Communicating with Pub Sub Messaging

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Module Overview

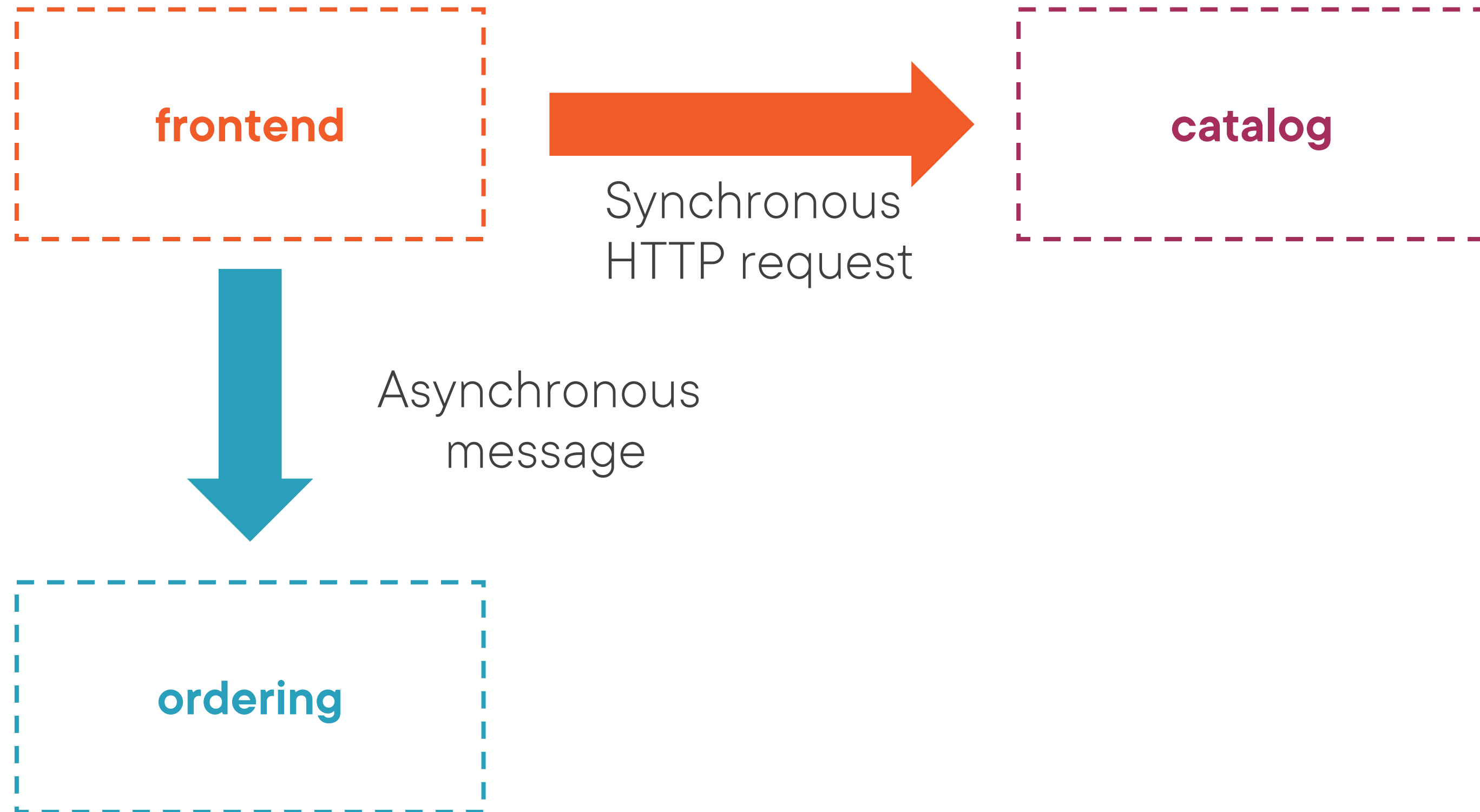Pub sub messaging

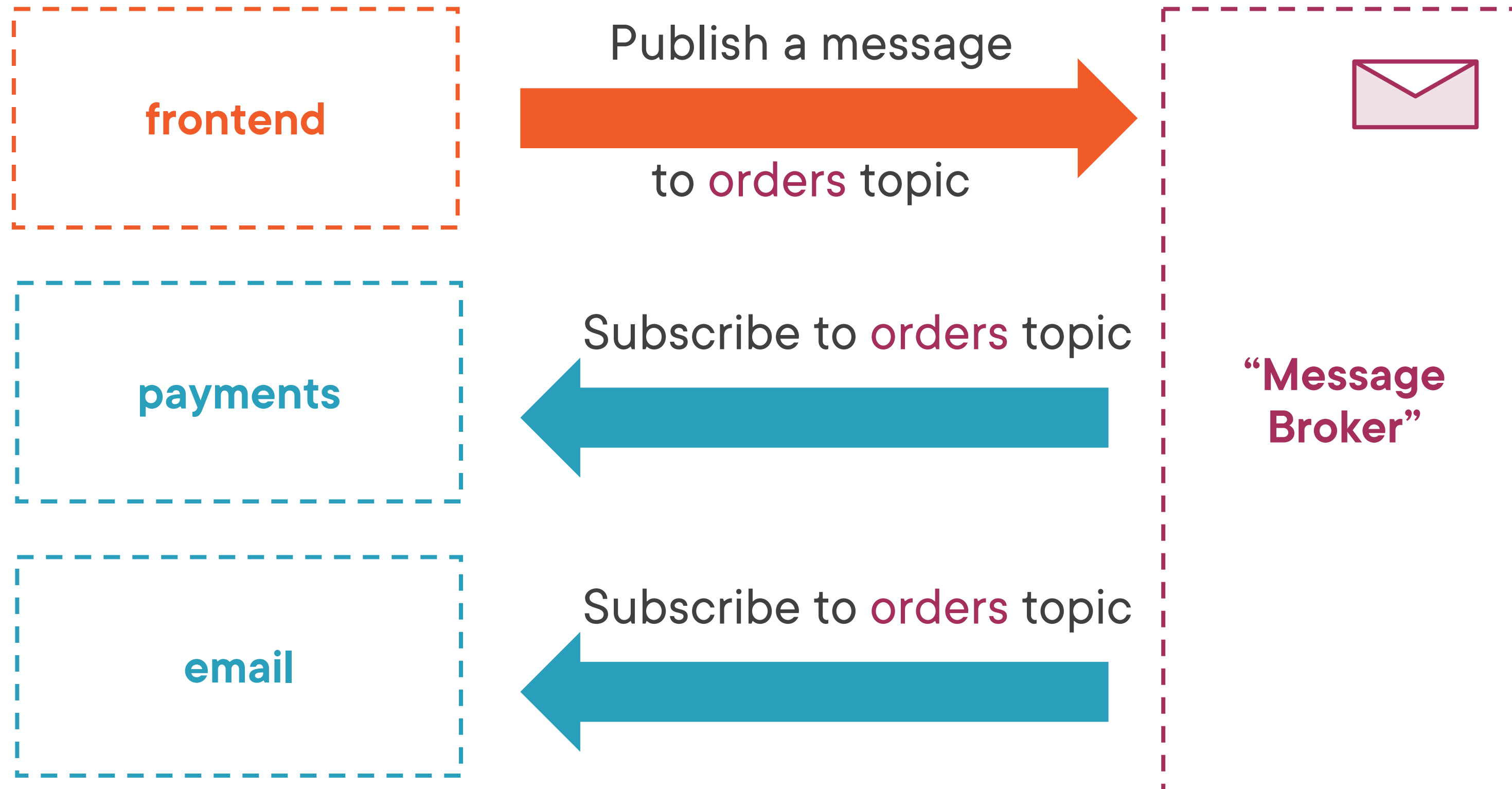Dapr pub sub messaging building block
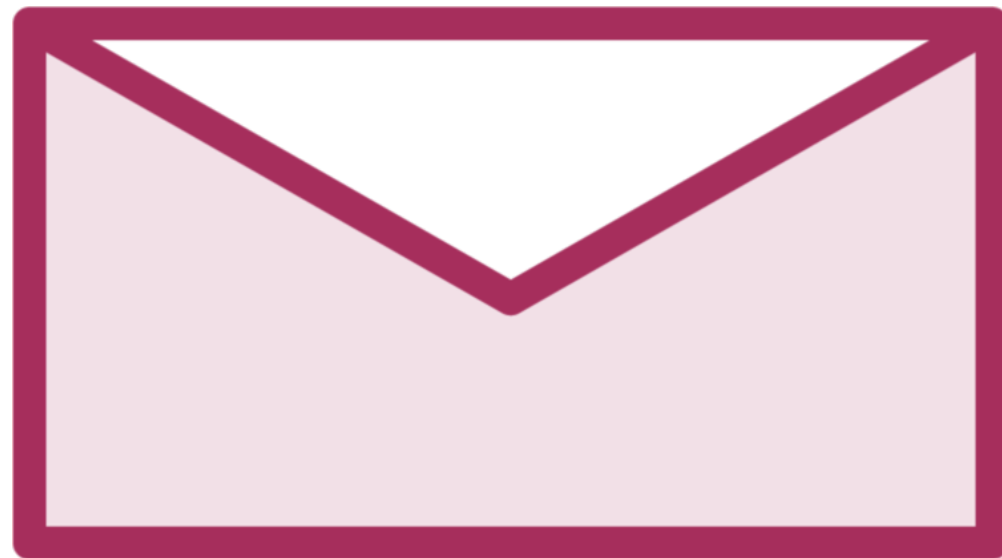
Subscribing to a topic

Using messaging in GloboTicket

Synchronous vs Asynchronous Communications

frontend

Synchronous
HTTP request

catalog

Asynchronous
message

ordering

Message Brokers

Benefits of Pub Sub Messaging

Write "event-driven" code
- Publish "domain events"

Reduce coupling between services
- Publisher doesn't know about subscribers

Scalability
- Scale out to work through backlog

Resilience
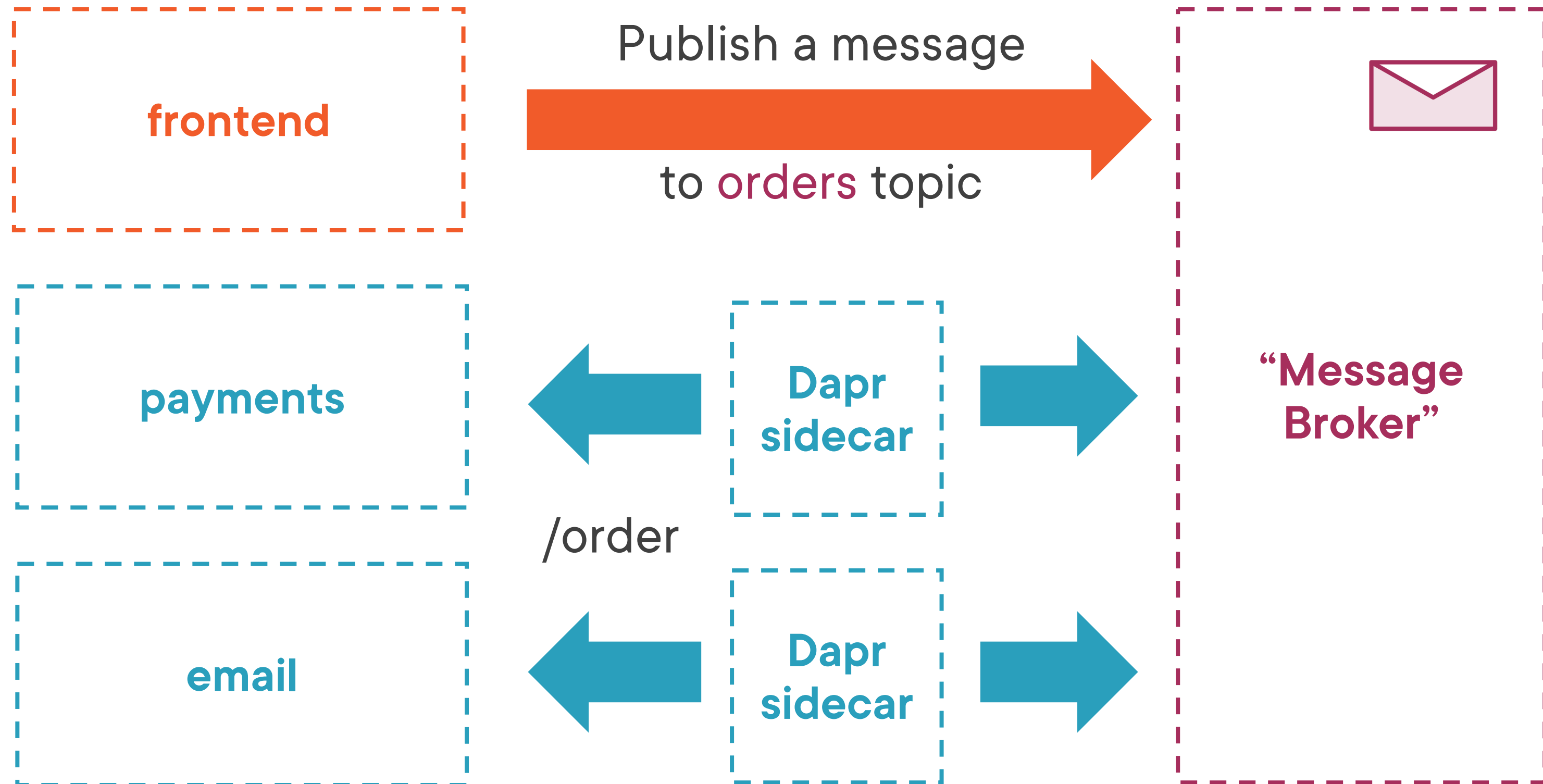- Catch up on missed messages

Publishing Messages with Pub Sub

http://localhost:3500/v1.0/publish/pubsub/order

```
"data": {
   customerEmail: "alice@example.com",
   orderLines: [
     {
        productId: 593212,
        quantity: 2
     }],
}
```

Subscribers

frontend

Publish a message

to **orders** topic

"**Message Broker**"

payments

Dapr sidecar

/order

email

Dapr sidecar

Subscribing to a Topic

Declarative

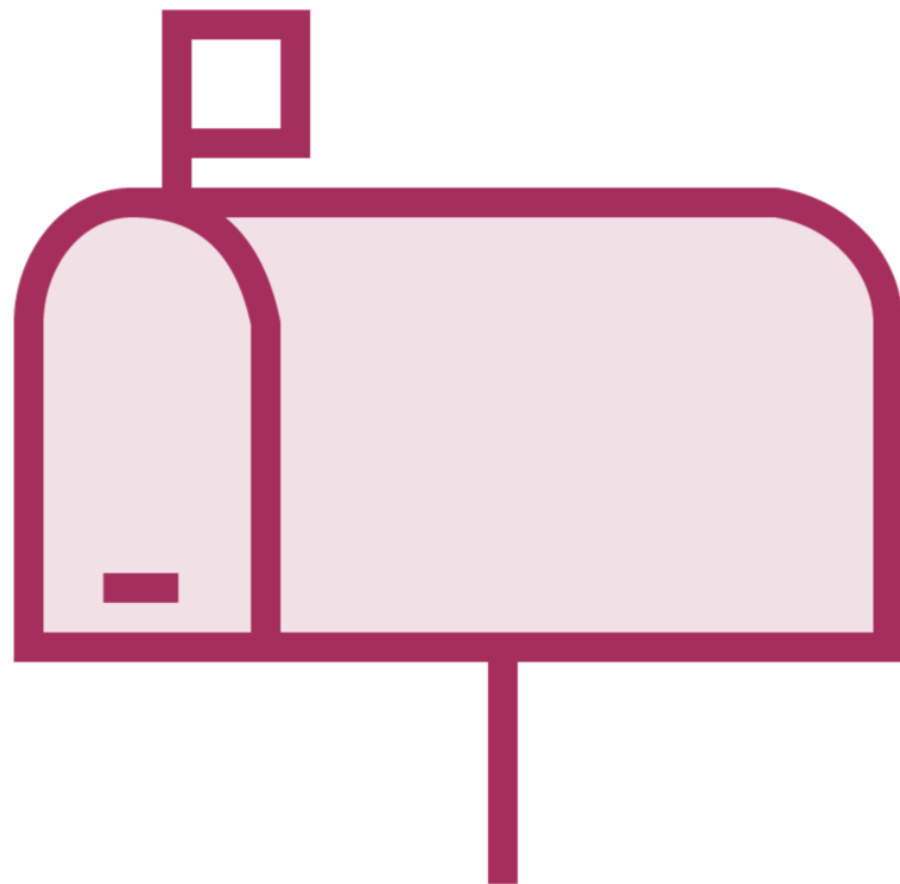**Subscriptions are defined in a YAML configuration file**

Programmatic

Subscriptions are defined in code

Programmatic Subscriptions

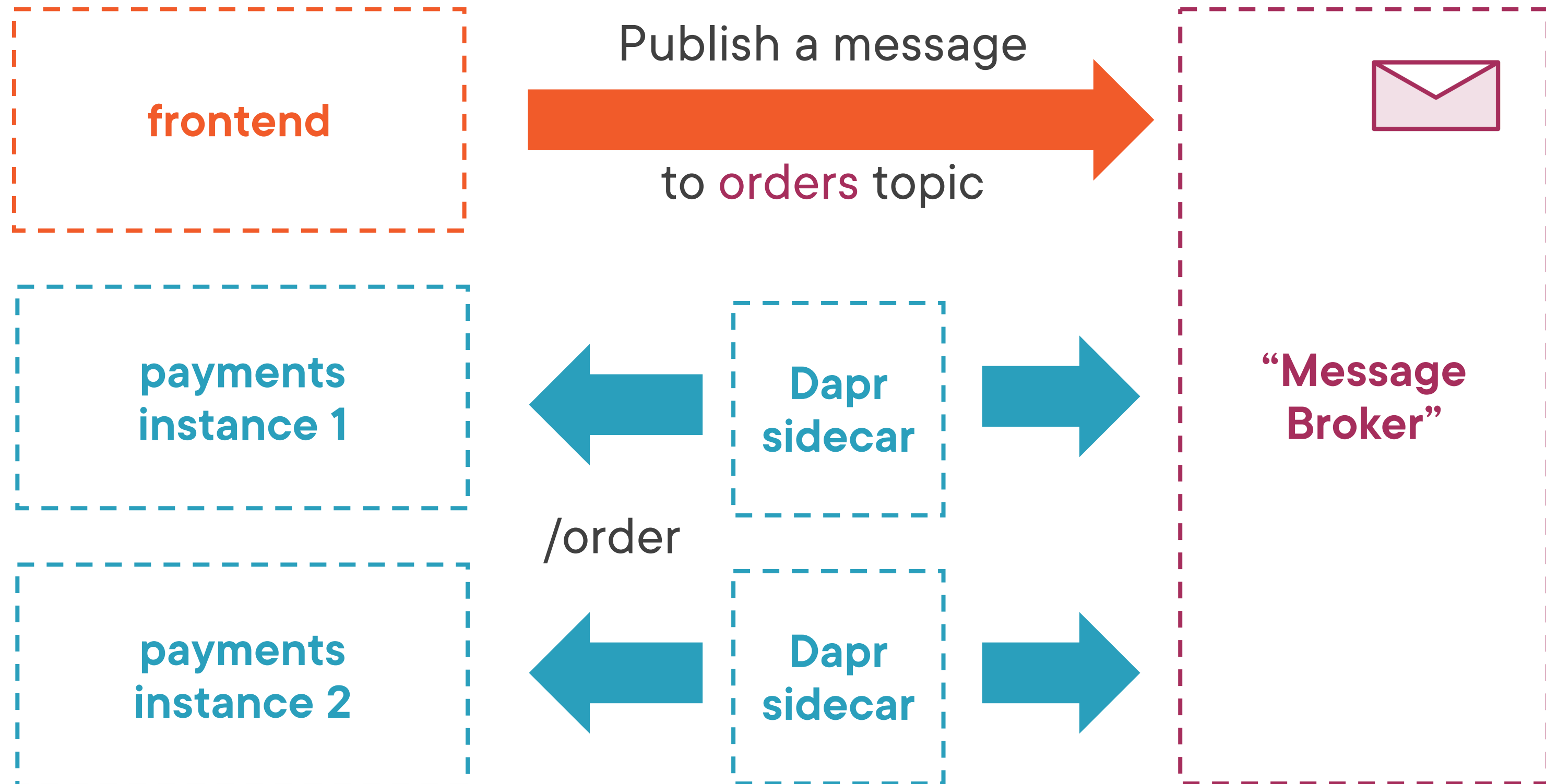**Your microservice reports the topics it wants to subscribe to**

The Dapr sidecar calls /dapr/subscribe

- Returns topics to subscribe to

- And endpoints to receive messages

The Dapr SDKs simplify the process

Competing Consumers

frontend

Publish a message

to orders topic

payments instance 1

Dapr sidecar

"Message Broker"

/order

payments instance 2

Dapr sidecar

Pub Sub Component Definitions

Dapr supports many message brokers

Component configuration YAML file

Demo

Publish a message when a new order is placed

Demo

Subscribing to a topic

- Programmatic subscription using Dapr SDK

Pub Sub Building Block Characteristics

"At least once" delivery

– Each subscriber receives every message at least once

– Write idempotent handlers

Message "time to live" (TTL)

– Discarded if not received after a set duration

Event routing

– Route different message types to separate endpoints

Summary

Dapr pub sub building block

YAML configuration
- Many supported message brokers

Declarative and programmatic subscriptions

Simplify subscriptions with the Dapr SDK

Up Next:
Accessing Secrets Securely