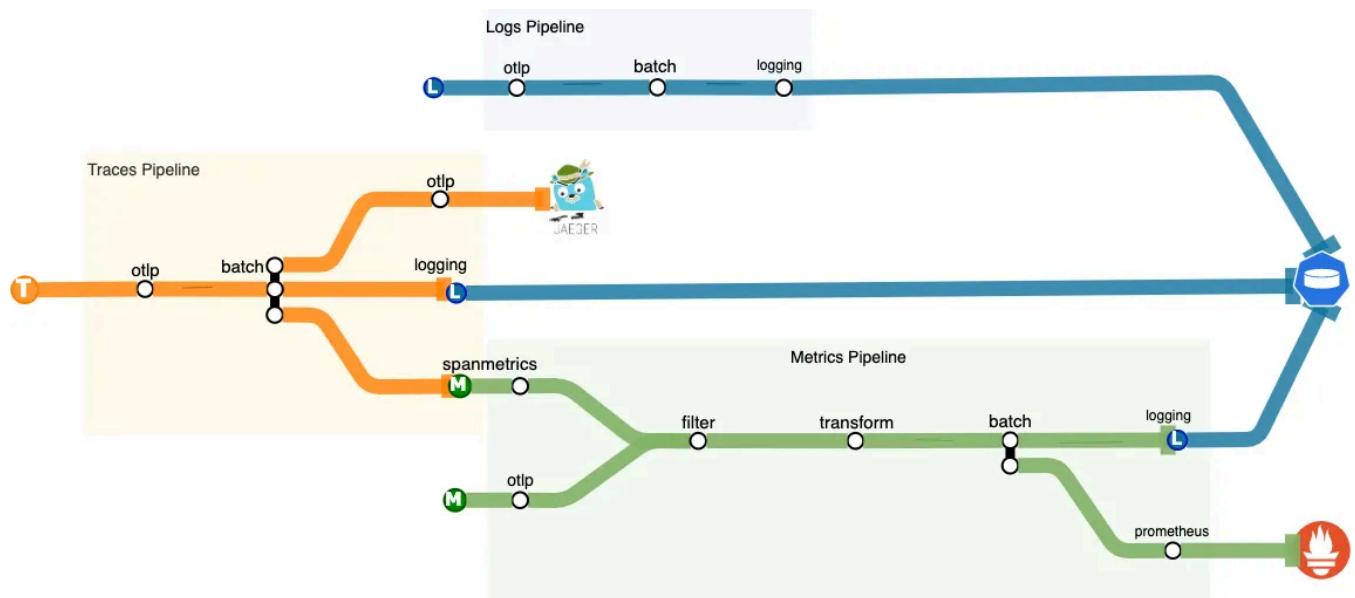
Opentelemetry Demo Application Collector with Symbols



Opentelemetry Demo Application otelcol with Symbols

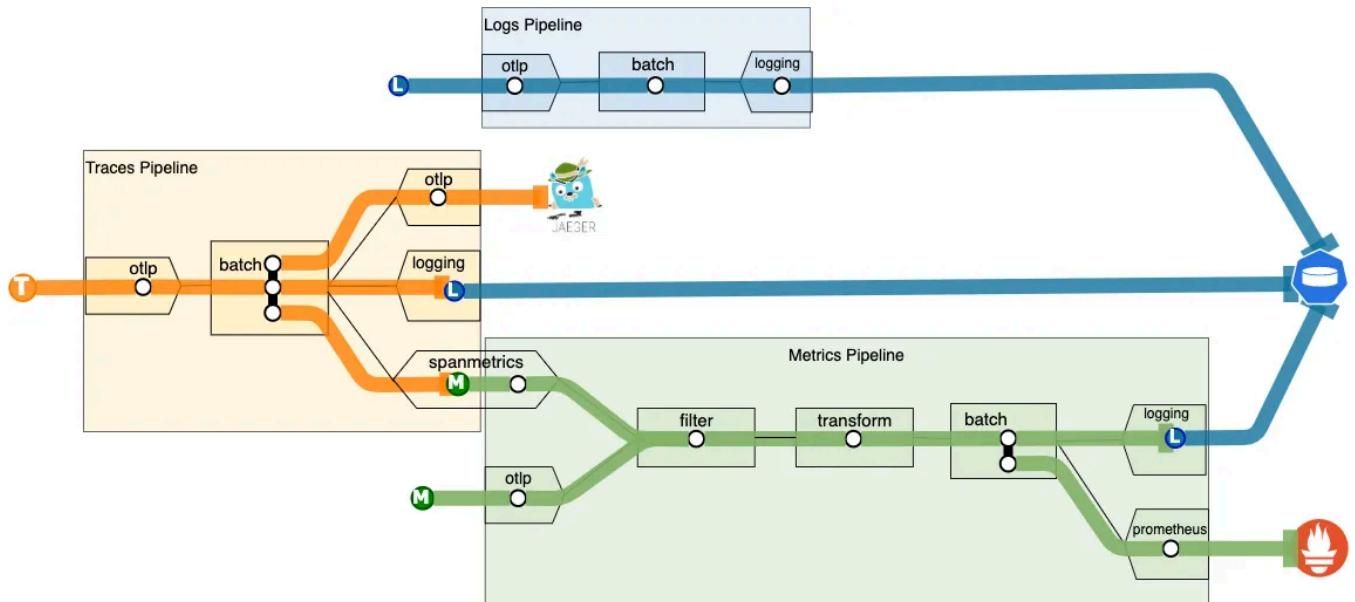
[opentelemetry-demo//otelcol-config.yml](#)

Opentelemetry Demo Application Collector with UCM Transit-map , no Symbols



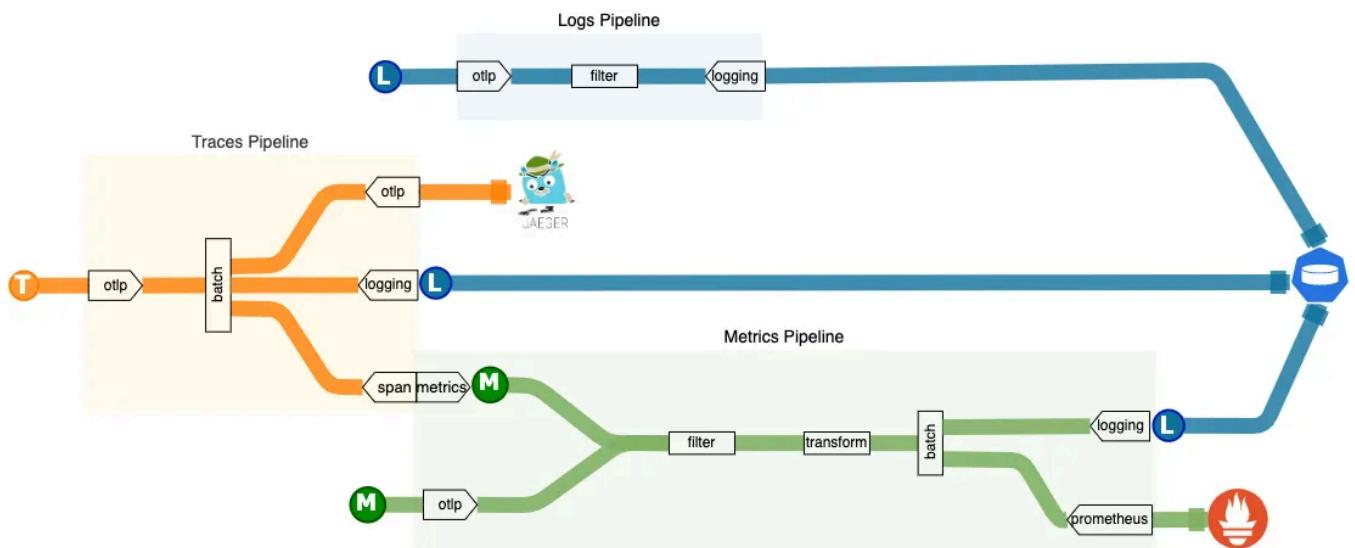
Opentelemetry Demo Application otelcol with UCM Transit-map style

Variation 1 — Path visiting Symbols as Component



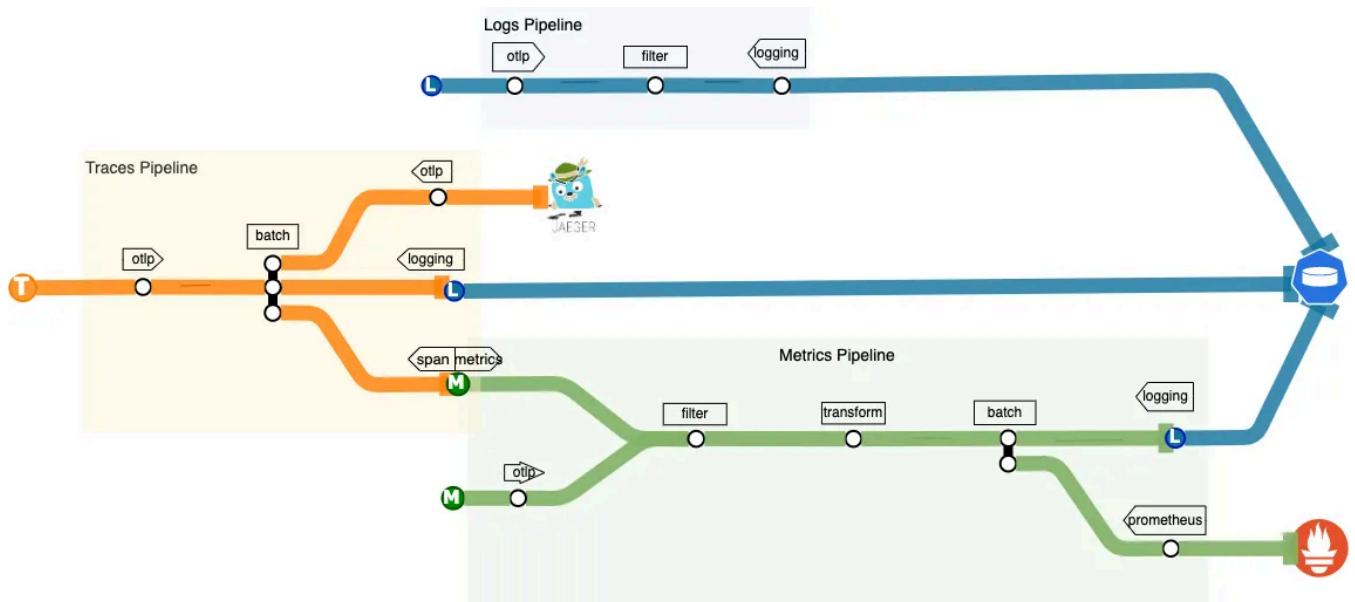
Variation 1 — Symbols with UCM Transit-map style

Variation 2 — Symbols embedded as Stations



Symbols with UCM Transit-map style

Variation 3 — Symbols as Station Labels



Variation 3 — Symbols used in Station Labels

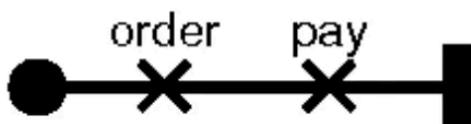
Slightly complex scenario



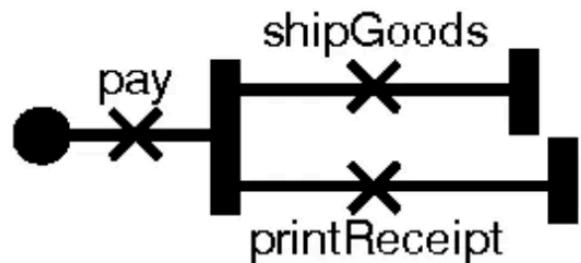
Variation 3 applied to a Bring Your Own Backend scenario.

Use Case Maps Base Notation

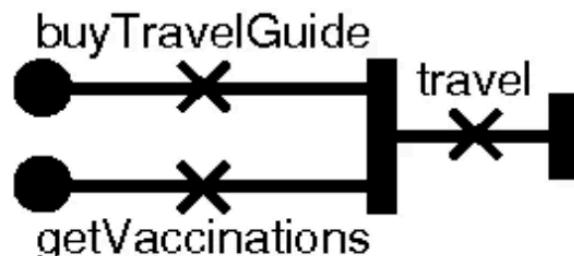
a) Sequence



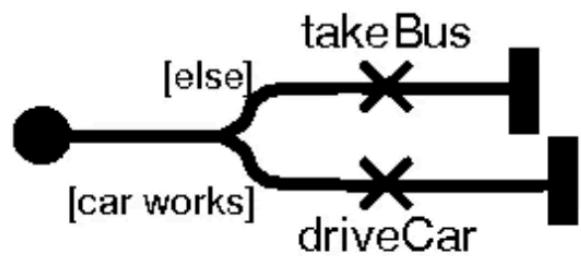
b) Parallel Split



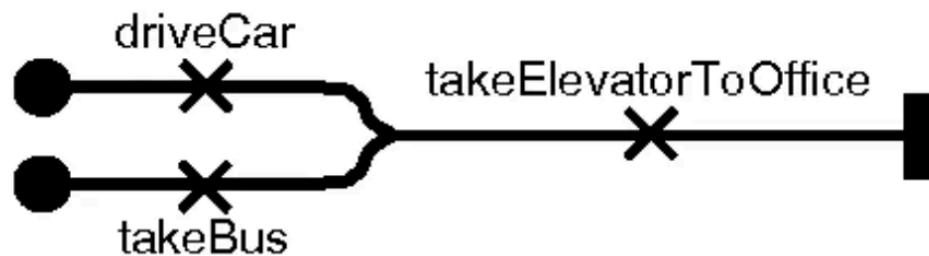
c) Synchronization



d) Exclusive Choice



e) Simple Merge



[Evolving Use Case Maps as a Scenario and Workflow Description Language](#)

UCM as a reference behind the scenes. Want to know more [Use Case Maps](#)

Signals Iconset

| Implemented | Implementing | Prototype / Ideation |
|--|--|---|
| Traces  |  Traces |  Traces |
| Events  |  Events |  Events |
| Metrics  |  Metrics |  Metrics |
| Profiles  |  Profiles |  Profiles |
| Logs  |  Logs |  Logs |
| Exceptions  |  Exceptions |  Exceptions |

Signal icons crafted by [Andrei Hawke](#)

Visit [firecube-oss/observability-diagramming](#) for artefacts reusable for the purpose mentioned and unmentioned in this post.

opentelemetry.io/iconography

ICONS



Alerts



Metrics



Cluster



AI



API



Processors



SDK



Processing



Exporters



Collector



Load Balancer



Server



W3C



B3



Jaeger



Zipkin



OTLP



Prometheus

Open
Telemetry

.NET Agent



Golang



Golang

<https://github.com/open-telemetry/opentelemetry.io/tree/main/iconography>.

Side Effects

- As connectors are not easily distinguishable in the pipeline configuration and are referenced within receiver or exporter components:
 - (a) It becomes difficult to determine whether a component is a receiver/exporter or connector. A prefix naming convention could be employed to enhance readability.
 - (b) Furthermore, it complicates the process of parsing and visually recreating the overall pipelines. This is because any item parsed in a receiver or exporter needs to be searched for under connectors to determine the component type.
- Unfortunately, unless the `otelconfig.yaml` file is parsed, this information is not available as a label on metrics. So, if two pipelines share the same exporter, it becomes impossible to delve deeper into the configuration. Shared components are not easy to get represented as shared on visuals.
- ⚠ Connector metrics not available!

Opentelemetry

Observability

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Pipelines

Service Topology

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Written by Devrim Demiroz

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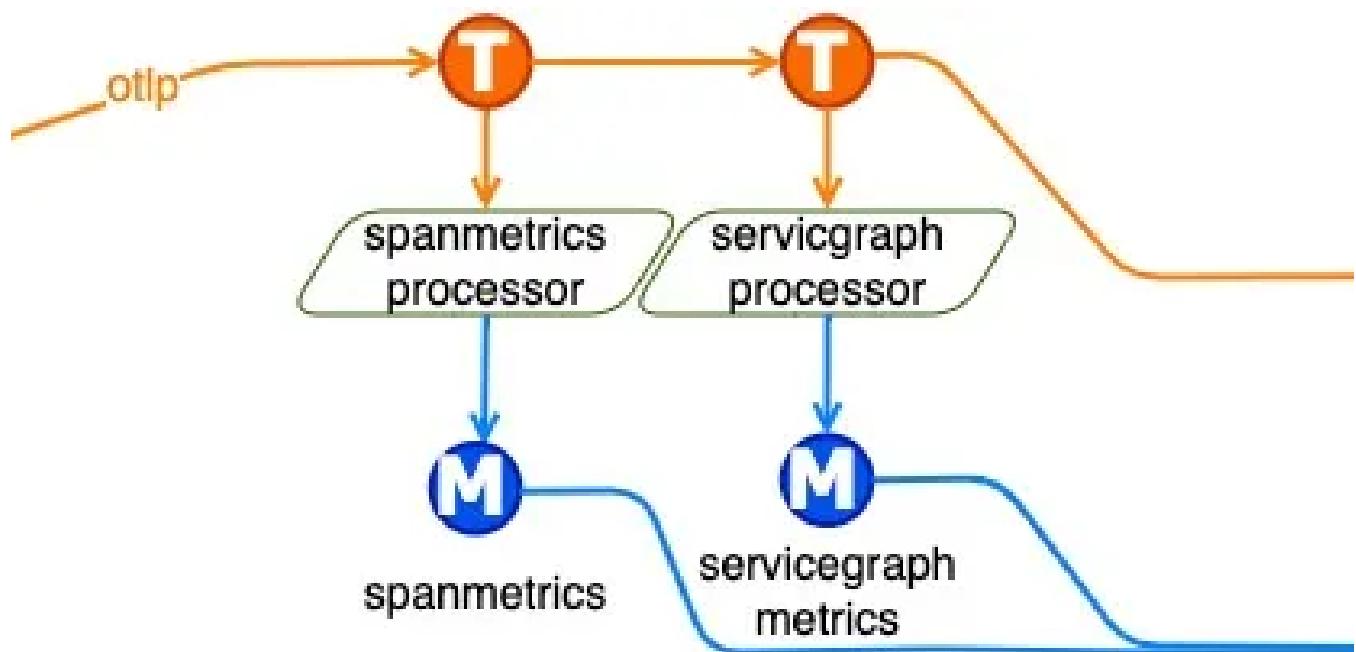


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What are your thoughts?

More from Devrim Demiroz



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Service Topology Map from Prometheus metrics

Shahmaran

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Collector Data Flow Dashboard

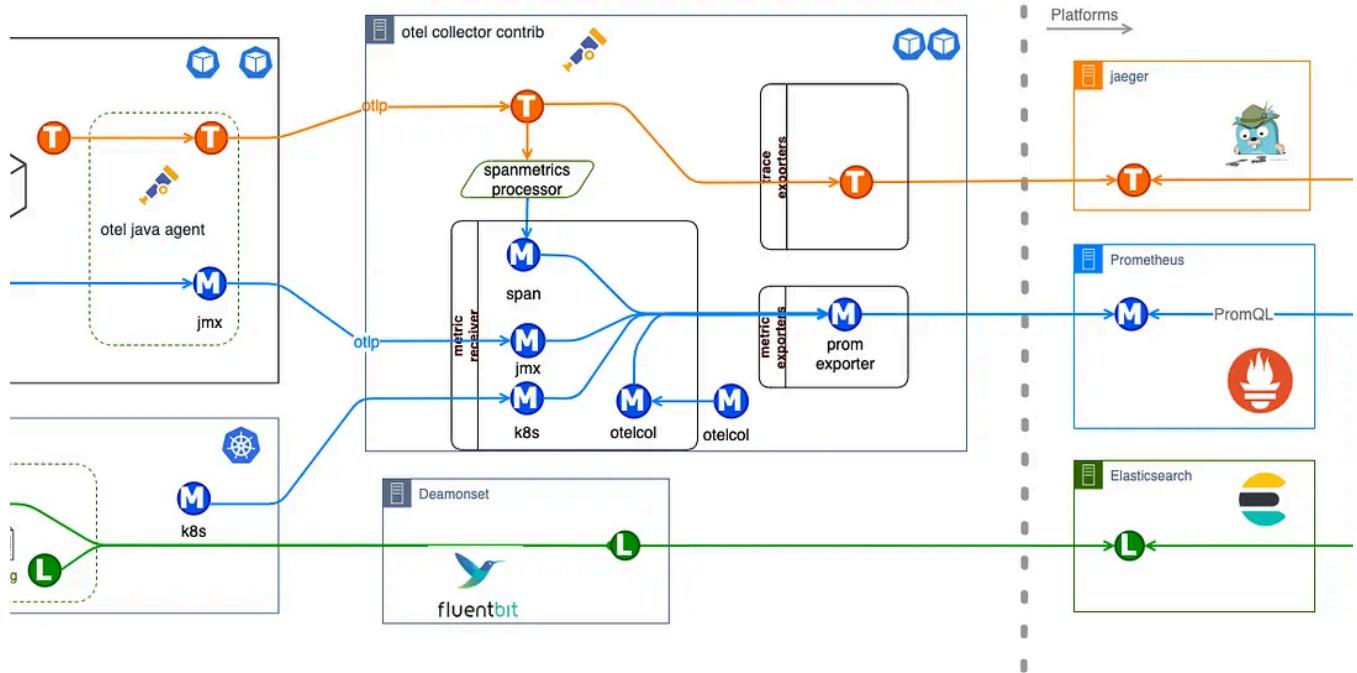
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