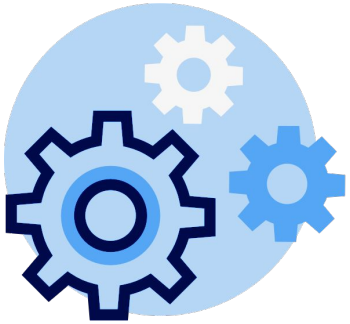
JavaOne 2022



Microservices

Beyond the REST API

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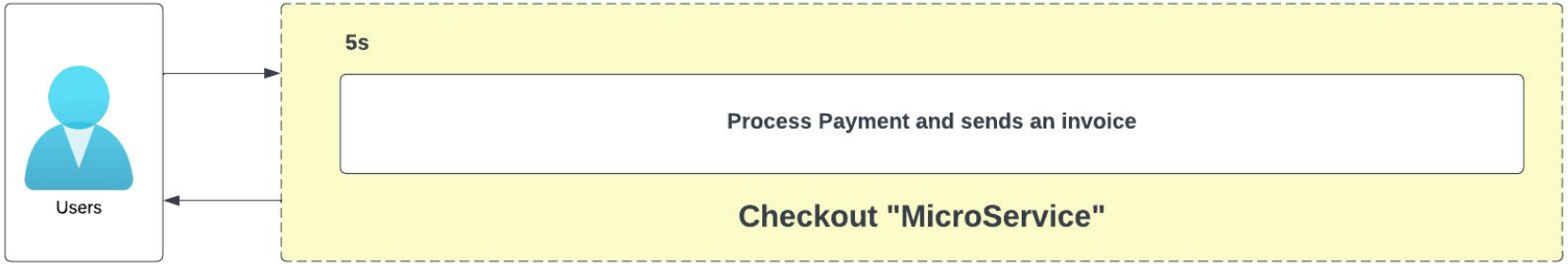
The Problem



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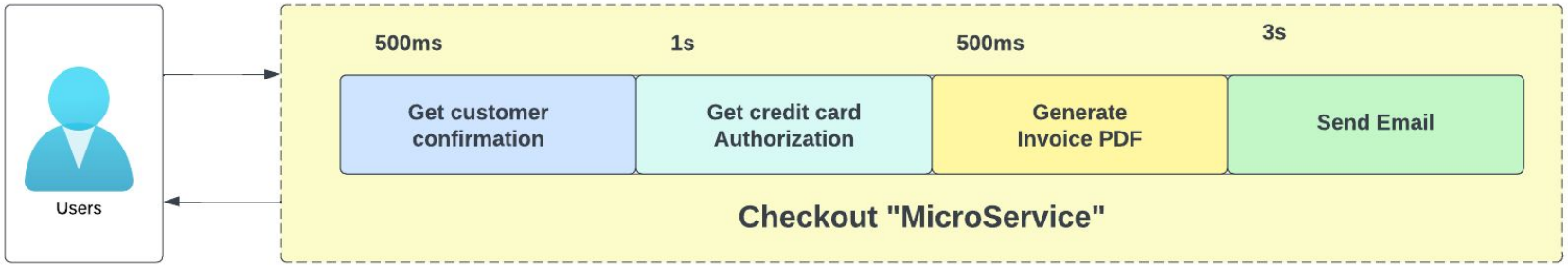
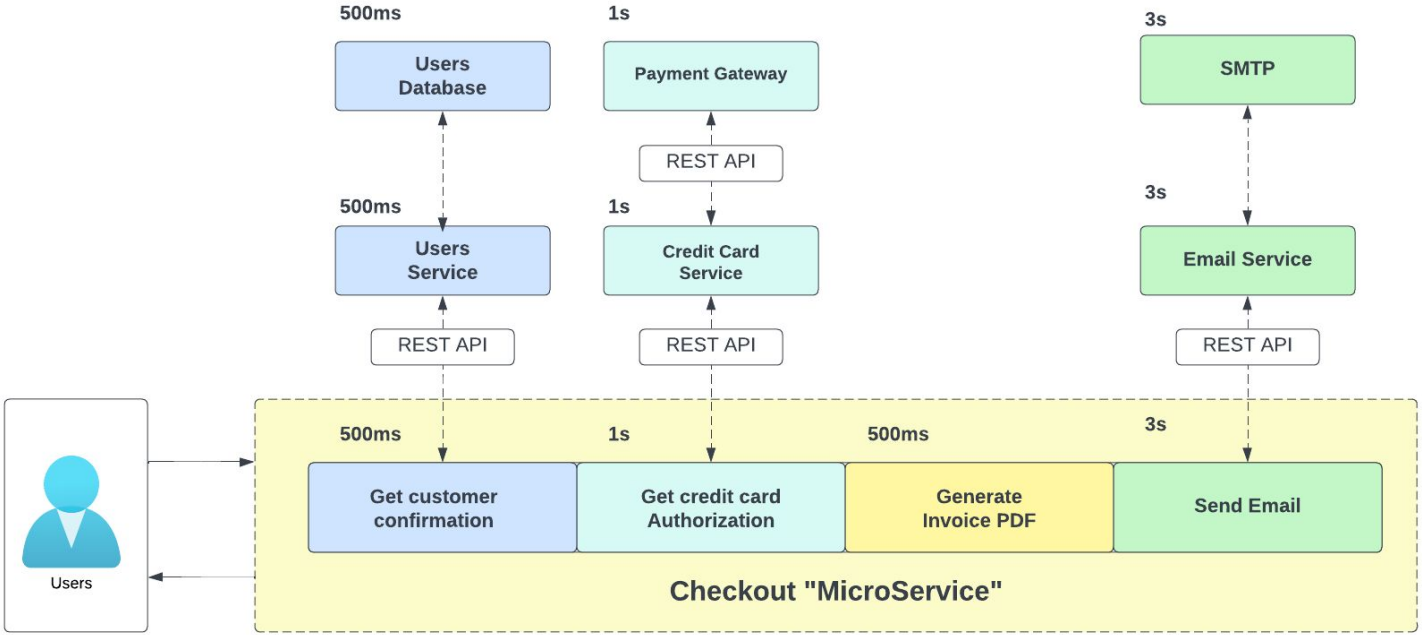
The Problem



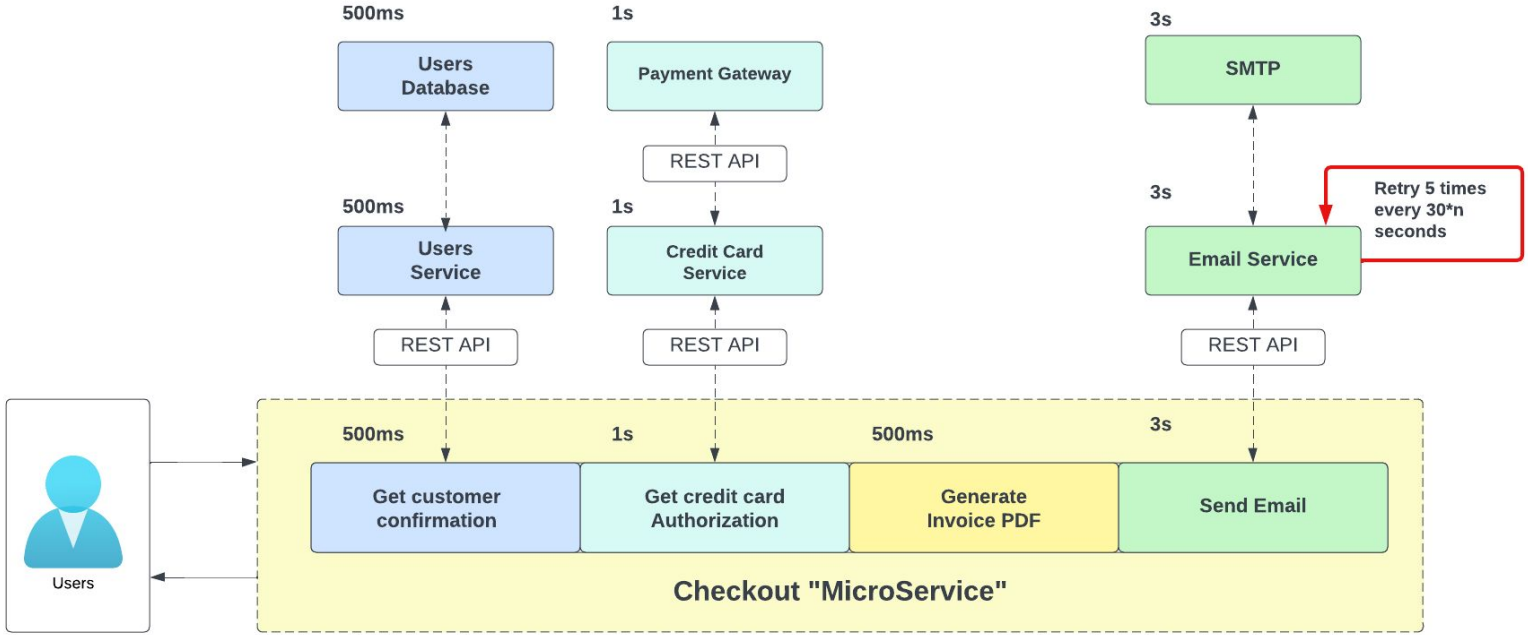
JavaOne 2022

The Problem



JavaOne 2022

The Problem



Chained API Calls are expensive

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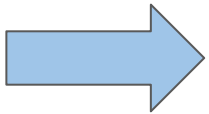
The Solution ?



Don't wait at the phone, send a message instead :)

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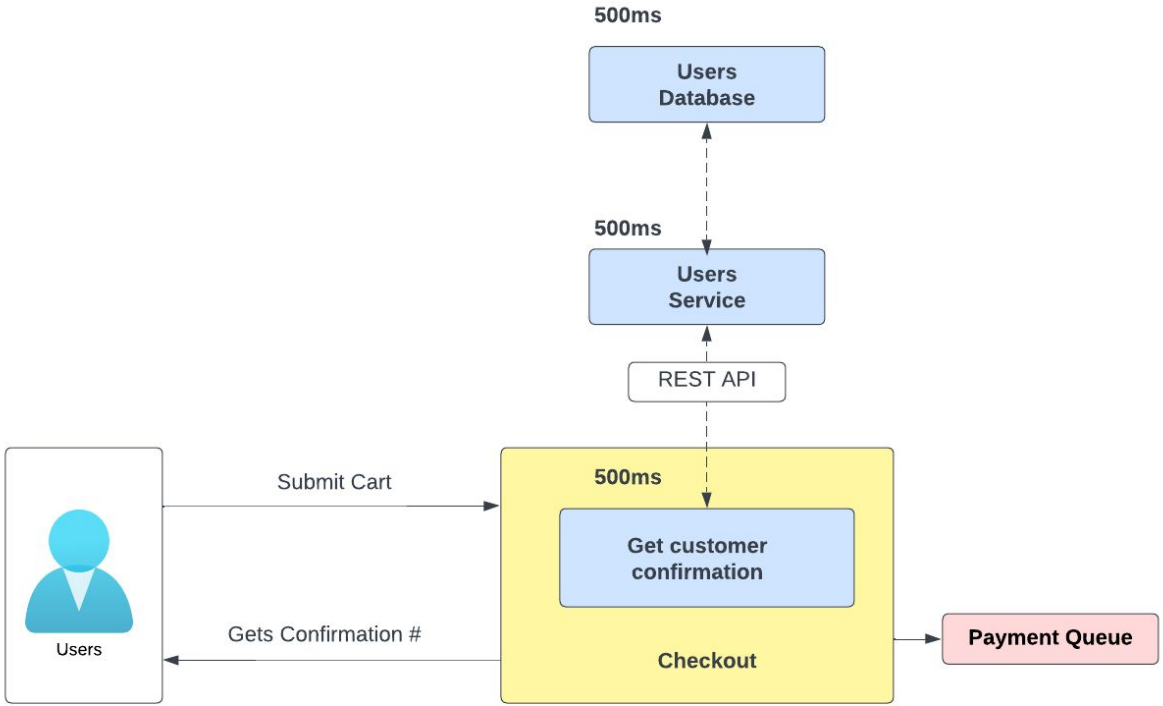
The Solution



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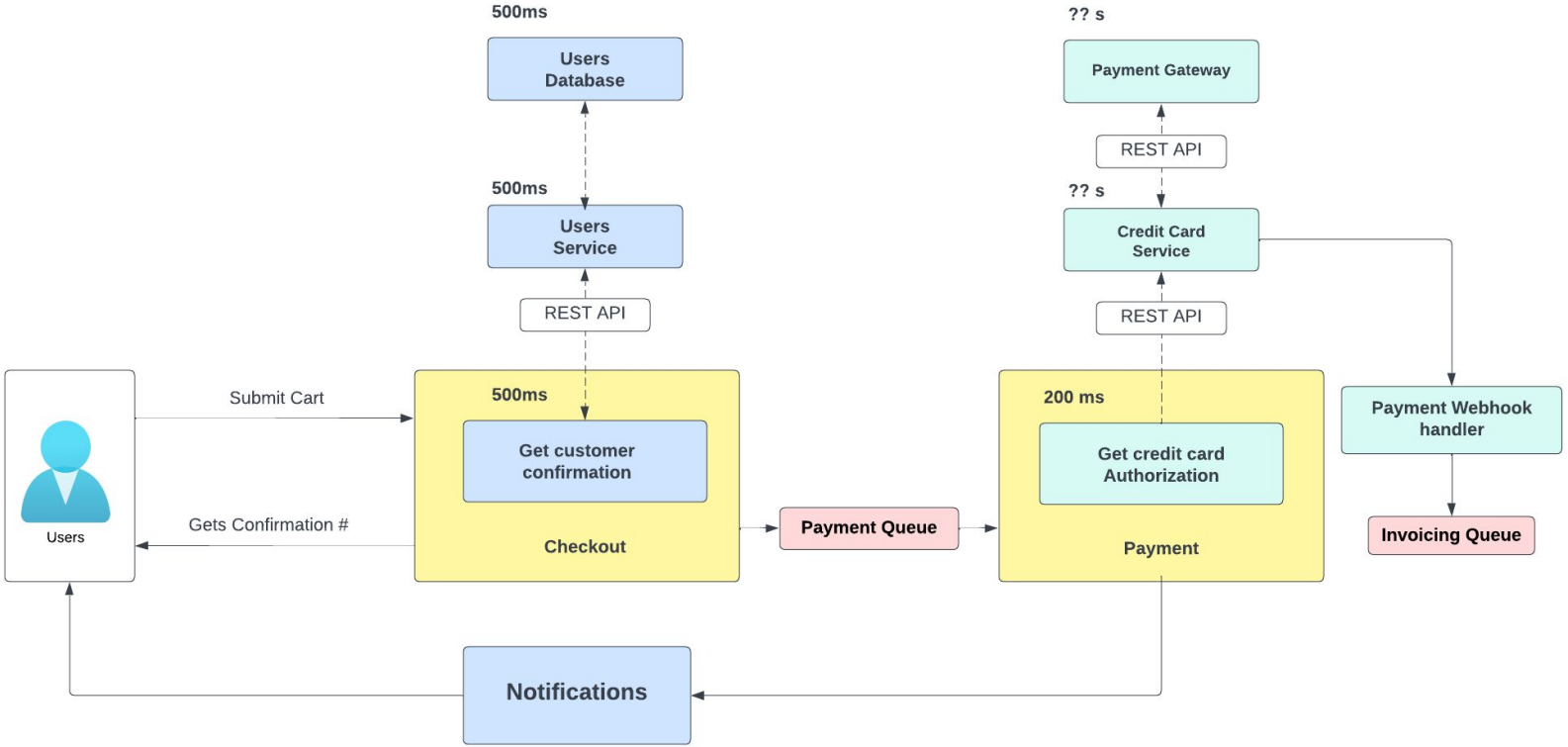
The Solution



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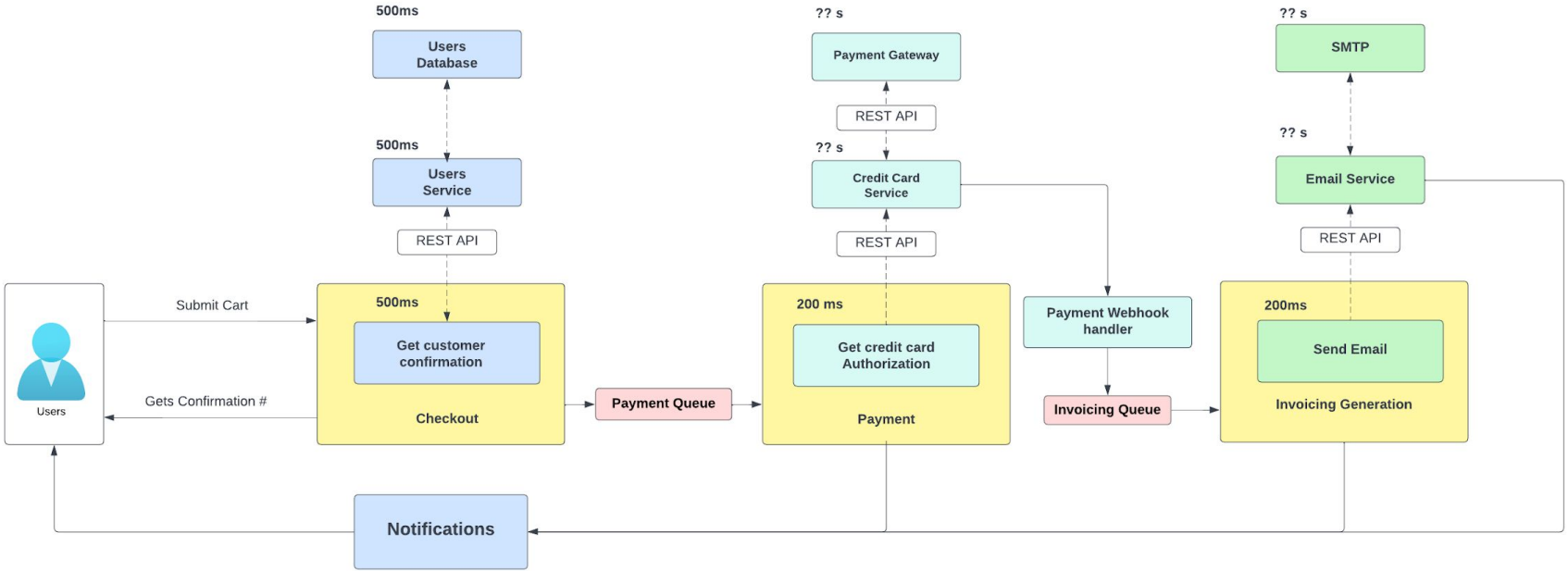
The Solution



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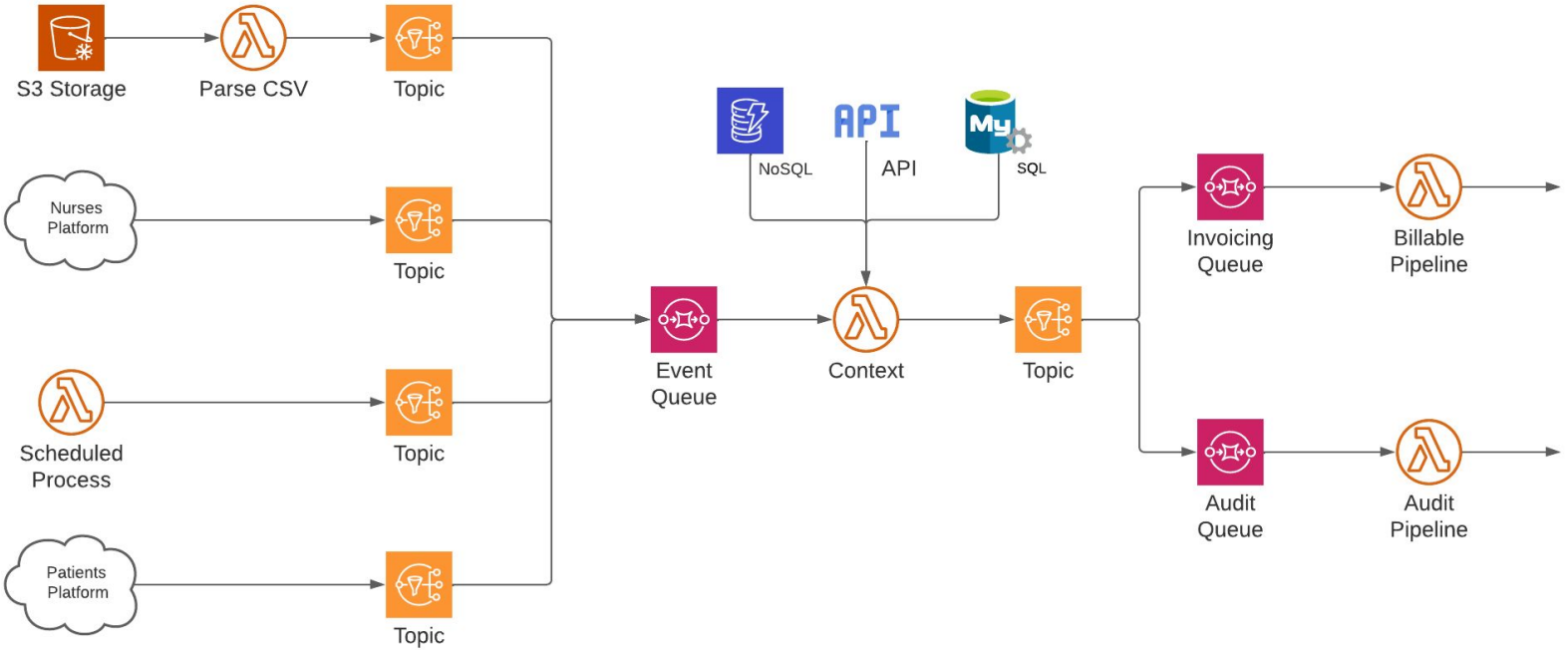
Real World Scenario



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MicroProfile… ?

MicroProfile 5.0

The MicroProfile 5.0 version is now available! This release is mainly focused on updating dependencies from javax to jakarta.

MicroProfile 5.0 Presentation

JavaOne 2022

MicroProfile… ?

MicroProfile 5.0

The MicroProfile 5.0 version is now available! This release is mainly focused on updating dependencies from javax to jakarta.

MicroProfile 5.0 Presentation

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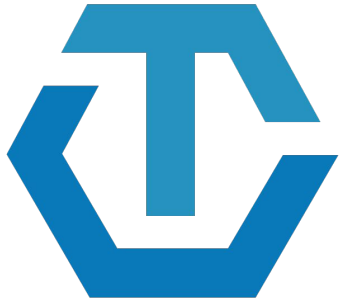
MicroProfile - Open Tracing

```
@Traced
String getMessage() {
    return message.get();
}
```



OPENTRACING

DATADOG

ZIPKIN

JAEGER

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MicroProfile - Useful extra specs

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Quarkus - Reactive Messaging

```
@Channel("quote-requests")
Emitter<String> quoteRequestEmitter;

@POST
@Path("/request")
@Produces(MediaType.TEXT_PLAIN)
public String createRequest() {
    UUID uuid = UUID.randomUUID();
    quoteRequestEmitter.send(uuid.toString());
    return uuid.toString();
}
```

Good to know

- **Event-Driven and CDI based**
- Eclipse MicroProfile Reactive Messaging
- Kafka -e.g. MKS-
- AMQP (RabbitMQ)
- MQTT

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Helidon - LRA

```
@PUT
@Path("/complete")
@Complete
public Response complete(
        @HeaderParam(LRA_HTTP_CONTEXT_HEADER) URI lraId,
        @HeaderParam(LRA_HTTP_PARENT_CONTEXT_HEADER) URI parentLraId
)
```

```
@Compensate
public void compensate(URI lraId)
```

Good to know

- **Coordination of long running activities**
- E.g. -SAGA patterns-
- Eclipse MicroProfile LRA
- JAX-RS compatible but not required

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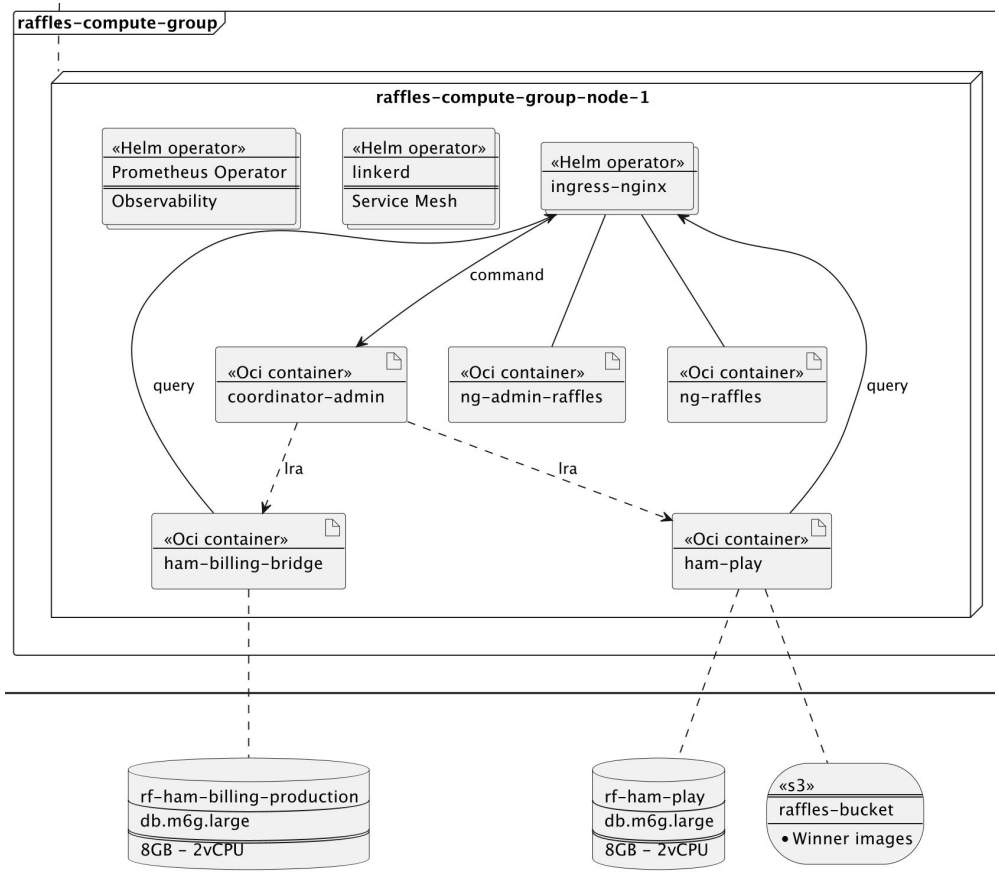
Real World Scenario - LRA



- LRA = SAGA - Orchestration-based
- In the past XA Transactions
- Only if eventual consistency is not an option
- LRA could go through message brokers and queues

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Thank You!

Jorge Cajas

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@tuxtor
Nabenik