APACHECON
ASIA 2021

Incubator

EventMesh : Event-Driven Distributed Application Runtime

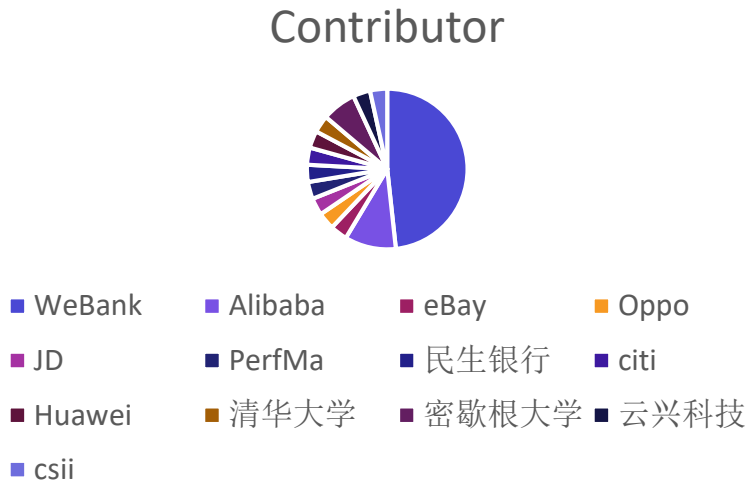
Guangsheng Chen

Specialist of WeBank

Introduction

Community

- Entry incubator at 2021.2.18



Guangsheng Chen

- Specialist of WeBank
- Founder of Apache EventMesh
- TSC of Linux OpenMessaging
- Committer of Apache RocketMQ
- GSoc

Agenda

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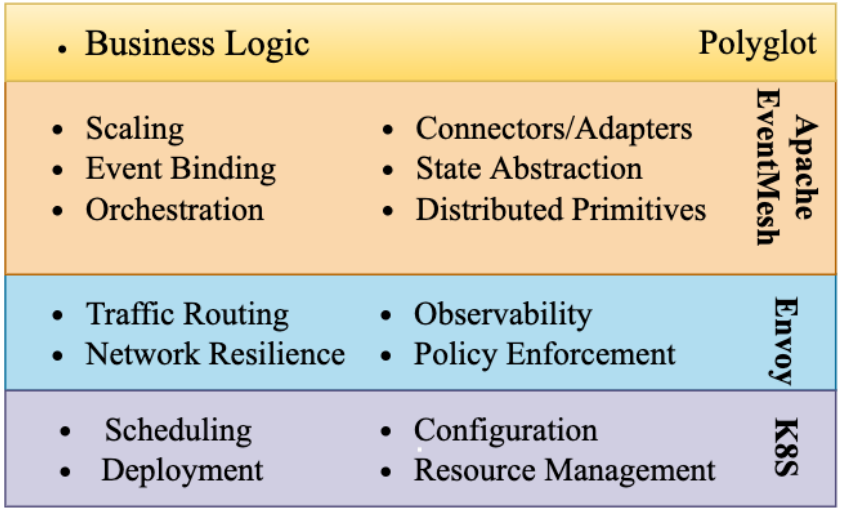
What is EventMesh

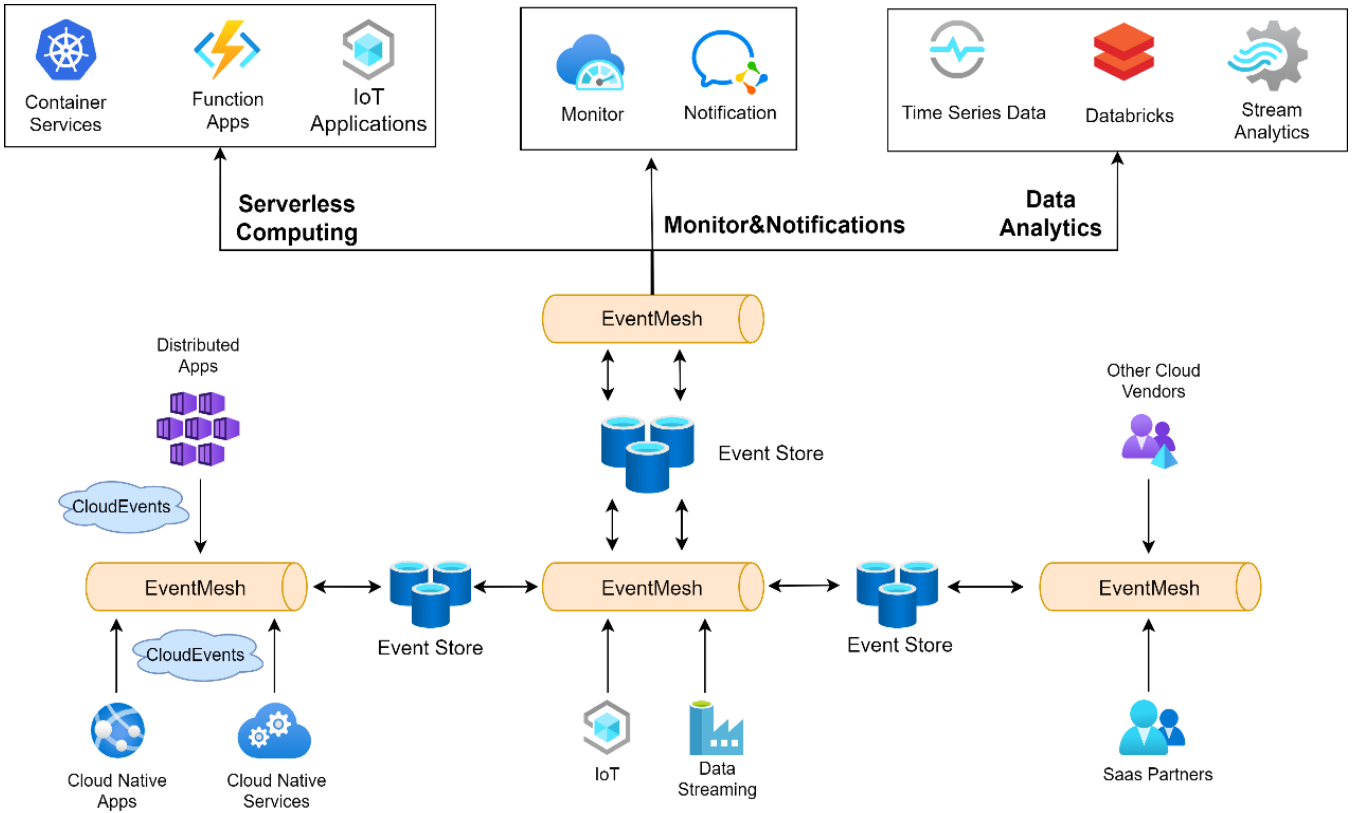
EventMesh(incubating) is a dynamic cloud-native eventing infrastruture used to decouple the application and backend middleware layer, which supports a wide range of use cases that encompass complex multi-cloud, widely distributed topologies using diverse technology stacks.



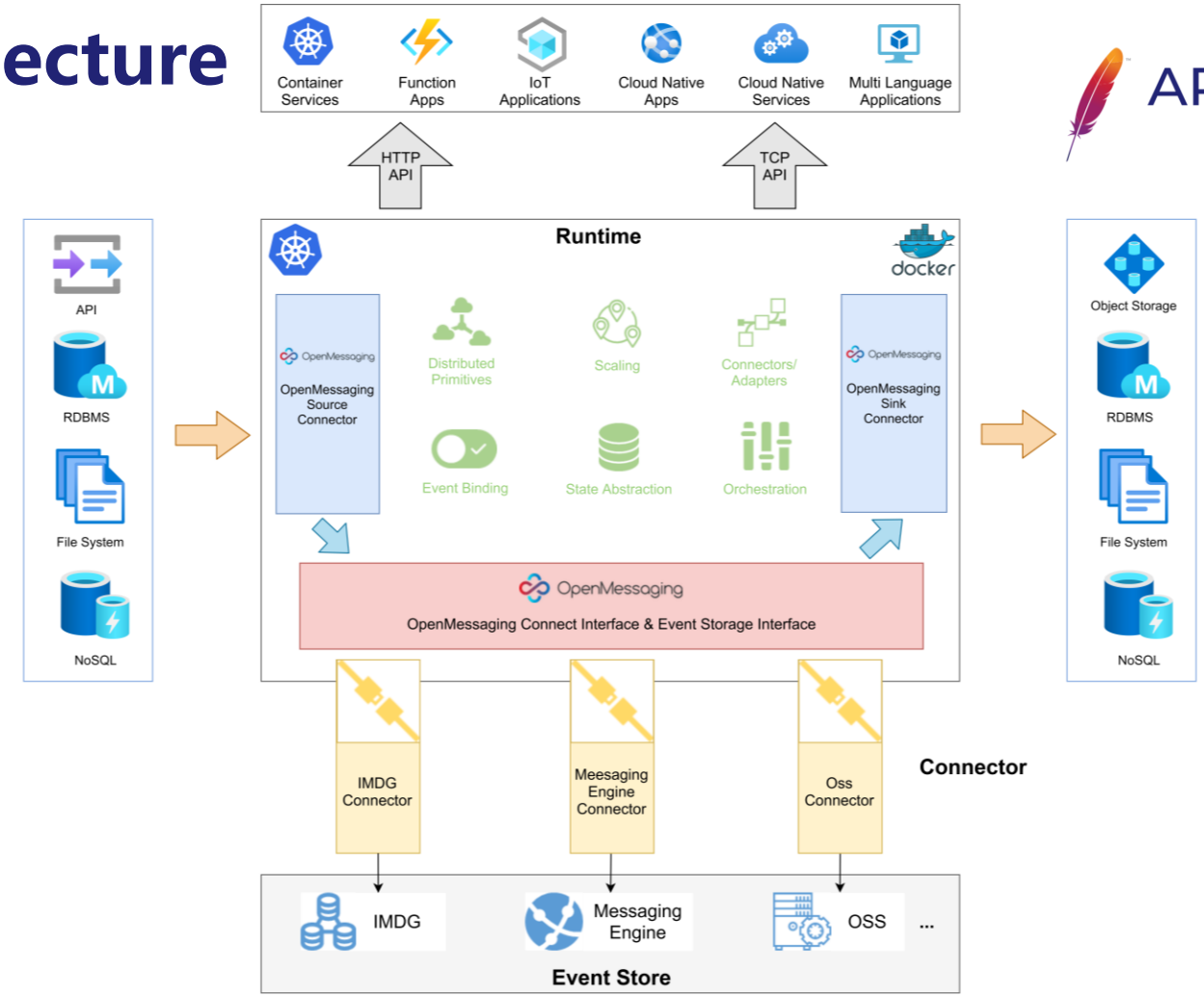
Why EventMesh

- Treat digital events as first-class citizens in EDA infrastructure
- Loosely coupled applications, improve the agility of the system
- Events streamed between applications, pub/sub module meets real-time demands
- Support lightweight multi-language access via CloudEvents/gRPC etc, reduce the complexity of interaction, improve the compatibility and connectivity under the different business environments
- Integrate multiple Cloud Native applications (Docker\Micro Service\Service Mesh\IoT\Function API e.g.)

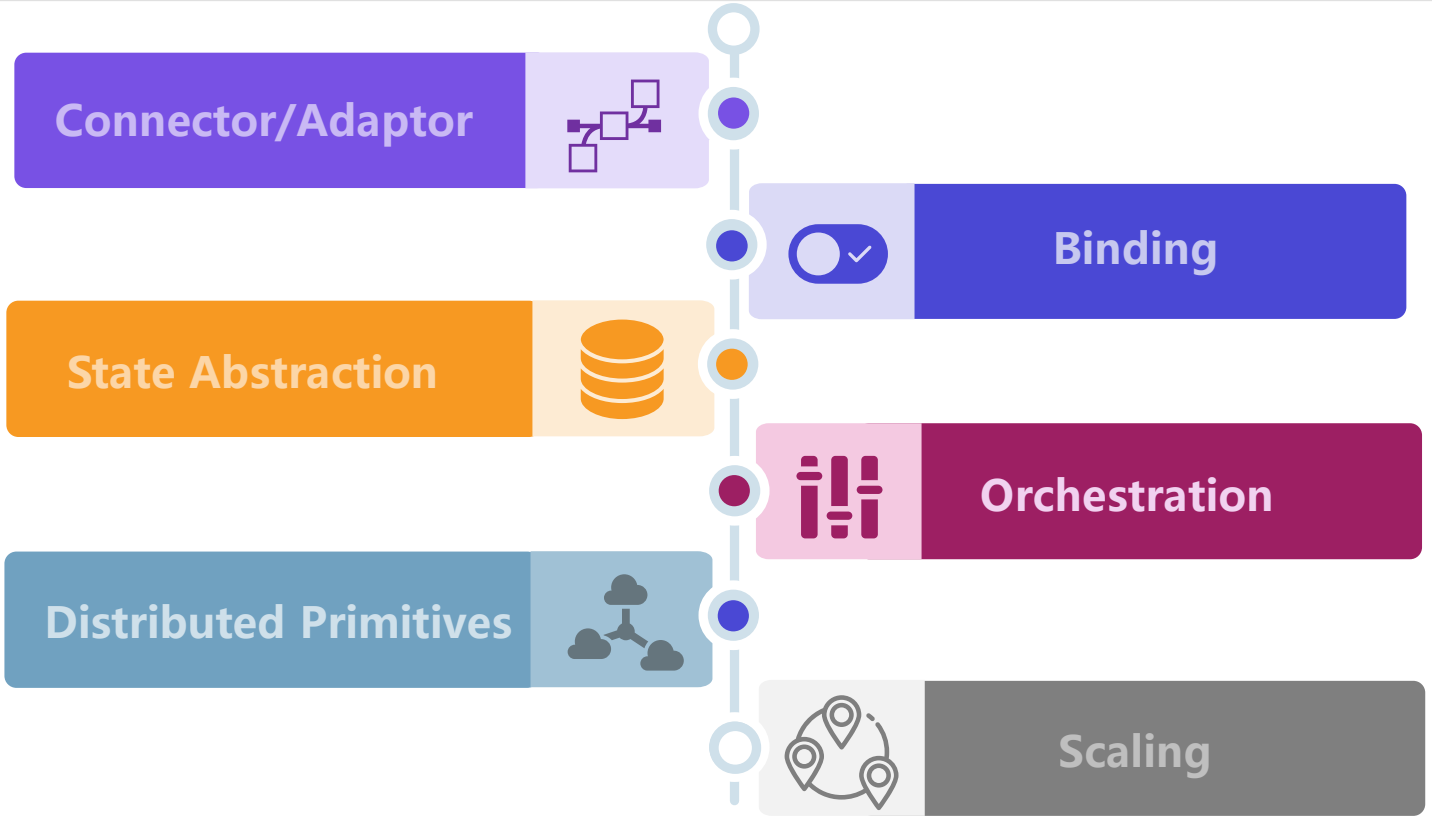
Ecosystem


Container Services
Function Apps
IoT Applications
Monitor
Notification
Time Series Data
Databricks
Stream Analytics
Serverless Computing
Monitor&Notifications
Data Analytics
EventMesh
Distributed Apps
CloudEvents
Event Store
Other Cloud Vendors
EventMesh
EventMesh
EventMesh
CloudEvents
Event Store
Event Store
Cloud Native Apps
Cloud Native Services
IoT
Data Streaming
Saas Partners

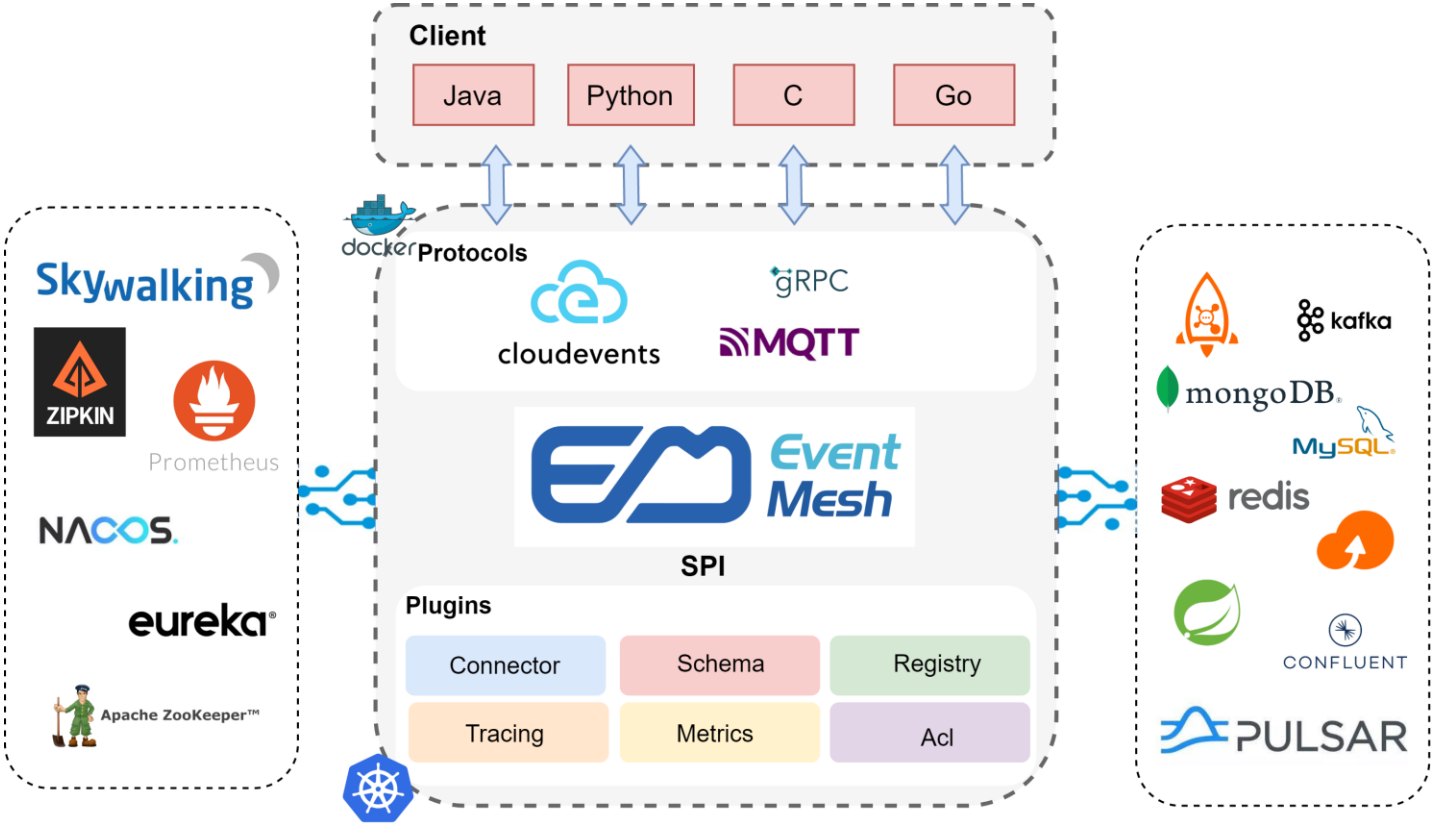
Architecture



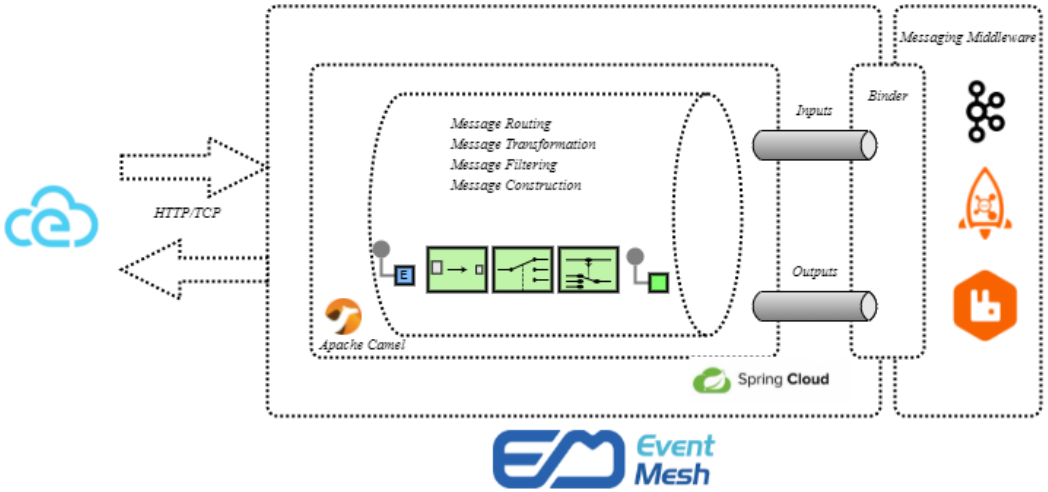
Features


Connector/Adaptor
Binding
State Abstraction
Orchestration
Distributed Primitives
Scaling

Connector/Adaptor



Binding

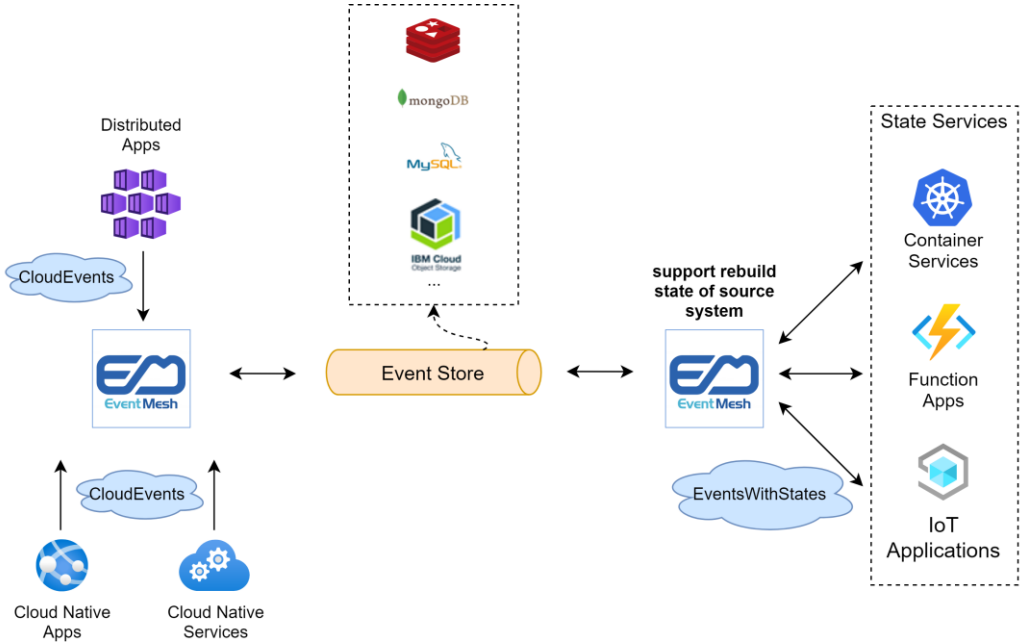


EventMesh enabled binding the event with topics and schema.

Support multiple event filter pattern:

- Specified value match
- Prefix match
- Suffix match
- Exclude match
- Numerical match
- ...

State Abstraction

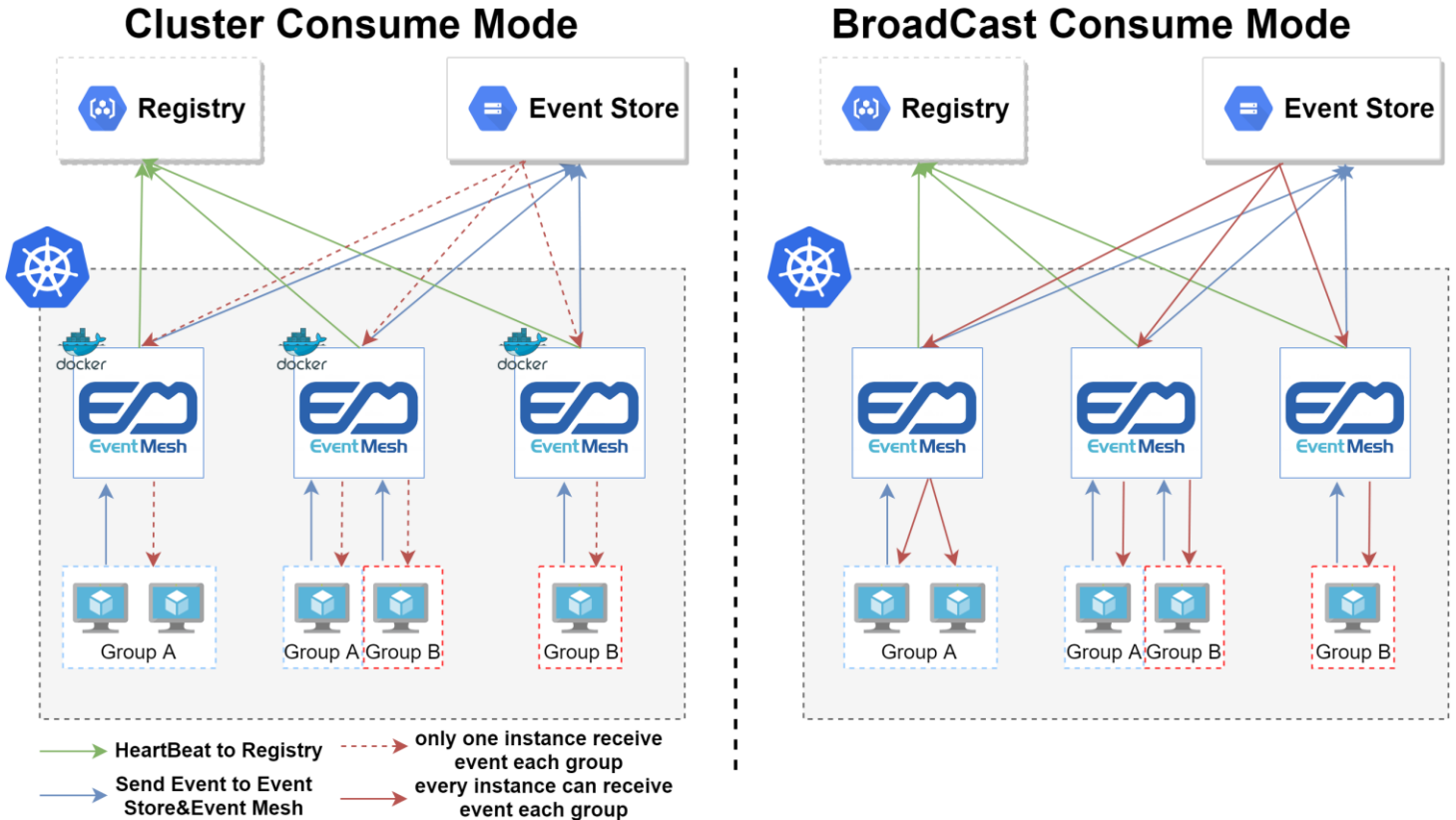


This pattern includes all information about the event state in the message. Subscribers can rebuild the state of the source system using whatever storage best suits those subscribers' performance needs: relational, noSQL, object store, etc.

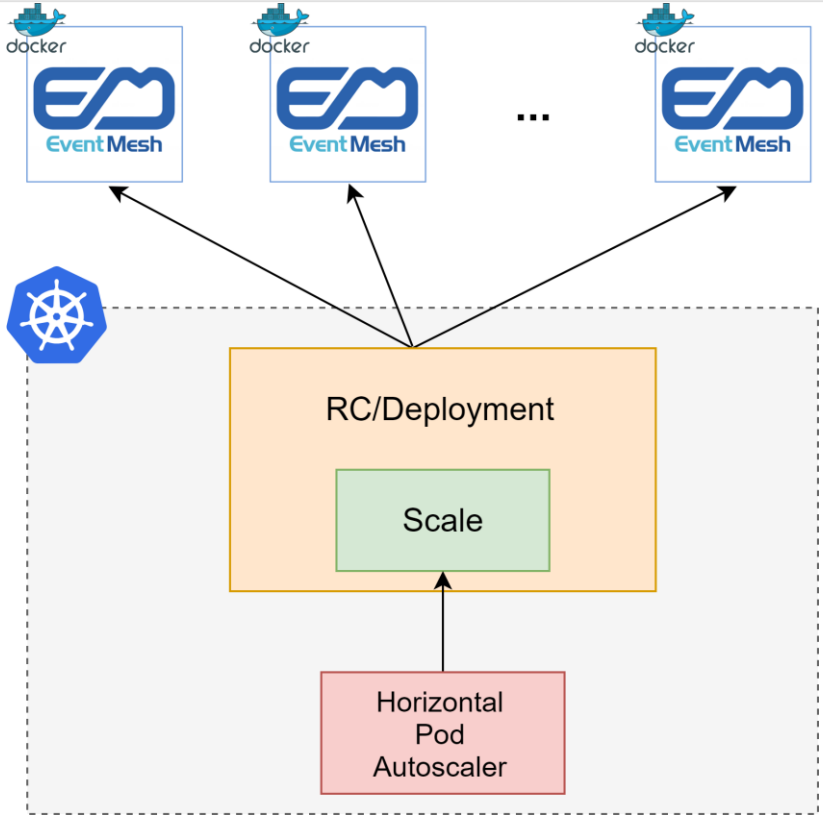
Orchestration

Orchestrators also store state to know which steps of the workflow have occurred. Because of this, if there is a failure in the workflow, it can perform compensating actions to recover from a failure.

Distributed Primitives



Scaling


docker
EventMesh
docker
EventMesh
...
docker
EventMesh
RC/Deployment
Scale
Horizontal
Pod
Autoscaler

Future of EventMesh

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CloudEvents

Integrate standard Events protocal

Orchestration

Event Routing, Sourcing, Compensating action

Event Streaming

Support real time event processing

Multiple language sdk

c\go\python ……

OpenTelemetry

Tracing, Logging, Metrics, improve observability

More Protocols

grpc\MQTT\ ……

EventMesh

OpenSchema

Avro\JSON\ProtoBuf\e.g.

Support more event store

Kafka/Redis/Pulsar, cold storage ……

THANK YOU

QUESTIONS?

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@ASFEventMesh

https://github.com/apache/incubator-eventmesh