

EnMasse : open sourcing the messaging & IoT

The messaging as a service platform

Paolo Patierno
Senior Software Engineer
Luca Bigotta
Solution Architect
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Messaging-as-a-Service

- Open source cloud messaging running on Kubernetes and OpenShift
- enmasse.io
- github.com/enmasseproject/enmasse



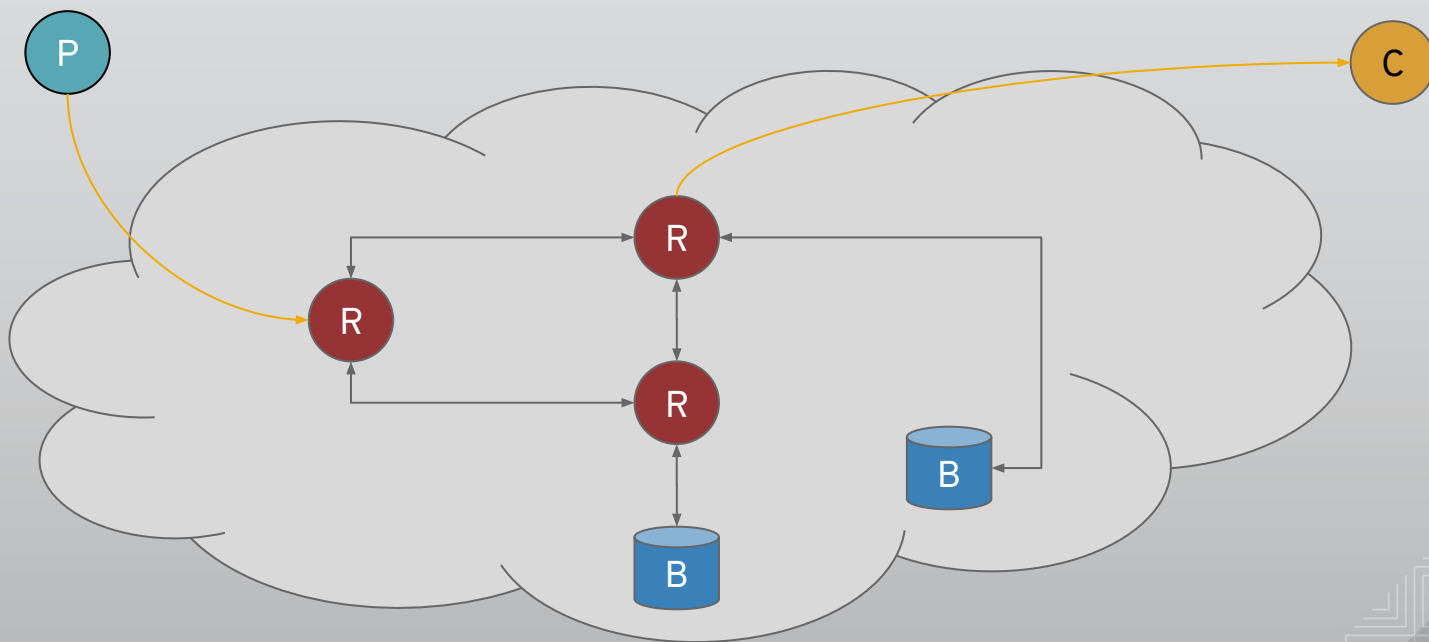
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Features

- Multiple communication patterns: **request/response**, **publish/subscribe** and **competing consumers**
- Support for “**store and forward**” and **direct** messaging mechanisms
- **Scale** and **elasticity** of message brokers
- **AMQP 1.0** and **MQTT** support
- Simple **setup**, **management** and **monitoring**
- **Multitenancy**: manage multiple independent instances
- Deploy “**on premise**” or in the **cloud**

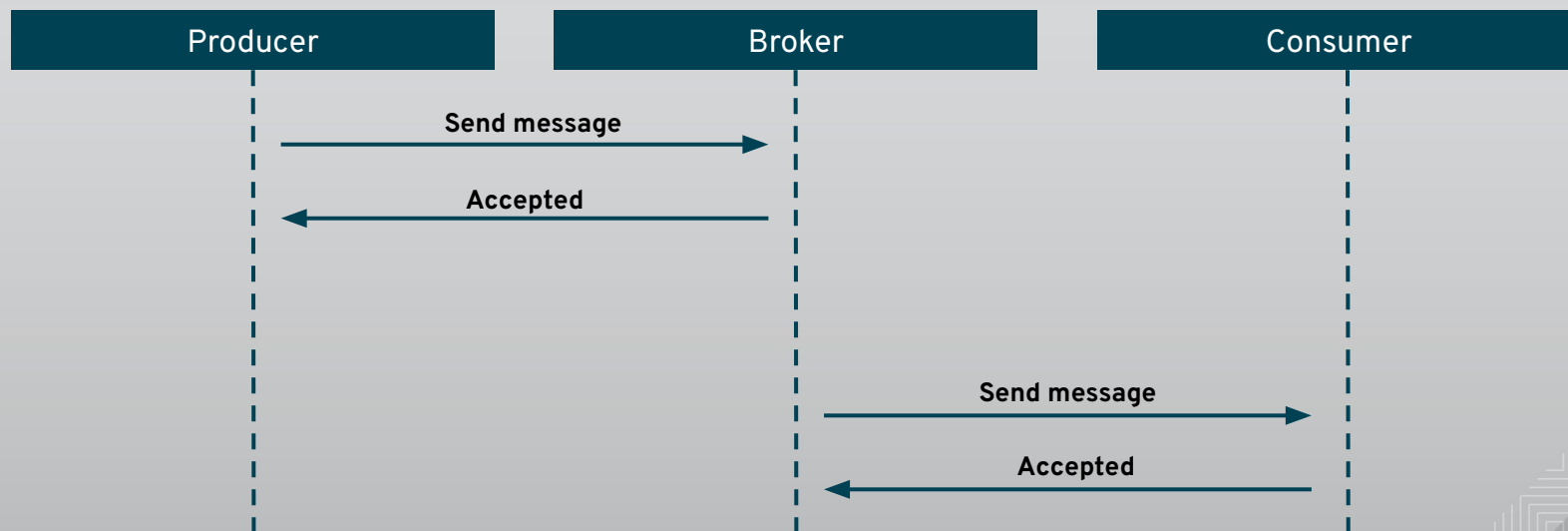
Basic idea

Routers and brokers



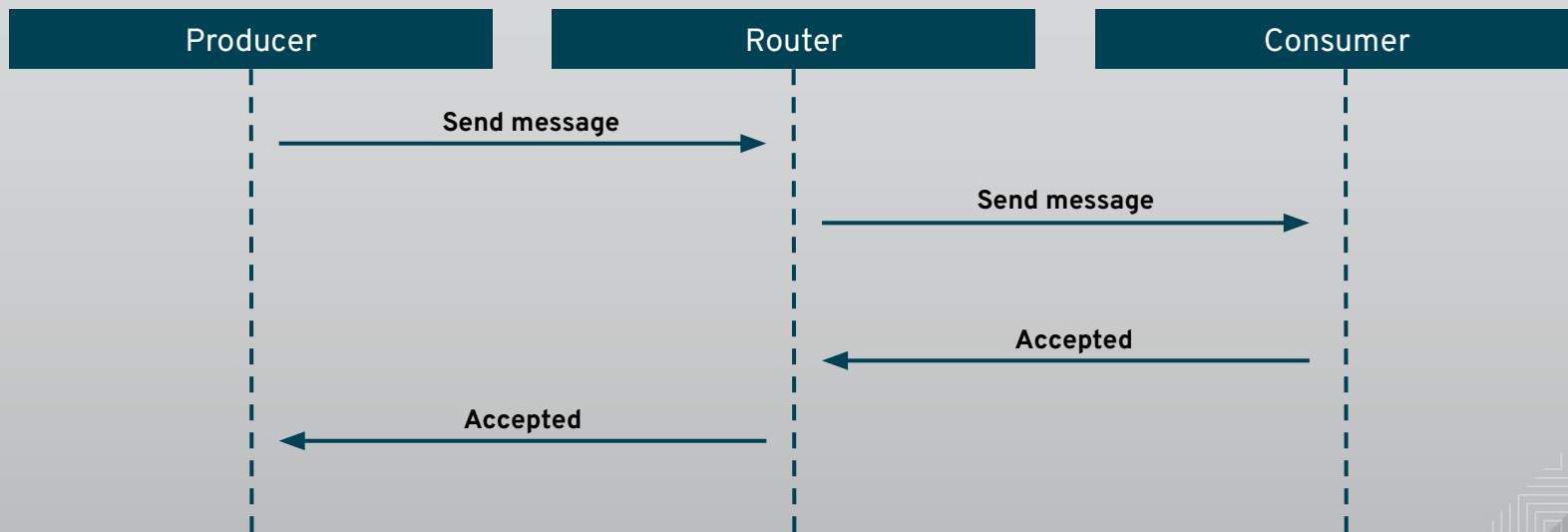
Routing vs Brokering

Broker



Routing vs Brokering

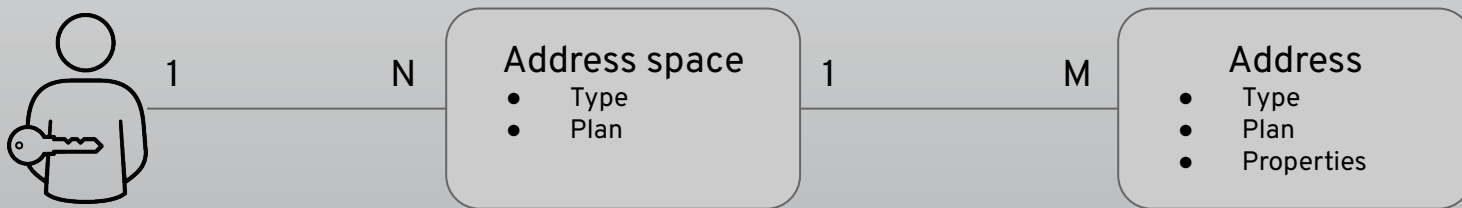
Router



Address model

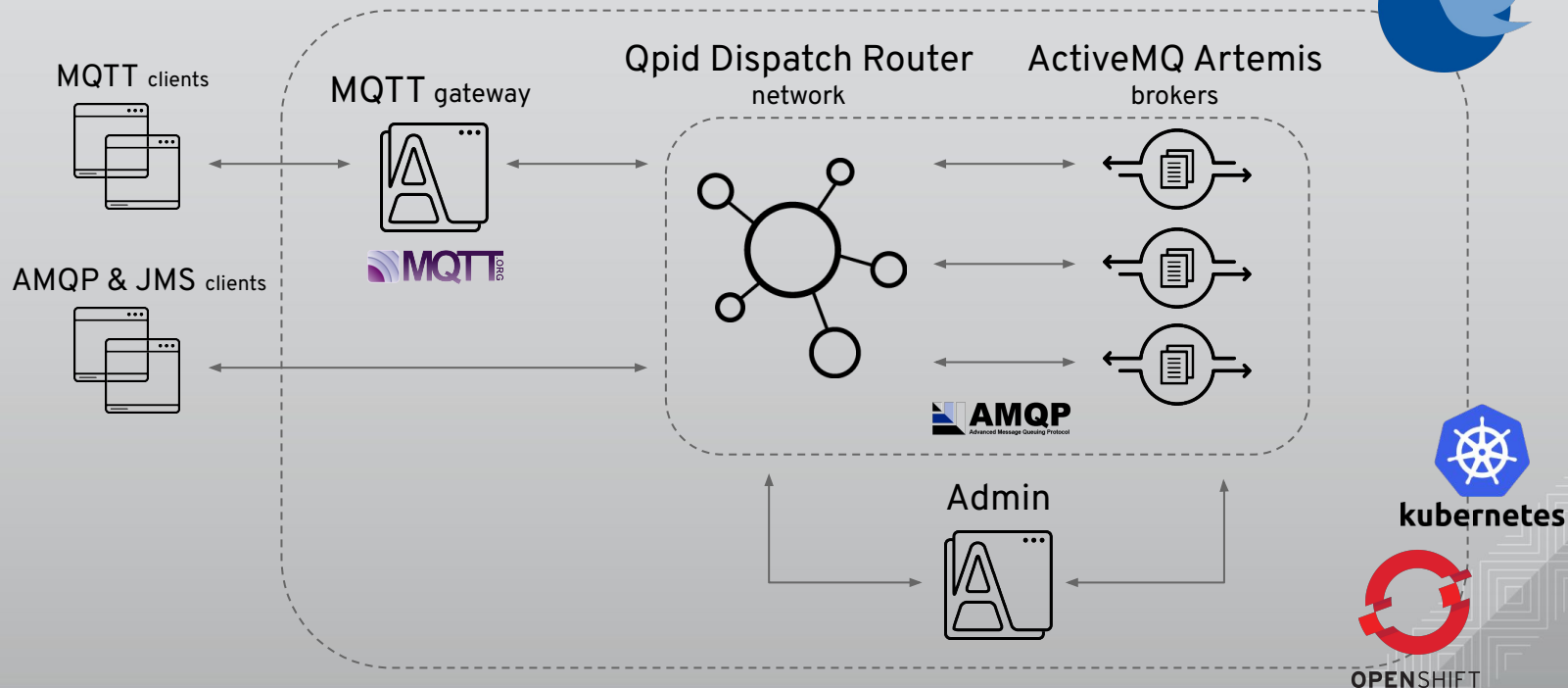
Spaces and Addresses

- **Address space** : group of addresses accessible through a single connection (per protocol)
- **Address** : a destination used for sending and receiving messages



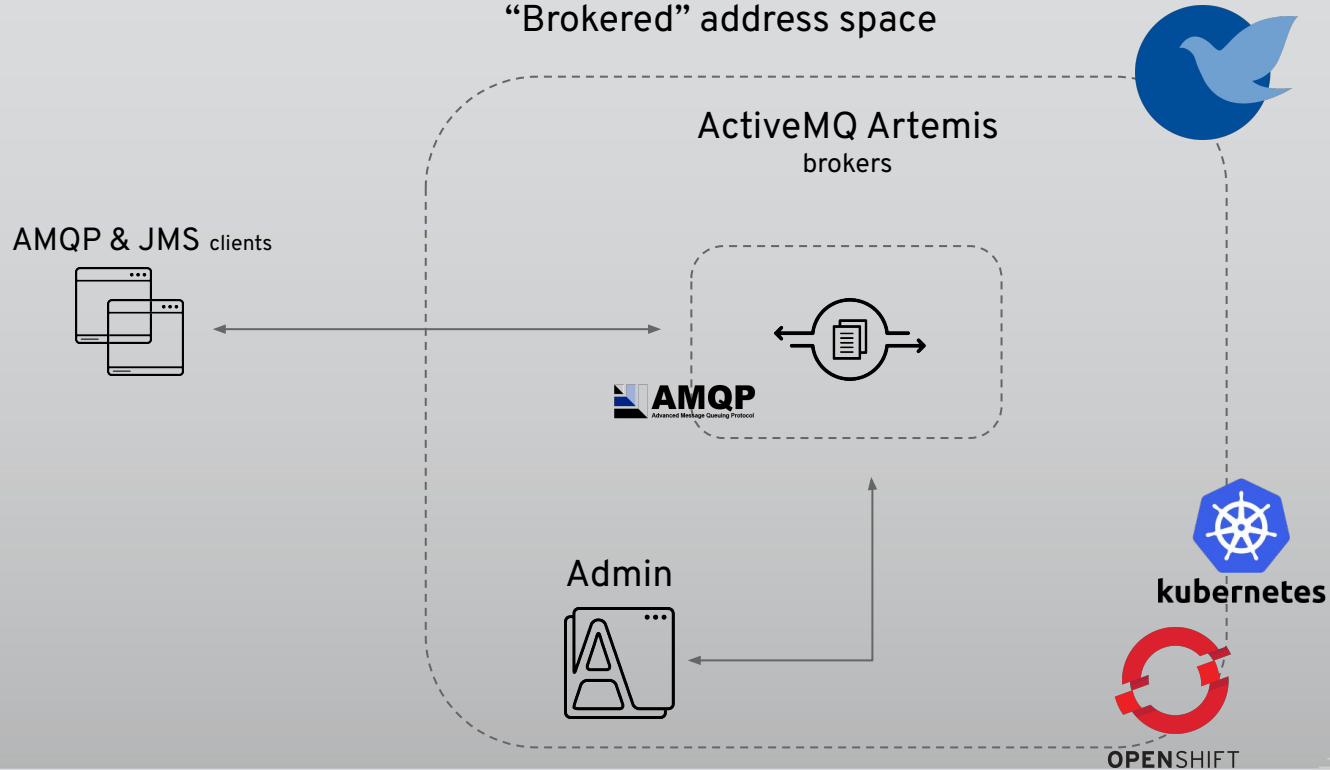
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Architecture - “Standard” address space



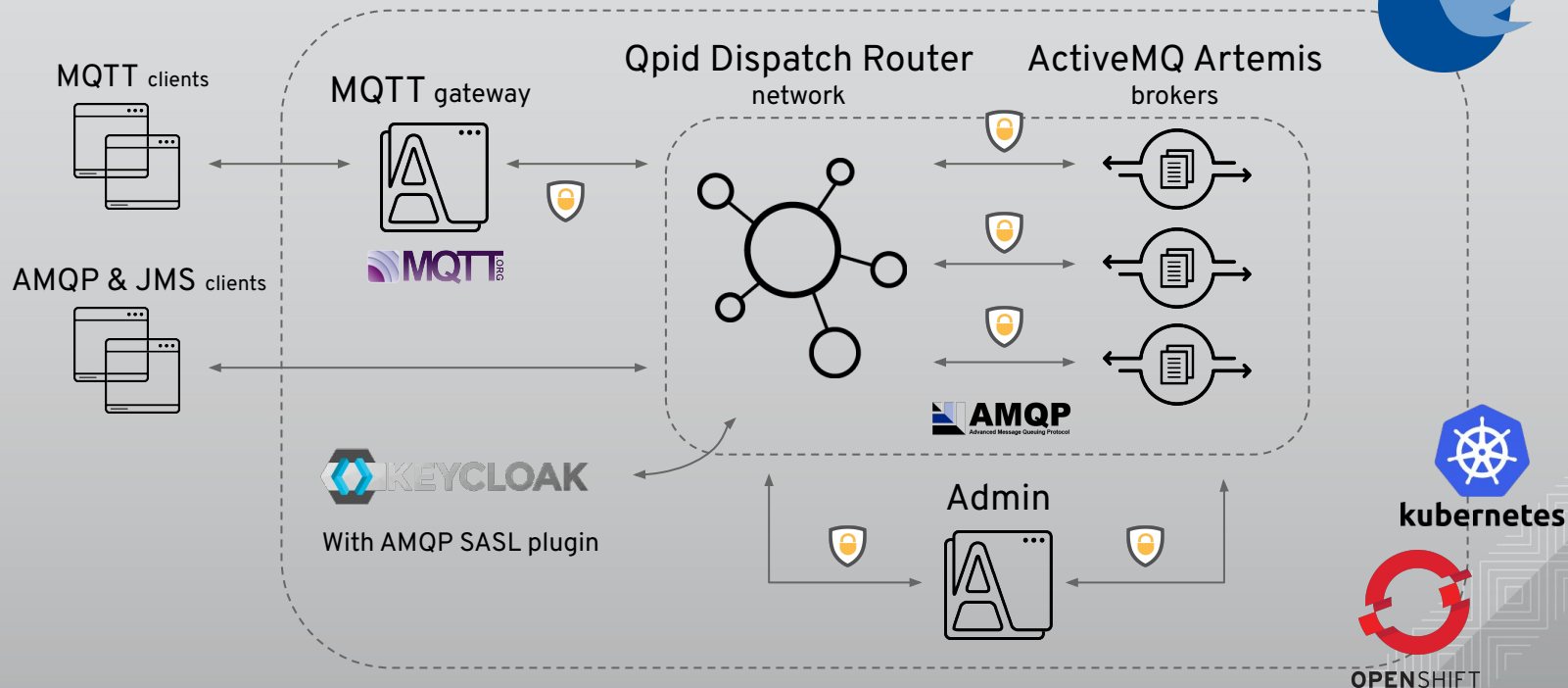
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“Brokered” address space



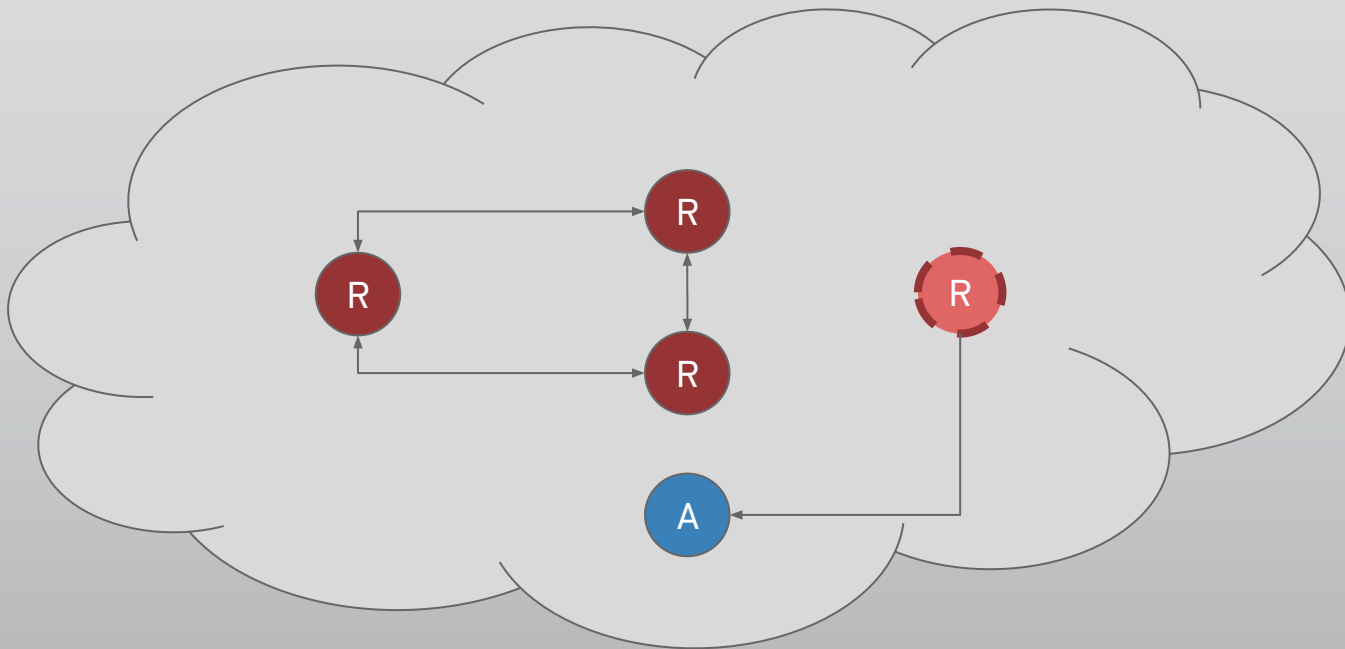
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Security



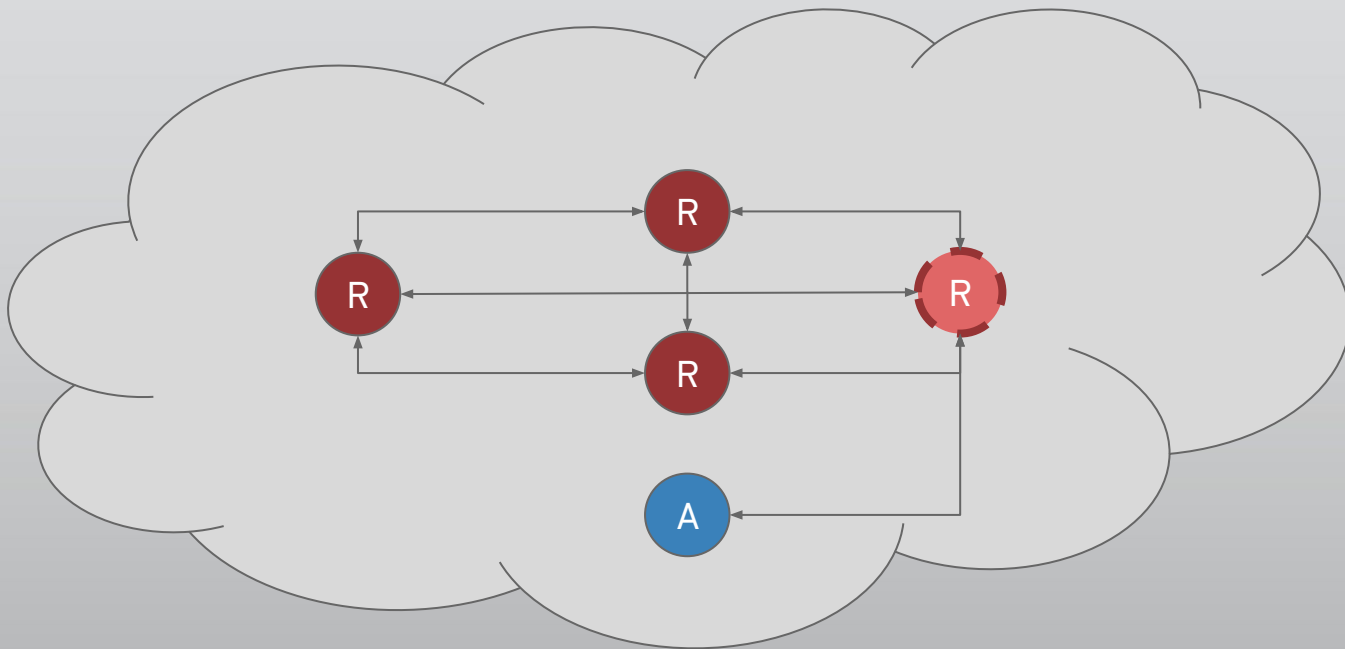
Scaling

Routers



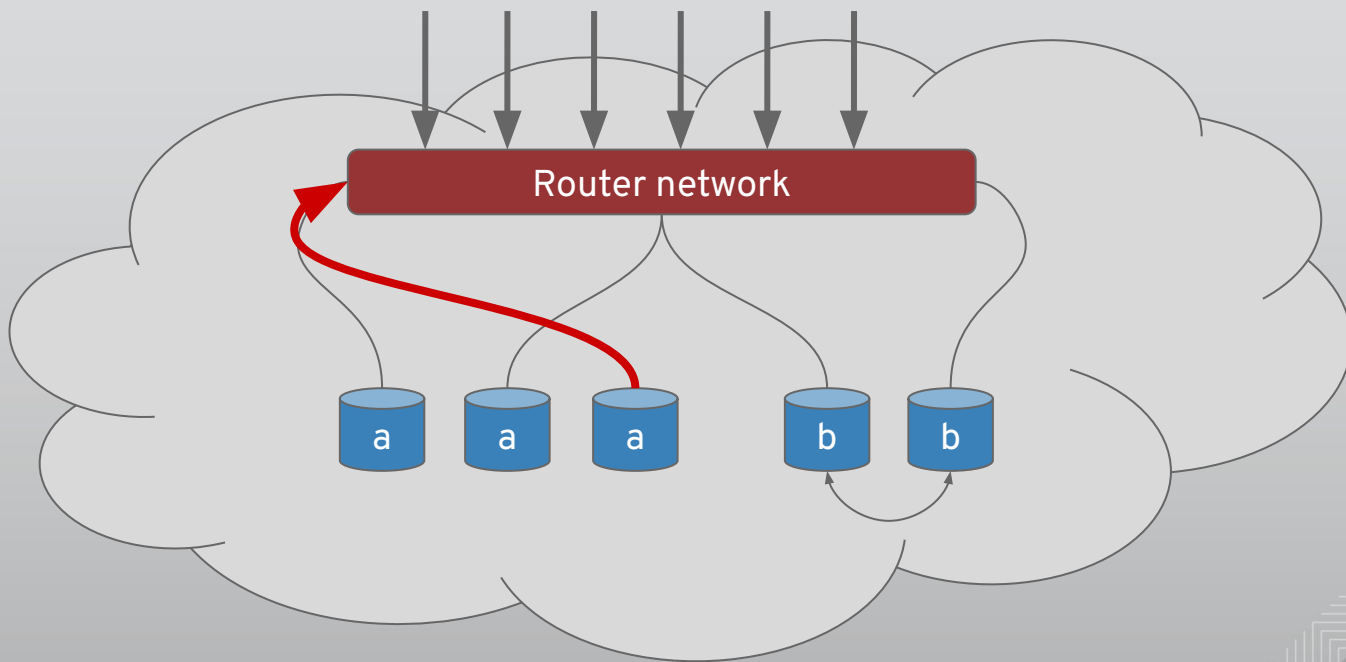
Scaling

Routers



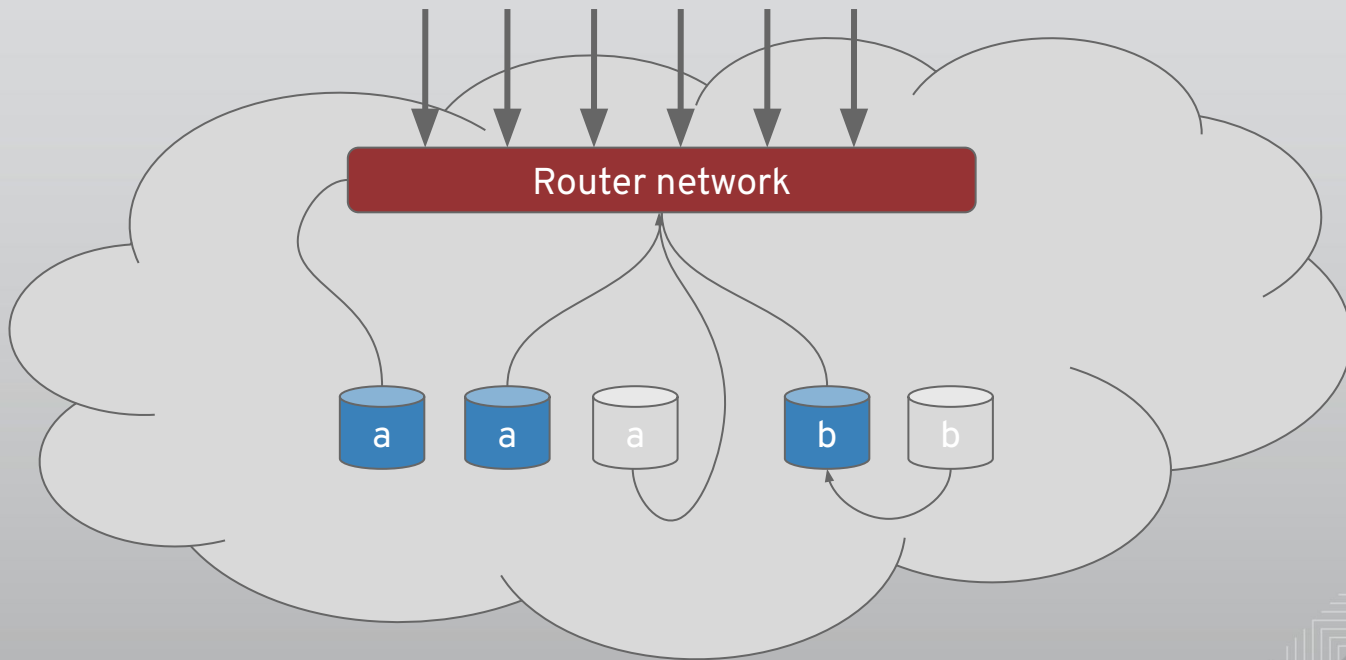
Scaling

Brokers



Scaling

Brokers



MQTT over AMQP

- **MQTT gateway**
 - Handles connections with remote MQTT clients
 - Bridges MQTT - AMQP protocols
- **MQTT lwt**
 - Provides the “will testament” feature
 - In charge to recover & send the “will” if client dies
- It brings **MQTT features over AMQP** so ...
 - ... it’s not just about translating and bridging protocols ...
 - ... “will testament” works for AMQP clients as well



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Future work

- HTTP(S) support
- Bridging address spaces
- Kafka integration
 - as part of the “standard” address space (i.e. one AMQP connection for multiple destinations, even a Kafka topic)
 - as “kafka” address space (accessible through native Kafka clients)
- Improve Kubernetes support
 - RBAC
 - CI (only for OpenShift at present)
 - ingress (with better support for TLS SNI)
- Integrate better with [Eclipse Hono](#)
 - provides interface and API (telemetry, event, ...) for connecting IoT devices



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