

# Actio: An OSS Anti-Financial Crime and Risk Management Solution

PI 16 Review  
2022-01-26

# Actio FCRMS - MVP Journey

## Mojaloop PI 12

### Actio PI 1 - PoC

The FCRMS workstream, through a partnership between Sybrin and LexTego, conducted a technology Proof of Concept to compose a fraud risk management solution exclusively out of Open Source Software (OSS) components and achieved:

- Peak through-put exceeding 8000TPS
- Turn-around time of less than 35ms

Utilising 5 sample typologies representing:

- SIM Swap Fraud
- Scams
- Account Muling
- Money-Laundering (Layering)
- Block-list management and interdiction

## Mojaloop PI 13

### Actio PI 2

The focus of this PI was to finalise the MVP solution component selection and architectural design.

Deliverables in this PI included:

- Implementation of ArangoDB for multi-modal DB support, including graph processing
- Implementation of a Mojaloop instance for testing and integration
- Implementation of a CI/CD pipeline
- Development of a Predicate Builder to facilitate typology development and scoring
- Construct an end-to-end flow utilising implemented components

## Mojaloop PI 14

### Actio PI 3

The focus of this PI was to extend the platform with additional components and functionality, specifically:

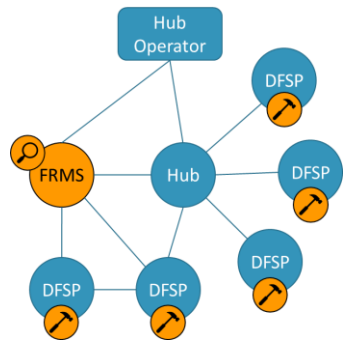
- The implementation of a Payment Platform Adapter to convert Mojaloop messages to ISO 20022-compliant messages
- Implementation of ISO 20022-compliant data flows inside Actio
- Data protection by design - Pseudonymisation of customer information in NiFi
- Configuration-driven rule and typology processing

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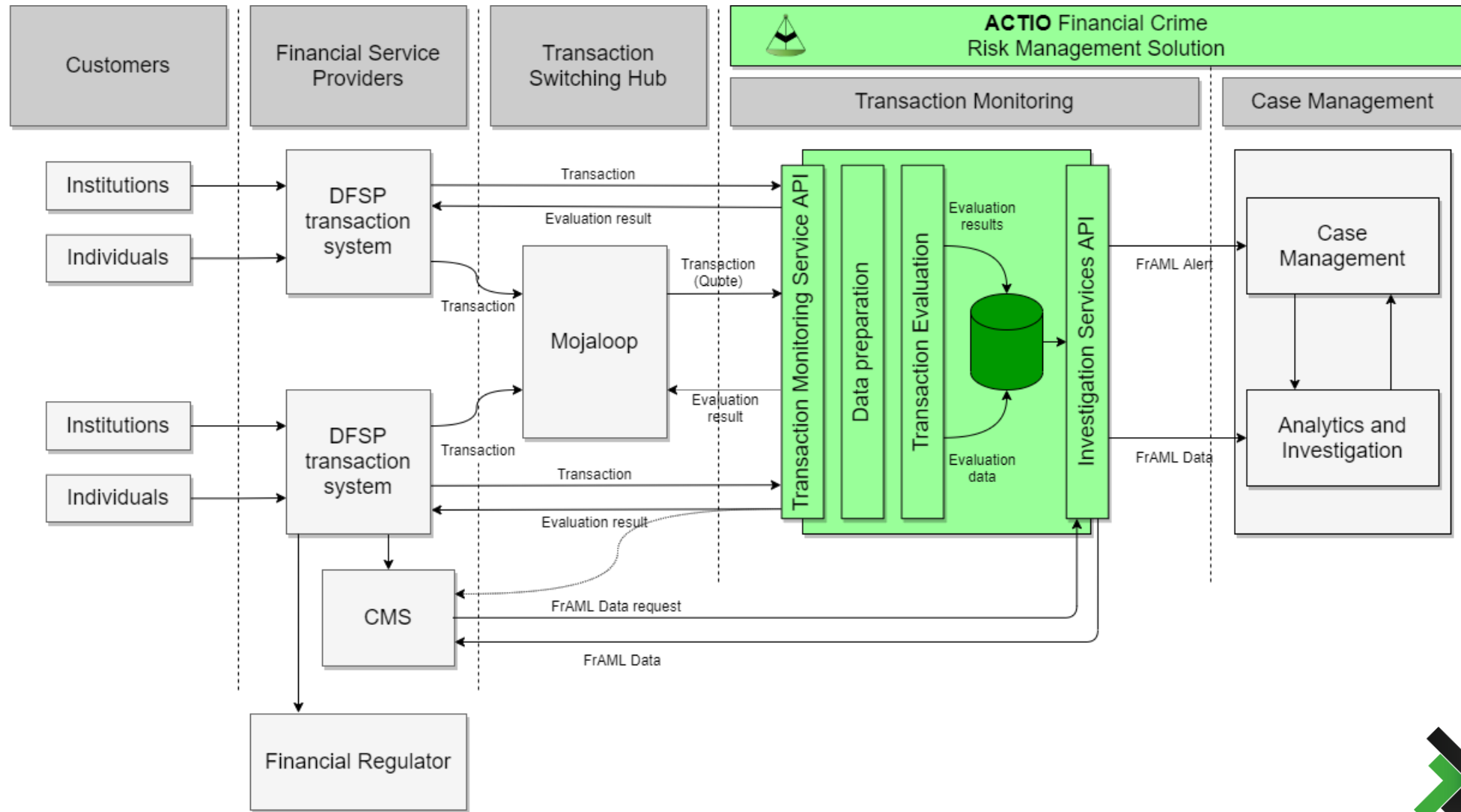
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# Actio context

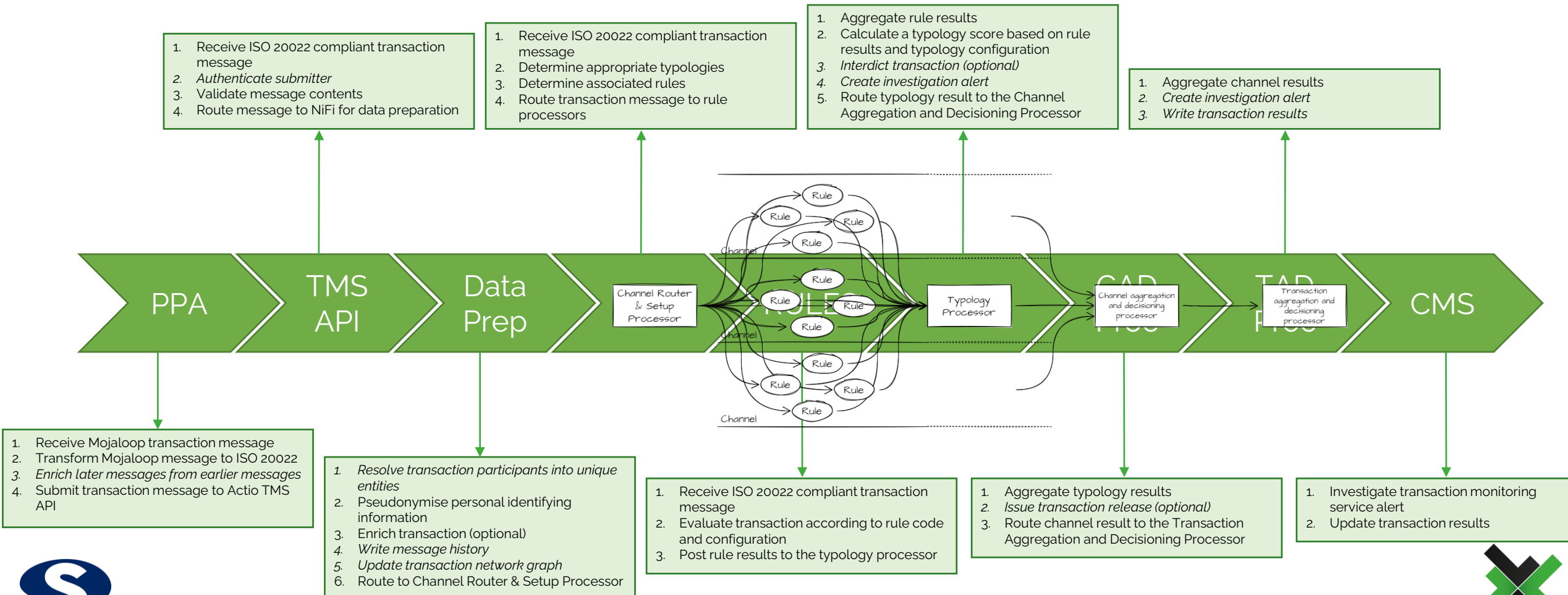


## Semi-attached

- Centralised financial crime risk detection service hosted by the switch Operator
- Separate interface to receive transactions from switch participants and non-participants
- The Operator performs detection on all transactions routed to the FRM service
- Each DFSP would employ compliance teams



# Actio Process Flow



# PI 5 Delivery

- Update the TMS API to include all 4 ISO messages
- Pseudonymise debtor and creditor account information in all relevant messages
- Update the transaction graph with transaction flows for all messages
- Write transaction history (all messages)
- Implement a compact JSON ISO20022 message format end-to-end
- Implemented semantic versioning for all processors
- Trigger evaluations on transaction conclusion instead of initiation
- Consistent formatting of processor results
- Create an investigation alert as an unabridged JSON message
- White-source security scanning
- Typologies (2)
- Rules (9)

# Demo

# Typology 11 – Account Muling

- (001) Derived account age – creditor
  - The age of an account is typically a good supporting indicator of suspicious behaviour. Mule accounts are often single-purpose short-term vehicles for fraud and money laundering.
- (003) Account dormancy – creditor
  - An account that lies fallow for an extended period and then suddenly shows activity, combined with a number of other rules, is a good indicator for suspicious behaviour.
- (017) Transaction divergence – debtor
  - A large number of transactions being paid out of an account in a short time-frame could be an indicator that the account is being used as a node in a money laundering network
- (027) Immediate transaction mirroring
  - There are a number of rules that identifies transaction mirroring behaviour. Mirroring could take place on a 1-to-1 basis, or an aggregated basis where a number of incoming transactions are collected into a single, bulk outgoing payment, or even a number of different outgoing payments.
  - This rule evaluates the immediate mirroring of a transaction, with provision for the deduction of a “commission” amount.
  - A different rule would measure aggregated transaction mirroring.
- (044) First-time outgoing transaction - debtor
  - Mule accounts are often set up for a specific short term need. Any first-time transaction from a new account, combined with other high-risk behaviours, would present a high likelihood of suspicious behaviour.
- (045) First-time incoming transaction – creditor
  - To create as much “distance” between the source of the illicit funds and its ultimate destination, a transaction is often routed from one mule account to another in a long chain of transactions to stretch the limits of detection inherent in monitoring platforms.

# Questions?