

FLECH IT Design

Olle Sundström

Metin Feridun

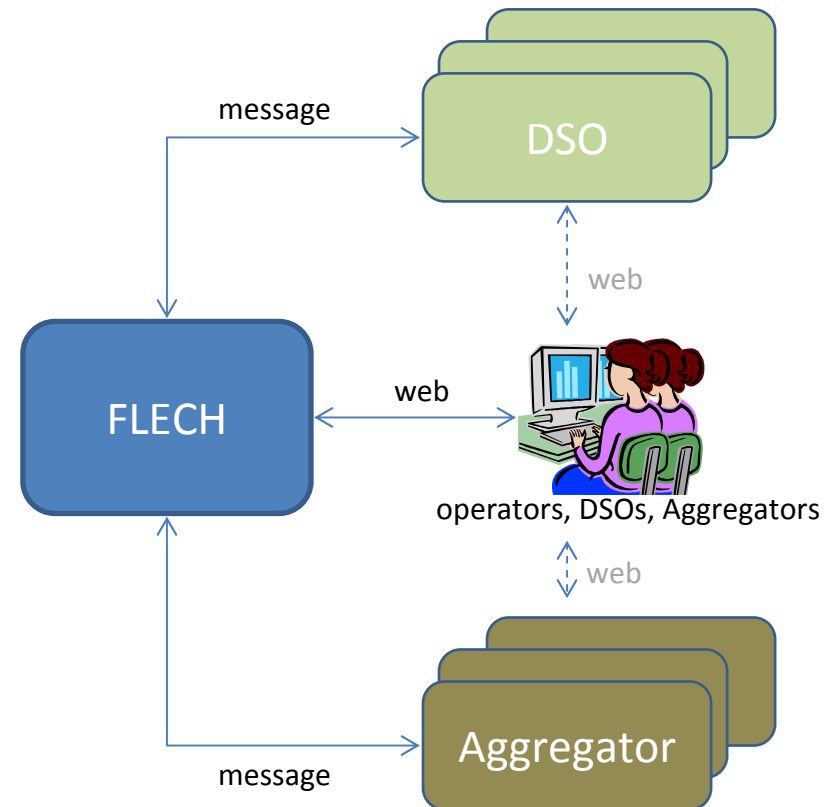
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Outline

- Overview
- Message architecture
- Component architecture
- Message types
- Demo proposal

Overview

- Architecture driven by the “FLECH Technical Specification V1” document
- Components communicate using messages
- Confirmed receipt of messages is important for fair market operations
- Web services to be used to access to data such as status of bids, etc.

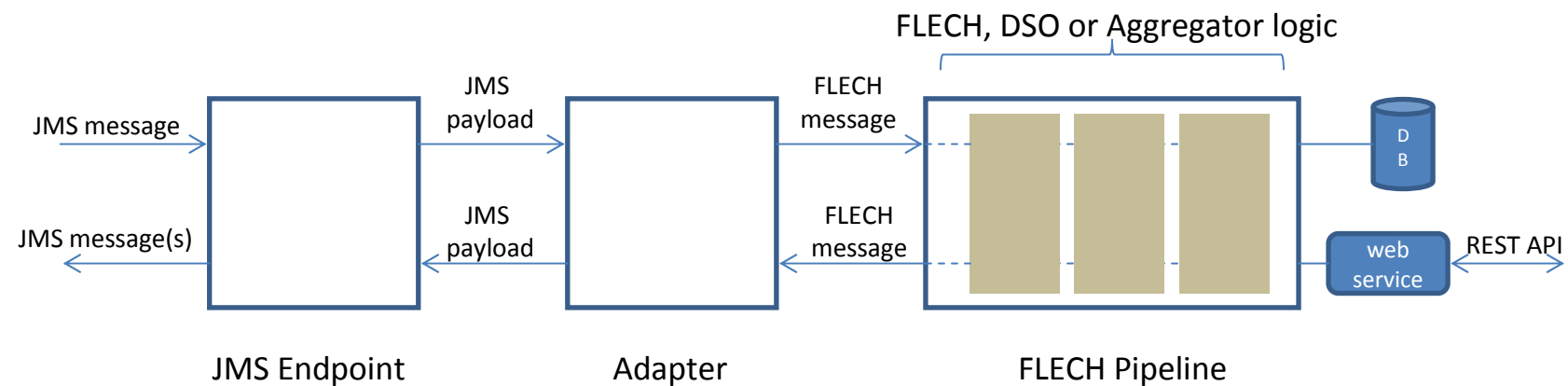


Message architecture

- Messaging service: Three patterns available to market and market participants:
 - **Unacknowledged request:** A message is sent to a certain destination without waiting for an immediate reaction of the receiver.
 - **Acknowledged request:** A message is sent to a certain destination and the sender waits until either a reply has arrived or a timeout has been reached.
 - **Request Response:** A new message arrives and triggers the receiver to send an arbitrary number of messages to potentially different destinations. The number of these replies can be zero.
- Web service based queries (all components)
 - REST-API
 - Access to status of markets, billing, historical data, etc.

Component architecture

- JMS based messaging
- Separation between JMS and FLECH messages through an adapter
- Pipeline approach in FLECH components to allow flexible configuration of functions such as authentication, storing of messages, forming replies as well as performing actions that depend on the received messages.
- Web service (REST API) to access data



Message types

List of currently available messages to be updated to align with the latest FLECH Technical Specifications document

- OpenCapacityMarket
- CapacityOffer
- CapacityMarketClosed
- Reservation
- OpenActivationMarket
- ActivationOffer
- ActivationMarketClosed
- Activate

Demo proposal

Goal: Demonstrate the FLECH concepts

- Based on the “PowerCut Planned” scenario as described in the FLECH Technical Specification
- Extension of the current implementation
- Use simulated DSO and Aggregators

Show:

- Capacity reserve market
- Reserve activation market
- Settlement scenarios