

Mojaloop releases & core maintenance PI-16

October 2021





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Agenda



1. Mojaloop **PI-15** overview
2. PI-15 goals: Core releases & maintenance
3. **Upgrade** strategy guide
4. Mojaloop releases **13.0.1**, **13.0.2**, **13.1.0**
5. Mojaloop **v14** release update
6. IaC update
7. Roadmap / PI-16 goals: Mojaloop releases & core maintenance

Mojaloop PI Overview



Timeline	Summary
Phase-1 <small>(2016 - 17)</small>	Level One Project <ul style="list-style-type: none"> • Reference Implementation • 6 Program Increments (PIs)
Phase-2 <small>(2018)</small>	Road To Productionization <ul style="list-style-type: none"> • 1 – 4 Program Increments
Phase-3 <small>(2019 Jan - Dec)</small>	Supporting Adoption & Deployment <ul style="list-style-type: none"> • PI-5 (Feb – April): Account lookup, QA Framework, Streamlined CI, Release process, Error endpoints, Documentation, Node Upgrade, Bug Fixes & Community support, Bulk Transfers Design • PI-6 Event handling framework, Bulk Transfers PoC, API Gateway, OSS Settlements API, Quoting Service, ALS • PI-7 Event & Error Handling framework, Packaging, OSS Settlements, Performance testing capabilities, QA • PI-8 Consolidation, Performance, Community Support
Phase-4 <small>(2020 Jan - Dec)</small>	Going Live! <ul style="list-style-type: none"> • PI-9: Performance Testing & Improvements, Merchant Request to Pay, Operational Monitoring, Testing toolkit, Settlement v2 • PI-10: Performance PoC, Standardizing Bulk Transfers, Testing toolkit, Settlement v2, Adopting FSPIOP API v1.1, Versioning • PI-11: Performance PoC, Standardizing designs, code & QA, Adopting FSPIOP API v1.1, Versioning, PISP support, Code quality • PI-12: Hardening, Packaging, Releases and prep for Phase-5 (October 2020 – January 2021)
Phase-5 <small>(2021 Jan - Dec)</small>	One Loop for All: Mojaloop in Motion! <ul style="list-style-type: none"> • PI-13: Removing friction, Understanding & addressing (feature) gaps, Cost reduction, Increasing Trust & confidence in Mojaloop (February 2021 – April 2021) • PI-14: Reference Architecture, Supporting existing implementers; ISO messaging, FX support; Bulk Payments, Merchant QR enhancements (May – July 2021) • PI-15: Ref Architecture, Supporting existing implementers; ISO messaging, FX support; Bulk, Merchant extensions; TBD on planning day (Aug – Oct 2021) • PI-16: Ref Architecture, Supporting existing implementers; ISO messaging, FX support, laC, 3PPI. TBC on planning day (Nov 2021 – Jan 2022)



Mojaloop API versions implemented

1. FSP Interoperability (FSPIOP) API [v1.1](#)
2. Settlement API [v2.0](#)
3. Administration API [v1.0](#)
4. Third-party Payment Initiation (3PPI) API ~[v1.0](#)
5. FX API - [in design](#)

PI 15 Goal: Core releases & maintenance



Goal	Publish Mojaloop release(s) v14 with major changes packaged; Support contributions into Mojaloop and maintain quality	
Key Epics Objectives	<div>1. Mojalop v13.0.1 well tested & published; In addition, make the regression test plan part of our documentation pack in human readable form</div> <div>2. Mojaloop v14 published for adoption as a major, stable release & external dependencies separated out of Mojaloop helm charts to reduce future maintenance</div>	<div>3. Support the sandbox team to ensure they are working with the latest Mojaloop release in the sandbox, and running regression tests at use case level end to end, when that release is made, based on an OSS published regression test plan. Ensure 3PPI functionality is part of v14 as a consequence (reviewing PRs, docs, tests & running them as part of release validation); This will depend on contributions (PRs, etc) that add the 3PPI functionality to Mojaloop standard helm charts and accompanying tests with instructions.</div> <div>Bonus items: 4. Ensure we have a process for how v1 and v2 architecture can be aligned so all changes (large and small) made by Business Operations team, 3PPI team and Merchant Extensions team in v1 are compatible to v2 through a coherent set of regression tests that must pass from this point onwards in a test strategy document [<i>Should be done by the DA; Core v1.0 will support</i>]. 5. Support Infrastructure as Code (IAC) contributions by using it on v1 core dev/QA environments (once they're made).</div>
Not Doing now but important next & Risk / Issues	<div>Risks / dependencies</div> <div>1. If Infrastructure as code (IAC) not contributed / not ready in OSS space for latest Mojaloop releases</div> <div>2. 3PPI features, tests need to be contributed and provided for review, to be able to be included in Mojaloop releases along with tests, baselines, instructions to run</div>	<div>1.</div>
Success Defined How?	<div>1. Make the regression test plan part of our documentation pack in human readable form - to define scope (see LA's hub 1.0 document for the level required - job story format).</div>	<div>An environment running latest variant with all regression tests at use case level fully passing.</div> <div>A backlog of "small functional changes" on v1 that are validated / prioritised by product council.</div>

PI-15 Objectives - Status

Core releases & maintenance work-stream Objectives

- ✓ 1. Release Mojaloop v13.0.1
- ✓ 2. Release Mojaloop v13.0.2
- ✓ 3. Support current adopters/implementers
- ✓ 4. Reference architecture stream support
- ✓ 5. Support merging of PISP features
- ✓ 6. Progress on Mojaloop release v13.1.0
- ✓ 7. Progress on Mojaloop v14 (PoC done)
- ✓ 8. **laC** for Mojaloop v12, v13 published



PI-15 Issues review - numbers

Core maintenance & release workflow

1. Total issues completed in PI-15: **39**
2. Bugs fixed in PI-15: **18** (included in above total)
3. IaC, DevOps, others not covered in this list
4. Link: <https://github.com/mojaloop/project/issues?q=label%3Aoss-core+closed%3A%3E2021-08-01+state%3Aclosed+>

Upgrade Strategy Guide



docs.mojaloop.io/documentation/deployment-guide/upgrade-strategy-guide.html

mojaloop

Type to search

- Mojaloop Overview
- ▶ Mojaloop Background
- Onboarding
- ▼ Deployment Guide
 - Releases
 - Local Setup Linux
 - Local Setup Mac
 - Local Setup Windows
 - Troubleshooting
 - Upgrade Strategy Guide**
 - Helm v2 to v3 Migration Guide
 - Deployment with (Deprecated) He...
- ▶ Contributors Guide
- ▼ Mojaloop Technical Overview
 - ▶ Mojaloop Hub

Upgrade Strategy Guide

This document provides instructions on how to upgrade existing Mojaloop installations. It assumes that Mojaloop is currently installed using Helm, but these strategies can be applied in general.

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 - Table of Contents
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 - Breaking Releases
 - Mojaloop installed without backend dependencies
 - 1. Target version has no datastore breaking changes
 - Example Canary style deployment
 - 2. Target version has datastore breaking changes
 - Mojaloop installed with backend dependencies
 - Example Blue-green style deployment

Mojaloop Releases PI-16



1. Release Notes

- a. v13.0.1 - <https://github.com/mojaloop/helm/releases/tag/v13.0.1>
- b. **v13.0.2** - <https://github.com/mojaloop/helm/releases/tag/v13.0.2>
- c. **v13.1.0** - <https://bit.ly/3GlpRM8> (WIP)

2. Release Reports (zenhub)

- a. v13.0.2 - <https://bit.ly/3vUfz0Z>*
- b. v13.1.0 - <https://bit.ly/3Gd3YPf>*

3. Releases in the pipeline

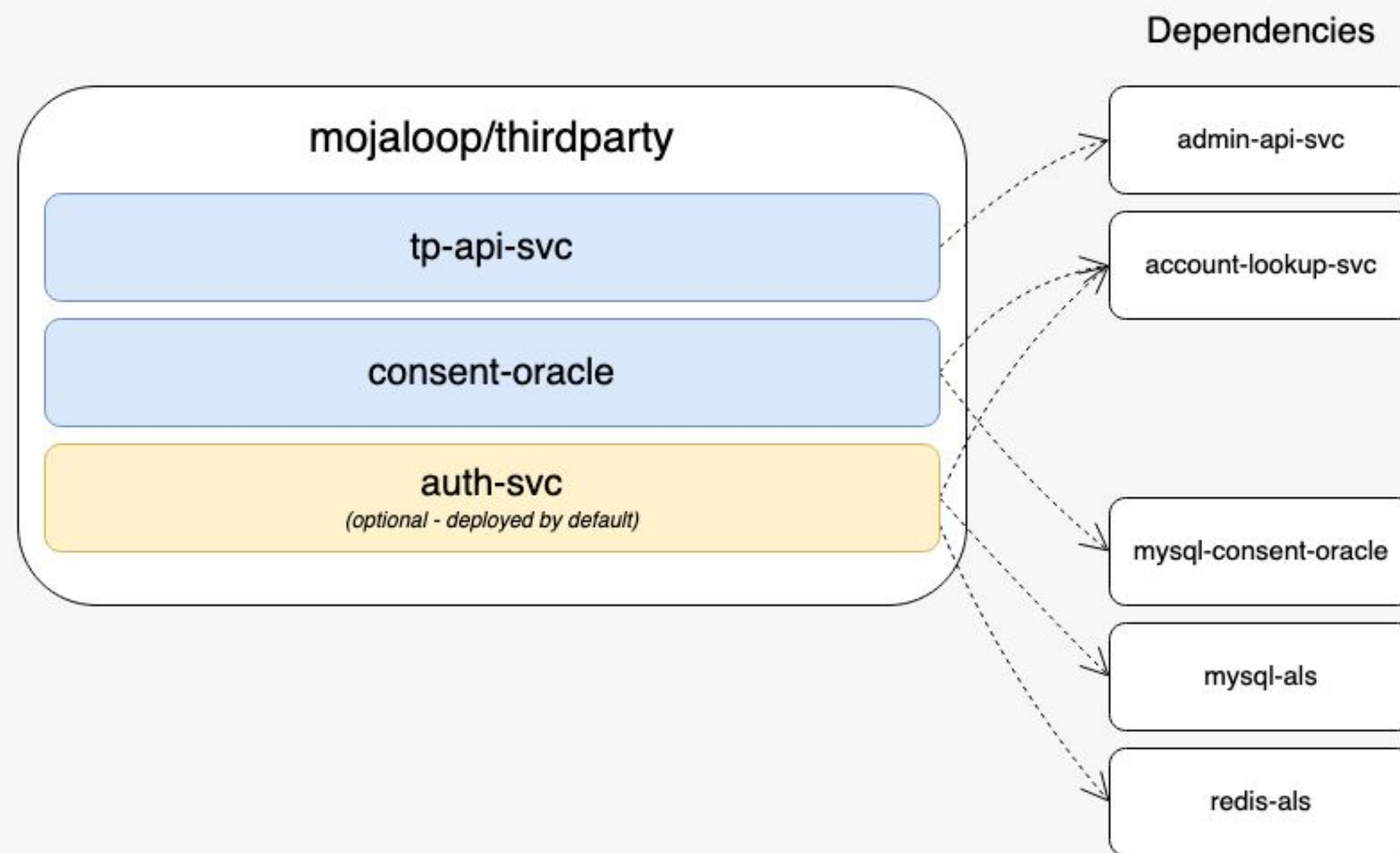
- a. v13.1.0 - <https://github.com/mojaloop/project/issues/2528>
- b. v14.0.0 - <https://github.com/mojaloop/project/issues/2458>

Mojaloop Release v13.1.0 - PISP updates



PI 15 brings support for the Third-party Services to the mainline Mojaloop.

- Off by default, configurable with helm values.yaml file:



```
...
account-lookup-service:
  account-lookup-service:
    config:
      featureEnableExtendedPartyIdType: true
  account-lookup-service-admin:
    config:
      featureEnableExtendedPartyIdType: true
...

thirdparty:
  enabled: true
```

- Read more here: <https://github.com/mojaloop/helm/tree/master/thirdparty>

PISP updates



- Mojaloop Simulator support for Third Party API:

```
mojaloop-simulator:  
  pisp:  
    config:  
      thirdpartysdk:  
        enabled: true
```

- TTK Collection for Third Party API (in progress):



Summary	Details
<div>Expand FoldersExpand RequestsCollapse FoldersCollapse Requests</div>	
ACCOUNT LINKING: PRELINKING	
GET /linking/providers	
ACCOUNT LINKING: DISCOVERY	
GET /linking/accounts/{fspId}/{userId}	
ACCOUNT LINKING - HAPPY PATH WEB	
POST /linking/request-consent	
PATCH /linking/request-consent/{ID}/authenticate	
POST //linking/request-consent/{ID}/pass-credential	
ACCOUNT LINKING - HAPPY PATH OTP	

Mojaloop v14 Release Update



1. Helm v14.0.0 PoC #2459 (<https://bit.ly/3nrYml5>)

- a. Remove **external dependencies** that are tightly integrated into the Mojaloop Helm Chart #1852
- b. Identify and replace **deprecated** Mojaloop dependant Helm Charts #1969 (MySQL and Kafka)
- c. Mojaloop Helm support for **Kubernetes 1.22**
- d. **Nginx** Ingress Controller v1.0.0 is incompatible with Mojaloop Helm v13.0.x releases #2448
- e. Mojaloop Helm deployments are not compatible when deployed to **ARM-arch** based hosts #2317
- f. Helm **ingress rules** at centredledger/chart-service hardcode ingress values #870
- g. Helm install failing with with "medium to large" **release names** #2322

2. Improved Testing Capabilities

- a. Testing with Kubernetes **v1.20 -> v1.22**

3. Issues still to be addressed

- a. Automated CI-CD Validation Testing
- b. Feedback from community on what target platforms should be supported, e.g:
 - i. Ingress Controllers
 - ii. Kubernetes Releases
- c. Containerd support
- d. Ingress Class missing from Charts (required for v1.22 to support multiple Ingress Controllers)

Testing multiple k8s versions (1.20->1.22)

Problem Statement

ML version 14

- K8S version 1.22 => there are a couple of “breaking changes”
- Update charts to helm 3
- Simplify charts and customisation (values files)

Desire to reliably support/enable multiple k8s versions for ML v14



Ensure we test v14 Helm 3 charts over all 3 versions “**early**” i.e. as we go



Automated test tool/methodology required

Breaking changes examples



- **Helm 3 :**
 - **Chart structure and API version**
 - **no requirements.yaml**
 -

Networking API

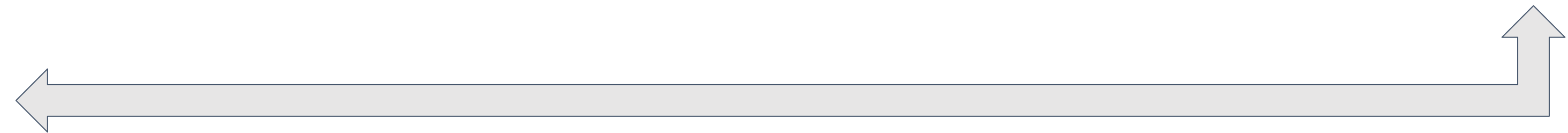
```
apiVersion: networking.k8s.io/v1
kind: IngressClass
metadata:
  name: external-lb
spec:
  controller: example.com/ingress-controller
```

Networking API

```
apiVersion: networking.k8s.io/v1
kind: Ingress
```

spec :

```
IngressClassName: external-lb
```



Also environmental challenges

Testing multiple k8s versions (1.20->1.22)

Solution => automated test tool



Explanation / Demo

of

version-test.sh (open to suggestions for renaming)

Using v14 PoC



Infrastructure as Code (IaC) updates

1. Execute and document deployment to Mojaloop Foundation AWS using **OSS repos**
2. Finalise version and release IAC Code to the community - initial release with Mojaloop **v12**
3. Documentation and release notes (evolving)
4. Support Mojaloop release **v13** with current IAC and addressed gaps
5. Support for **Finance Portal v2** full test suite collection (Test Cafe)
6. Support for (**automated**) Payment Manager full test suite collection (Test Cafe)
7. Fully integrated Payment Manager deployment with **mTLS** (all in Gitlab pipeline)



Infrastructure as Code (IaC) - roadmap

1. Business Operations Framework **support** in IaC
2. Helm **v14** PoC testing in IaC
3. Support **TTK** and v13 Golden path tests internally and externally
4. Enhancement: Payment Manager onboarding **automation**



Roadmap

PI 16 Candidate items: Mojaloop releases & core maintenance

To be confirmed during roadmap planning on day-3



Goal	Publish Mojaloop releases v13.1.0 and later v14.0.0 with major changes packaged; Support contributions into Mojaloop	
Key Epics Objectives	<p>1. Mojaloop v13.1.0 is well tested & published; In addition to release notes, publish migration guide and regression test plan</p> <p>2. Mojaloop v14 published for adoption as a major, stable release & external dependencies separated out of Mojaloop helm charts to reduce future maintenance. Finance Portal V2 charts to be made part of mojaloop main charts as part of this release.</p>	<p>3. Support IaC stream to ensure they are working with the latest Mojaloop release and running regression tests at use case level end to end, when that release is made, based on an OSS published regression test plan.</p> <p>Bonus items: 4. Support changes made by Business Operations team to make business operations features available out-of-box with Mojaloop releases. 5. Absorb 3PPI tests to be run along with other Golden path tests and run as part of regression testing</p>
Not Doing now but important next & Risk / Issues	<p>Risks / dependencies</p> <p>1. Contributions to be made</p>	<p>1.</p>
Success Defined How?	<p>1.</p>	

PI-15 Issues Overview



Filters

label:oss-core closed:>2021-08-01 updated:<2021-10-26 state:closed

Labels 38

Milestones 6

New issue

Clear current search query, filters, and sorts

0 Open

✓ 39 Closed

Author

Label

Projects

Milestones

Assignee

Sort

✓

sdk-scheme-adapter support for test currencies XXX, XTS revoked with use of api-snippets

bug

oss-core

3

#2549 by elnyry-sam-k was closed 6 days ago Sprint 15.6 3

✓

Get payment manager deployed locally

oss-core

story

1

#2531 by elnyry-sam-k was closed 19 days ago 7 tasks done Sprint 15.5 3

✓

transfers PUT callback on version=1.1 is not assigning destination headers correctly

bug

oss-core

#2527 by mdebarros was closed 6 days ago Sprint 15.5 3

✓

Settlement window not assigned for v1.1 'reserved' transfers

bug

oss-core

1

#2526 by elnyry-sam-k was closed 25 days ago Sprint 15.5

✓

transfers are not being assigned to a settlementWindow on transfers+json;version=1.1

bug

oss-core

1

#2525 by mdebarros was closed 6 days ago Sprint 15.5 5

✓

Central-ledger migration scripts should configure Quoting tables to

#2522 by mdebarros was closed 26 days ago 9 tasks done Sprint 15.5 2

✓

Add type definitions for Central Services Logger to be used in types

#2516 by vijayg10 was closed 28 days ago 2 11 tasks done

Filters

is:issue is:open

Labels 38

Milestones 6

New issue

346 Open ✓ 2,199 Closed

Author

Label

Projects

Milestones

Assignee

Sort

mojaloop/als-oracle-pathfinder technical-debt with mysql init-container

oss-core

technical-debt

1

#2552 opened 4 days ago by mdebarros Sprint 15.6 Review 3

[pisp-e2e]: Add un happy path transfer tests

oss-pisp

story

#2551 opened 5 days ago by lewisdaly PI Backlog 10 tasks

testing tool to verify/ensure v14 helm charts work across specified k8s releases

#2550 opened 5 days ago by tdaly61 Product Backlog - Epics 17 tasks

FSPIOP API version negotiation for pass-throughs not handled - Transfers-service

oss-core

story

1

#2548 opened 7 days ago by mdebarros Sprint Backlog 11 tasks

Merge BizOps into the Finanical Portal V2 UI

oss-bof

oss-bof-framework

story

to-be-refined

#2547 opened 11 days ago by PaulGregoryBaker Review 12 tasks



Thank you!

Reach out for questions on chat here or on Mojaloop Slack [#help-mojaloop](#) or [#ml-oss-devs](#) channels