

KCD Austria 2024

# License to Observe

Why observability solutions need agents



PRESENTER

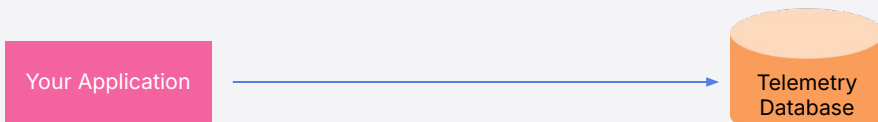
Dominik Süß  
DevEx Engineer @  
Grafana Labs



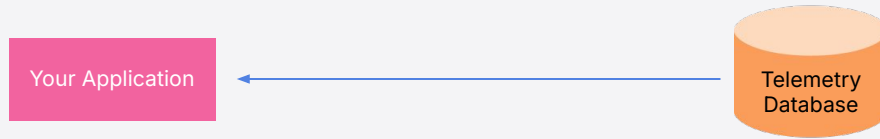
Just give me the  
data



# Just send it, bro!



# Just pull it



# But what if...



# There is!



*THE END*



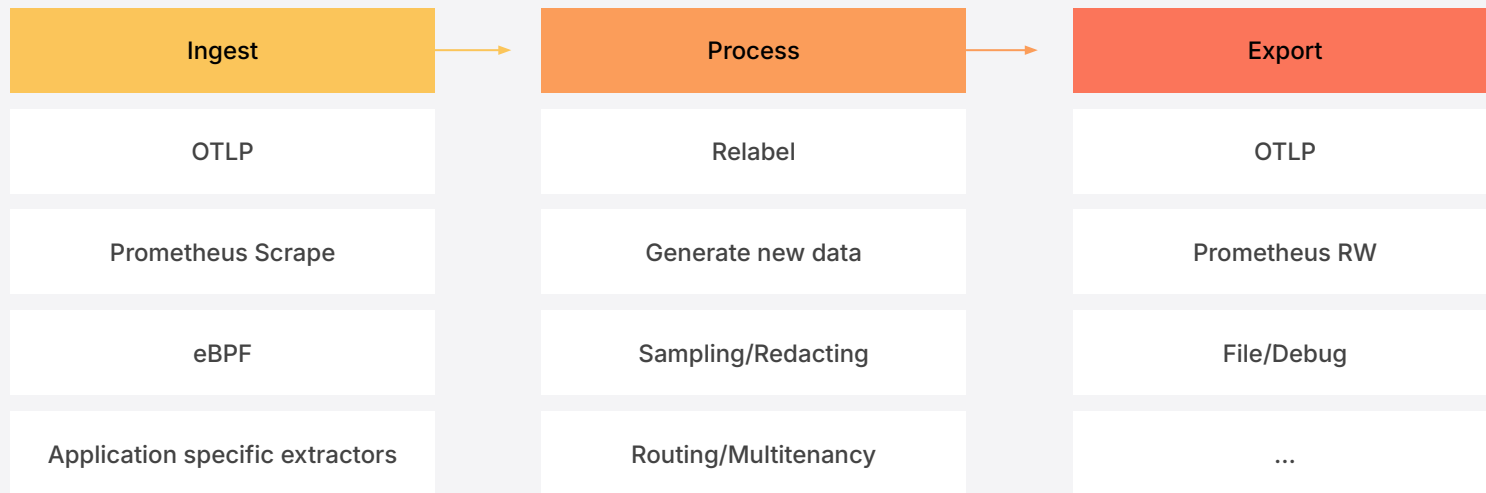
# Protocols & Terminology

- Telemetry → Logs/Metrics/Traces/Profiles
- OpenTelemetry (OTel) → Set of standards for telemetry data
- OpenTelemetry Protocol (OTLP) → Specific transport protocol for telemetry
- OpenTelemetry SDK → Language specific instrumentations





# What do they do?



# How are they configured

```
1 receivers:
2   otlp:
3     protocols:
4       grpc:
5       http:
6
7 processors:
8   memory_limiter:
9   batch:
10
11 exporters:
12   otlp:
13     endpoint: otelcol:4317
14
15 extensions:
16   health_check:
17   pprof:
18   zpages:
19
20 service:
21   extensions: [health_check, pprof, zpages]
22   pipelines:
23     traces:
24       receivers: [otlp]
25       processors: [batch, memory_limiter]
26       exporters: [otlp]
27     metrics:
28       receivers: [otlp]
29       processors: [batch]
30       exporters: [otlp]
31     logs:
32       receivers: [otlp]
33       processors: [batch]
34       exporters: [otlp]
```



Instrumenting



# Instrumenting the Application

## Metrics

- Push/Pull
- Delta/Cumulative
- Prometheus/OTeL

## Logs

- File/Network
- JSON/logfmt

## Traces

- Tail/Head Sampling

Client/Collector Enrichment



# Instrumenting the Application in Kubernetes

## Metrics

- Push/[Pull](#)
- Delta/[Cumulative](#)
- [Prometheus](#)/OTeL

## Logs

- [File](#)/Network
- JSON/[logfmt](#)

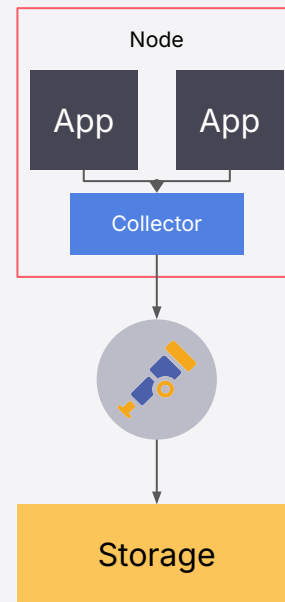
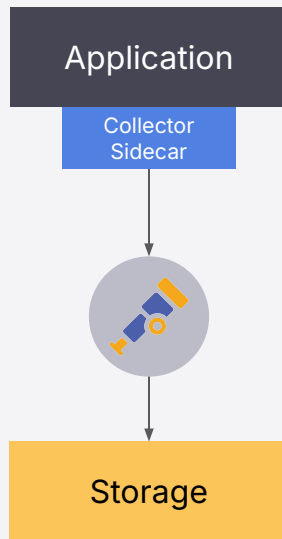
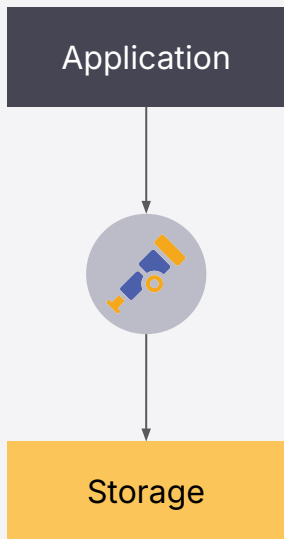
## Traces

- [Tail](#)/Head Sampling

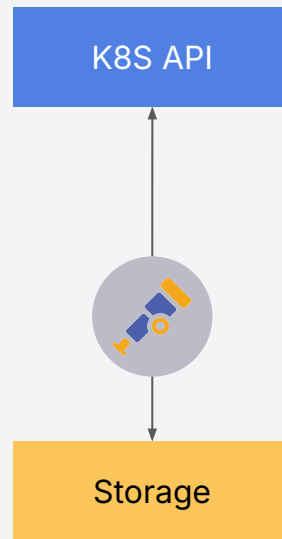
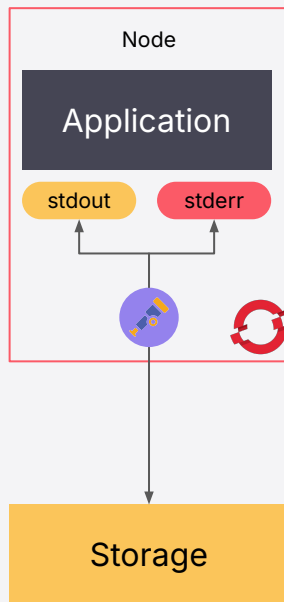
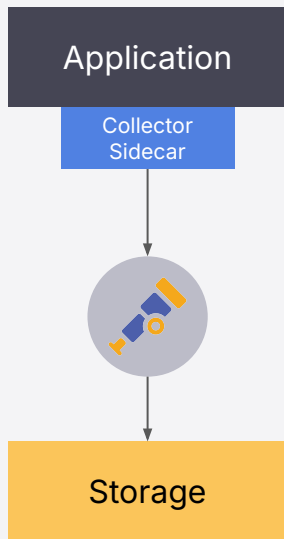
Client/[Collector](#) Enrichment



# Deployment Strategies

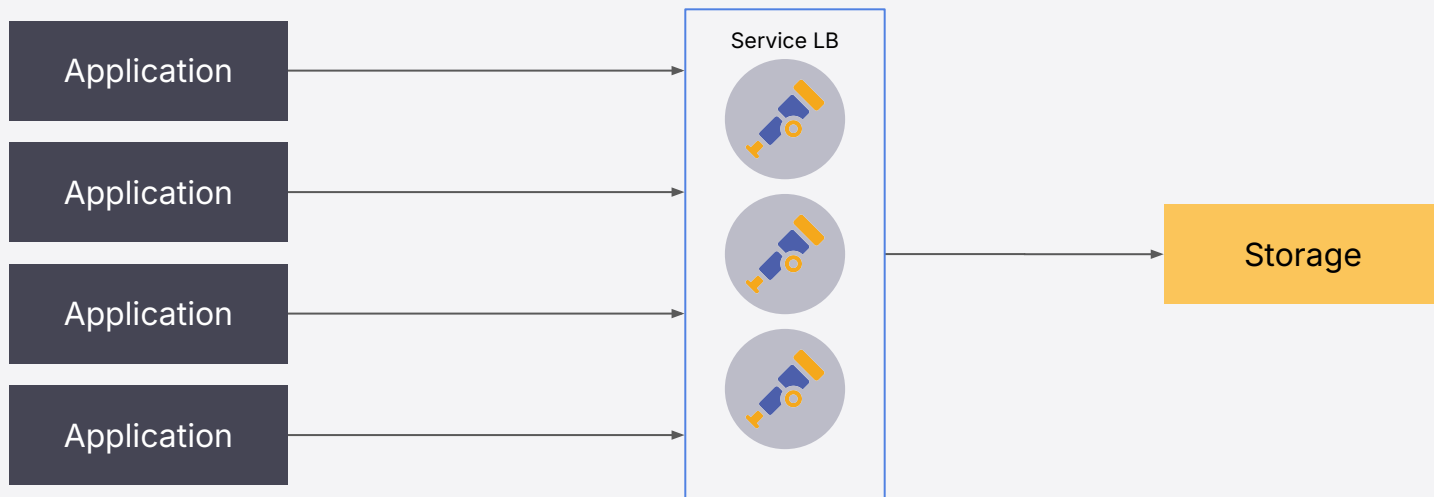


# Collecting Logs



# Scaling Strategies - for metrics/logs/traces

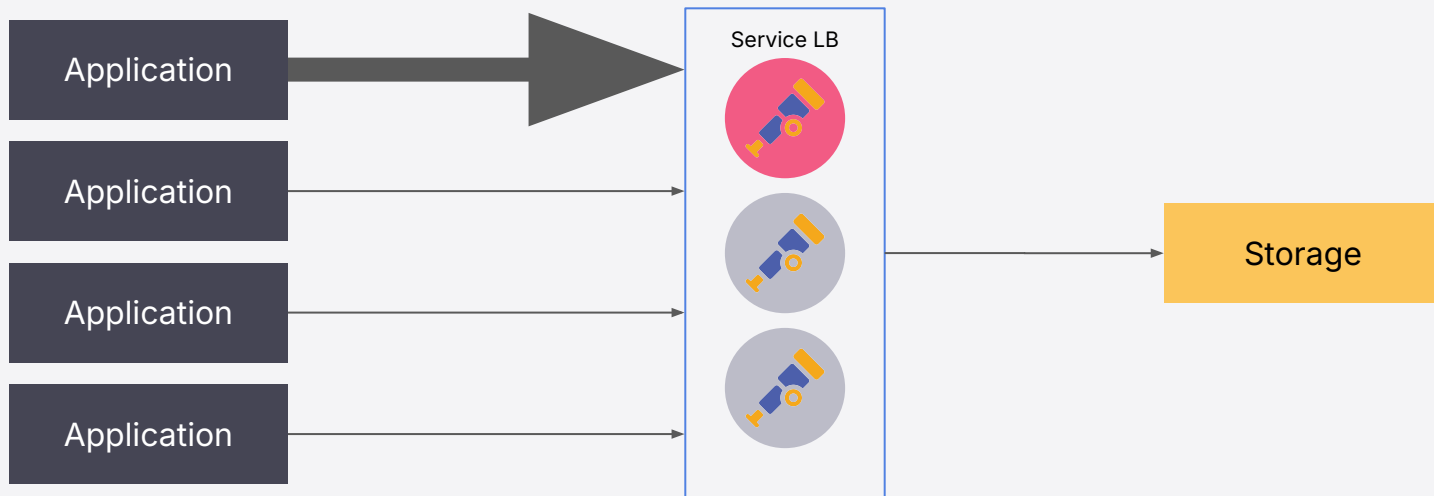
push





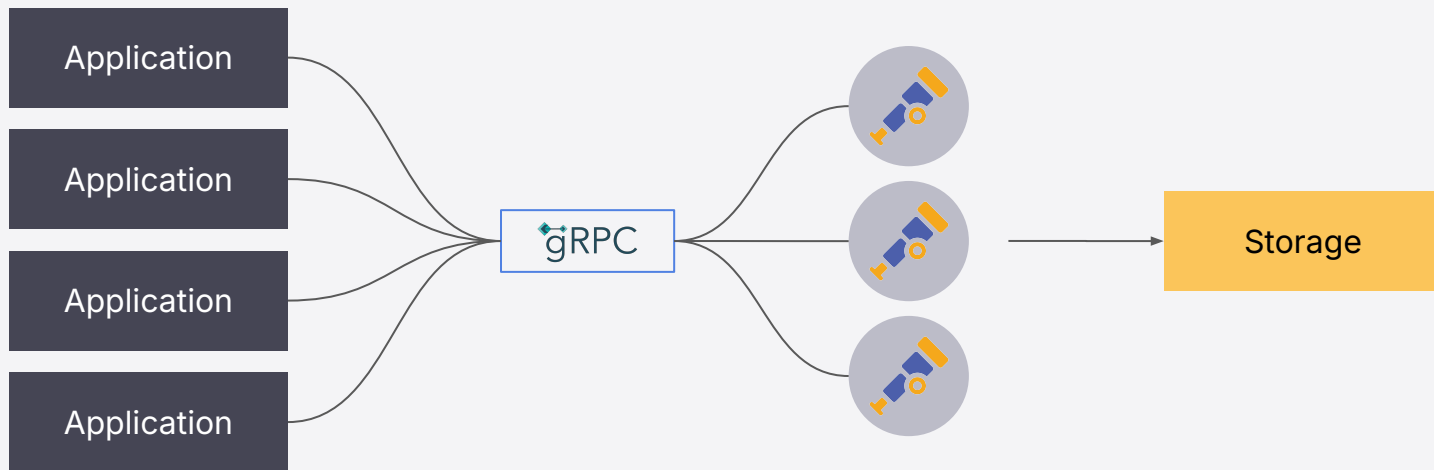
# Scaling Strategies - for metrics/logs/traces

push



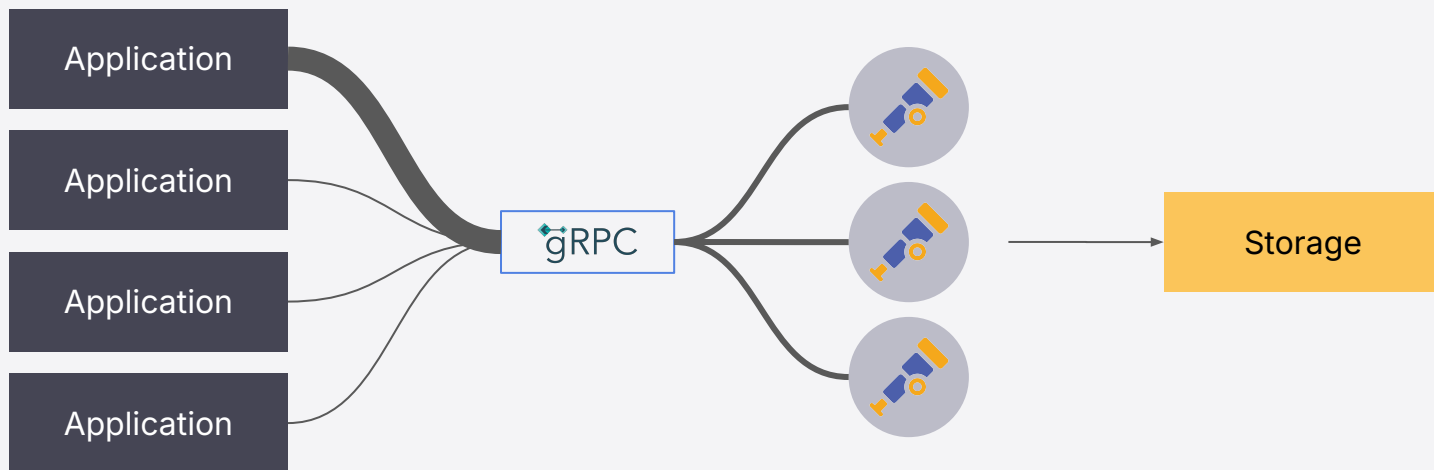
# Scaling Strategies - for metrics/logs/traces

push



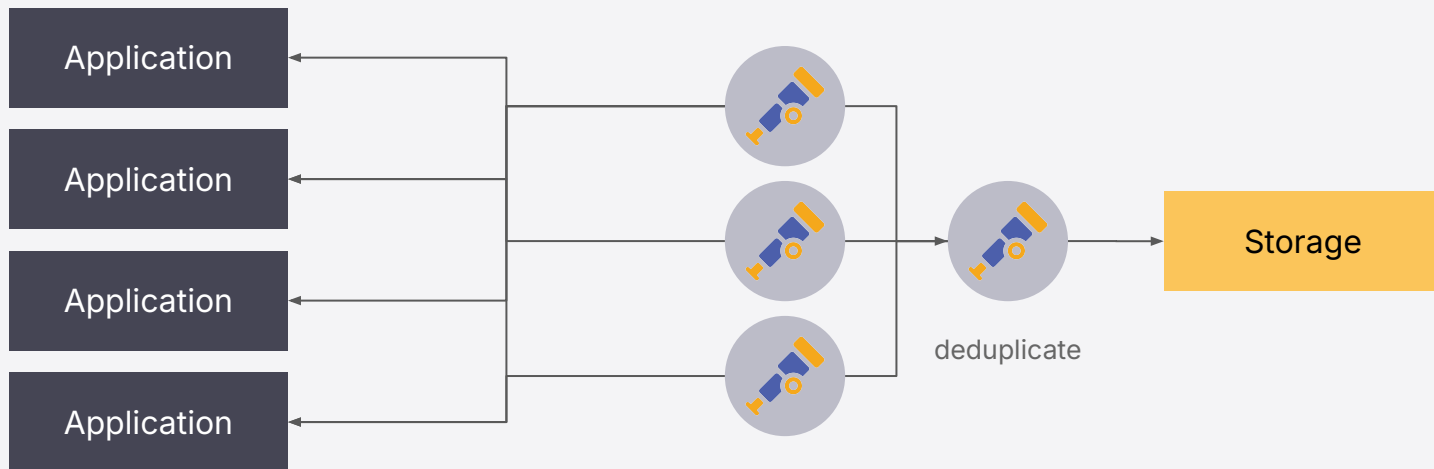
# Scaling Strategies - for metrics/logs/traces

push



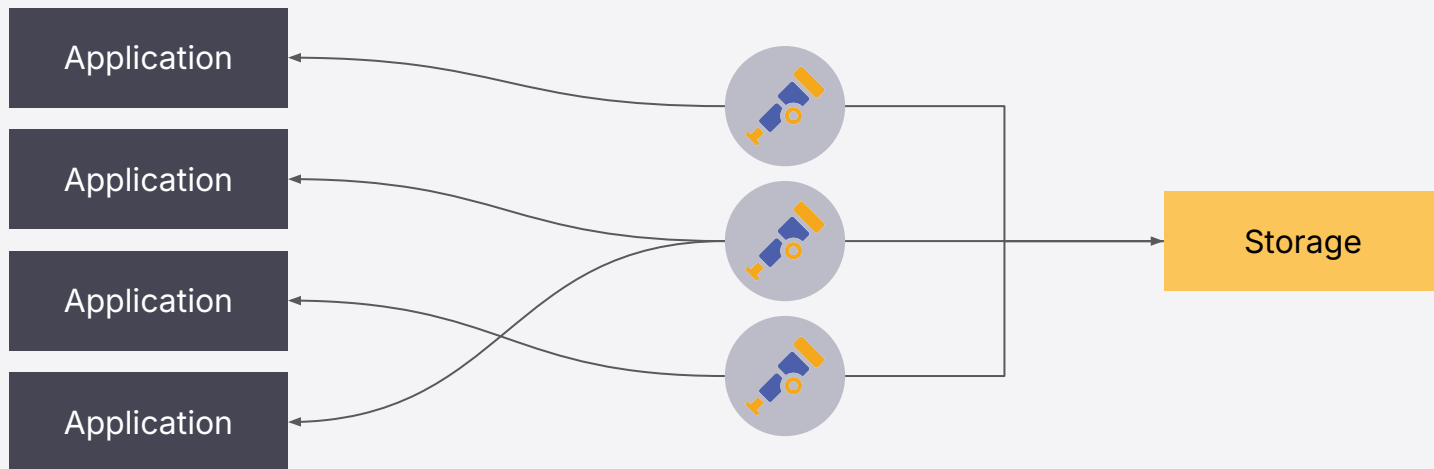
# Scaling Strategies - for metrics

pull



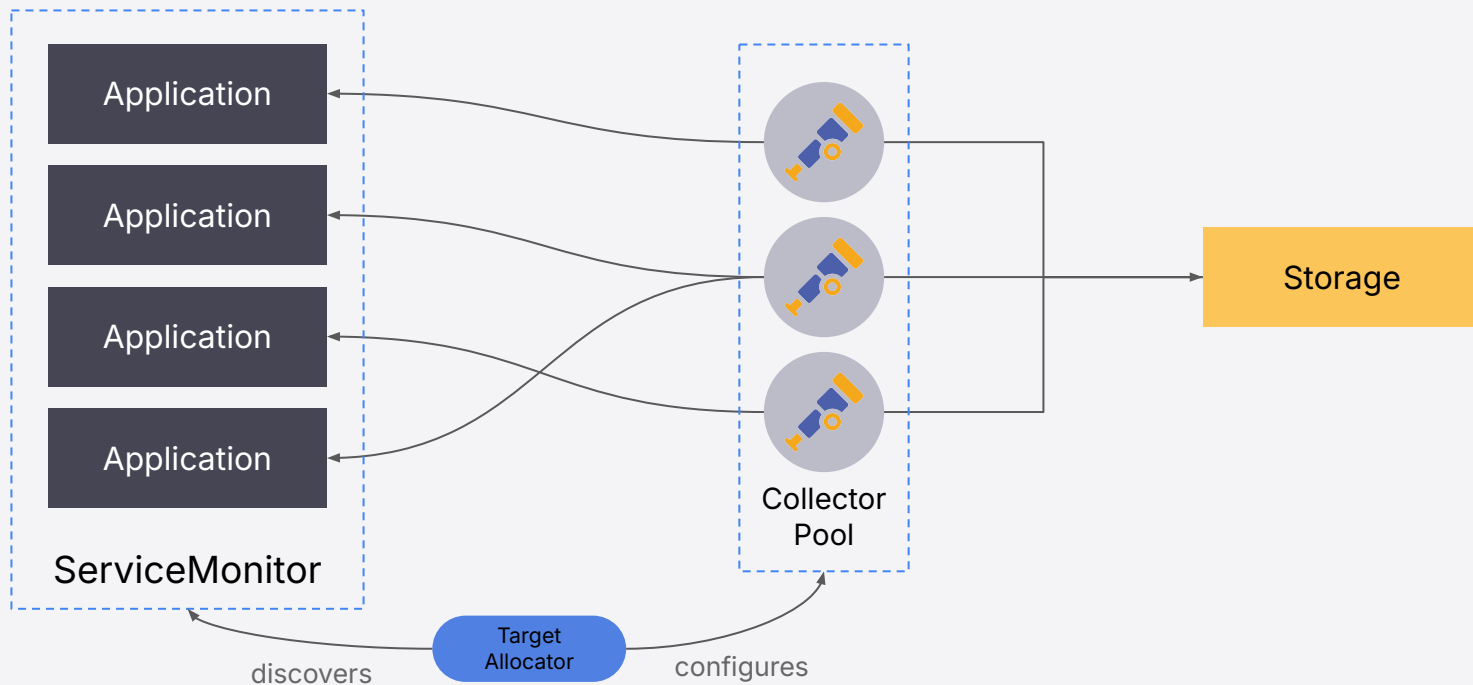
# Scaling Strategies - for logs

pull



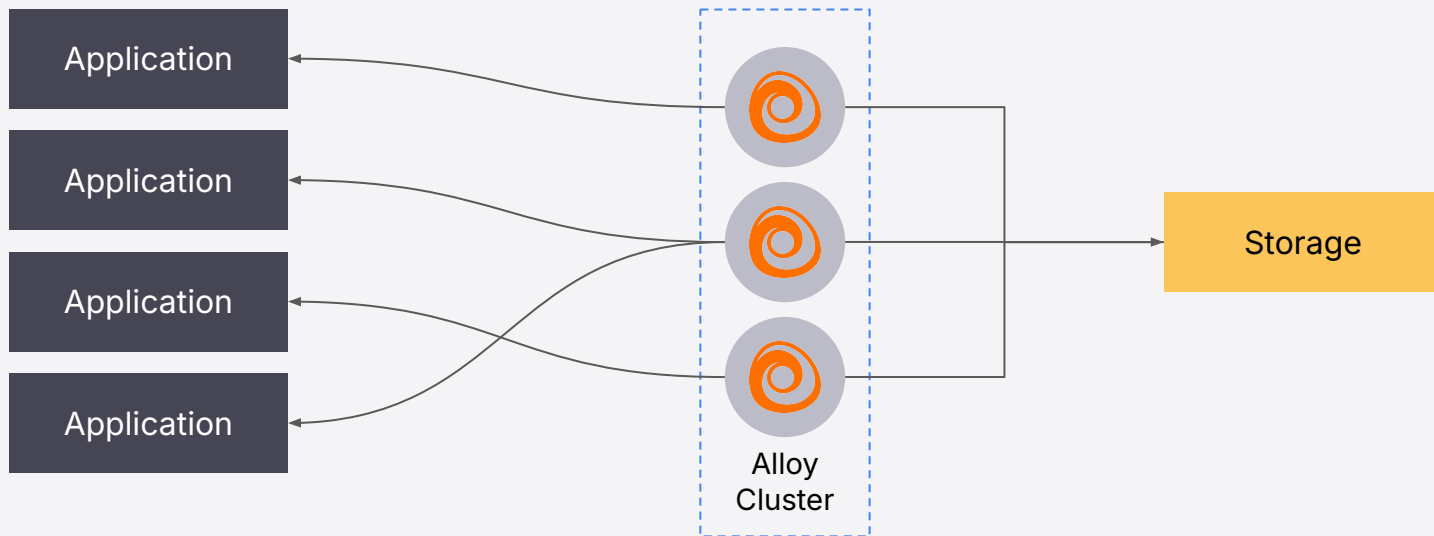
# Scaling Strategies - for metrics

pull



# Scaling Strategies - for metrics

pull



# Recommendations





# Recommendations

## Separate telemetry types

- Node log collection
- Cluster Metrics
- Load Balance Traces

## Chain collectors

- Multitenancy
- Team separation

## Keep consistent

- Avoid excessive conversions
- Establish label conventions

## Instrument early

- Start projects with O11Y in mind
- Focus on traces first



# Thanks for participating!

Have more questions?

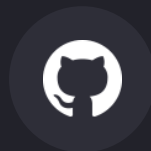
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