

# Messaging4Transport – Message Oriented Middleware Bindings for MD-SAL

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Project Proposal Review

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# Introduction

- Currently MD-SAL has RESTConf northbound bindings.
- The model-basis enables easy integration of more northbound bindings.

# Message-Oriented Middleware (MOM)

- Developing decoupled distributed applications.
- Open standard application layer protocols for message-oriented middleware.
  - Advanced Message Queuing Protocol (AMQP).
  - Simple Text Oriented Message Protocol (STOMP).
  - MQTT.
  - OpenWire.
  - Extensible Messaging and Presence Protocol (XMPP).
  - ...

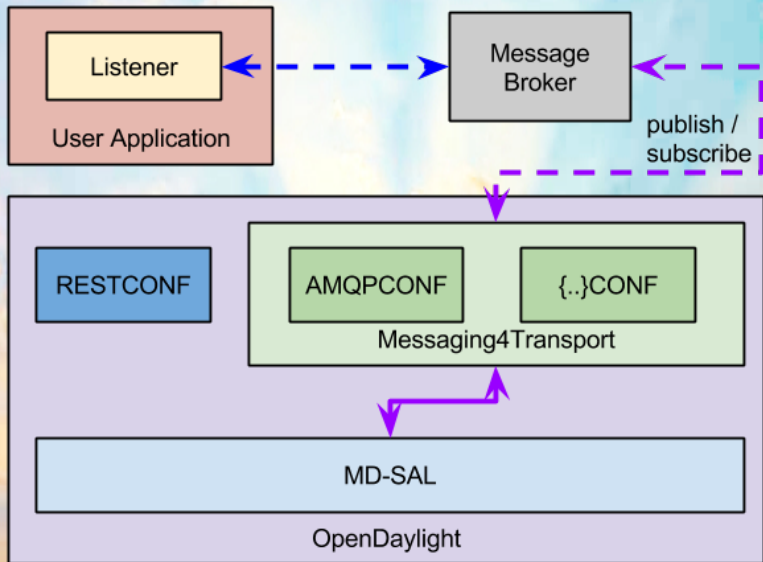
# Motivation

- Northbound bindings with the implementation of Message-Oriented Middleware Protocols.
  - In exposing the data tree, RPCs, and notifications.
  - More use cases and effective integration with user applications.

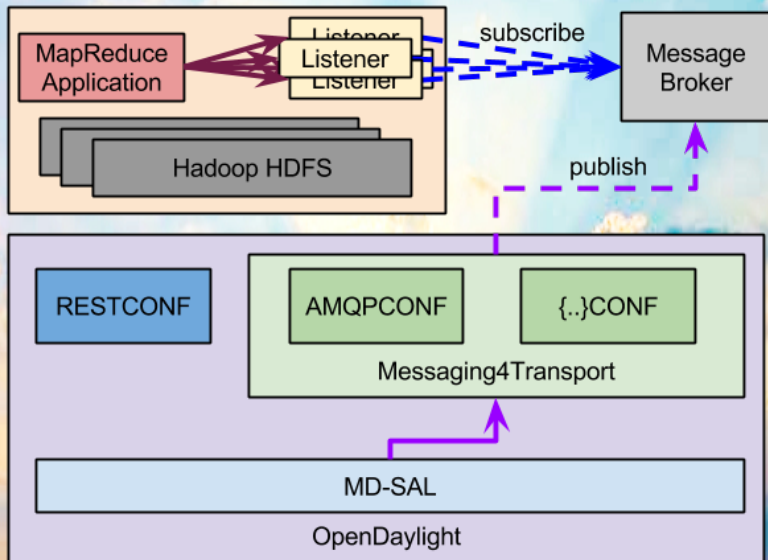
# Messaging4Transport

- Project initially proposed at the OpenDaylight Summit.
  - 31<sup>st</sup> of July, at the Design Forum Unconference.
- Developing Bindings for MD-SAL to integrate with Message-Oriented Middleware.
- Design and Implementation of Advanced Message Queuing Protocol (AMQP) bindings.
- Potential bindings for other protocols.
- Does not affect any other existing projects of OpenDaylight.

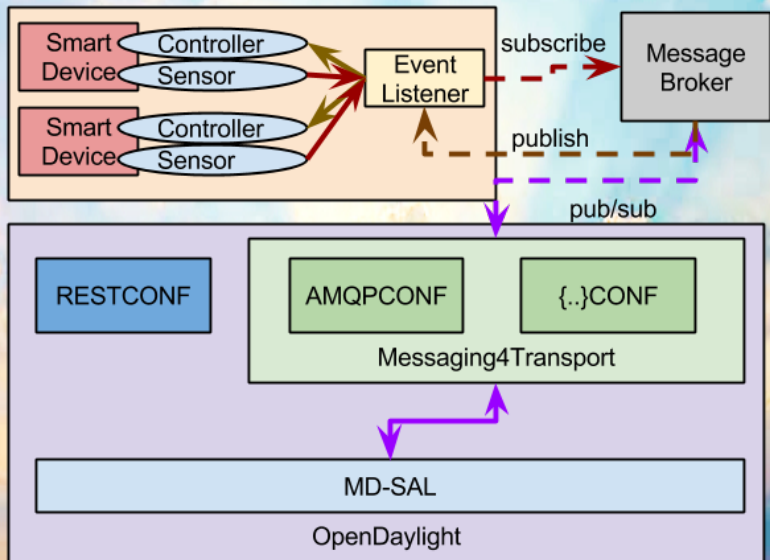
# Architecture



# Sample Application 1: SDN Metrics and Analytics

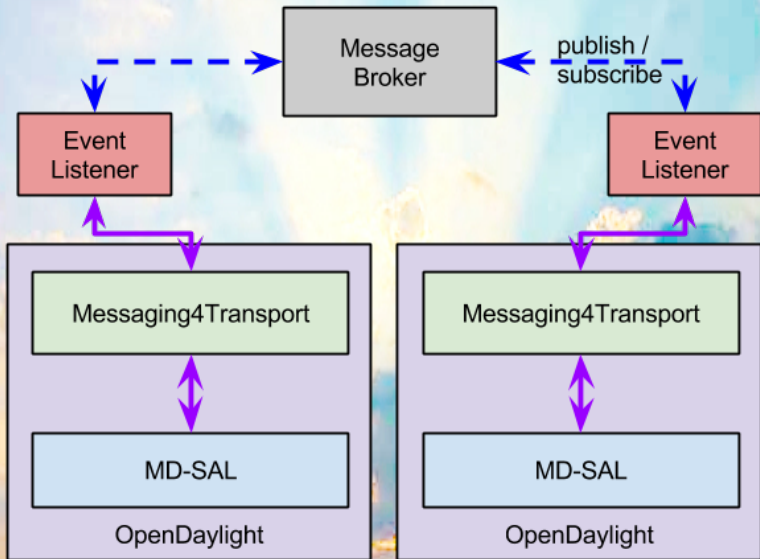


# Sample Application 2: Software-Defined Smart Buildings

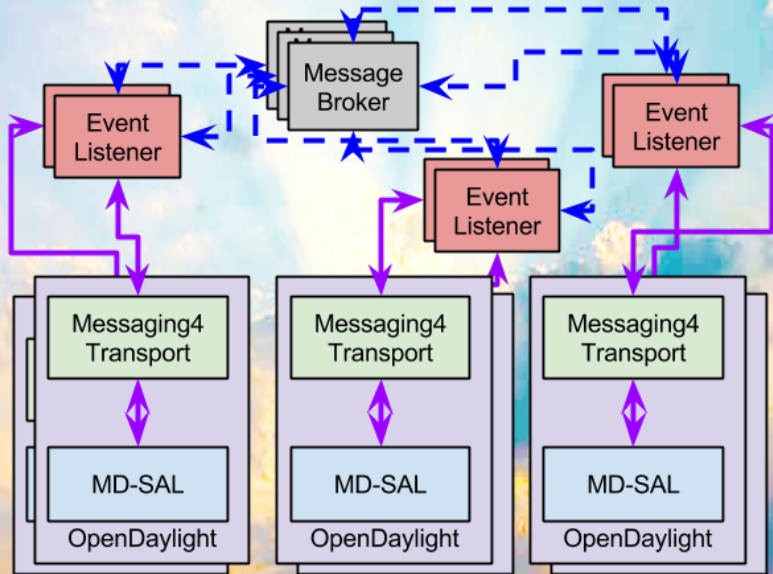




## Sample Application 3: Federation Across Multiple Bus



## Sample Application 3b: Federated Controller Farm



# Project Status

- AMQP Bindings for MD-SAL developed as an OpenDaylight summer internship project.
  - May - September, 2015.
  - Further development of the project beyond the time frame.
  - Vendor agnostic source code.
- Making Messaging4Transport a Camel Processor<sup>1</sup>.
  - Independence to choose any broker.
  - Initially tested with Apache ActiveMQ-5.9.0.
    - Can be external or deployed into Karaf.
    - Popular implementation of messaging protocols.

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<sup>1</sup><https://github.com/jgoodyear/ApacheKarafCookbook/tree/master/chapter2>

# Committed Resources

- Pradeeban Kathiravelu (pradeeban, [kk.pradeeban@gmail.com](mailto:kk.pradeeban@gmail.com)).
- Tony Tkacik (ttkacik, [ttkacik@cisco.com](mailto:ttkacik@cisco.com)).

# Initial Committers

- Pradeeban Kathiravelu ([kk.pradeeban@gmail.com](mailto:kk.pradeeban@gmail.com)).
- Tony Tkacik ([ttkacik@cisco.com](mailto:ttkacik@cisco.com)).

# Conclusion

- Messaging-Oriented Middleware integration opens up some new interesting use cases.
- Alternatives to the current RESTConf API.

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Thank you!  
Questions?

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