



Mojaloop releases & Core

PI-19 Community event

Mojaloop Core team, July 2022



PI-18

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Agenda

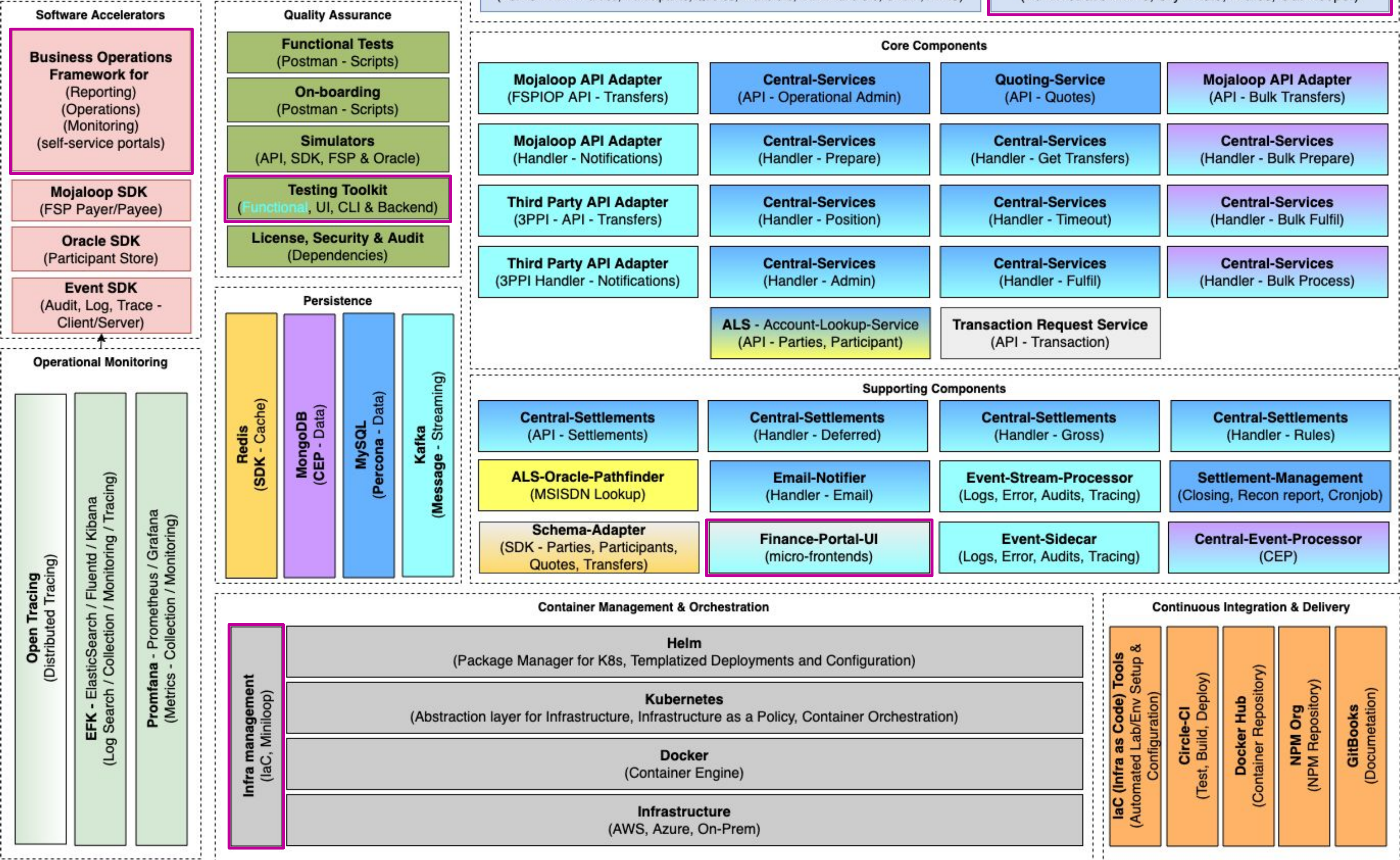


1. Mojaloop **PI-18** overview
2. Mojaloop releases (**v14.0.0**) update
3. Testing Toolkit (**TTK**) Update
4. Mojaloop **v15** and Roadmap, **PI-19** goals

PI 18: Mojaloop releases & core maintenance

Goal	Upgrade node version to v16 LTS and publish Mojaloop v14.0.0 with other major changes packaged; Support contributions into Mojaloop	
Key Epics Objectives	<div>1. Mojaloop services are upgraded to use Node LTS v16 (for v14 release)<ul style="list-style-type: none">a. Ubuntu version upgrade to LTS (v20.04)b. Supporting dependencies upgradedc. CI/CD configuration standardized for all core services</div> <div>2. Mojalop v14.0.0 is well tested & published; In addition to release notes, publish migration guide and regression test plan</div>	<div>3. Support other implementation work-streams<ul style="list-style-type: none">a. Third-Party (3PPI)b. Bulkc. IaC</div> <div>Bonus items: 4. Support changes made by other work-streams (3PPI, Bulk, FPv3) are absorbed so that these features are available (along with tests) out-of-box with Mojaloop releases.</div> <div>5. Maintain Golden path tests for production ready features and run them as part of regression testing (and releases at various levels)</div>
Issues, constraints	Limited team available Lack of dedicated team members on IaC	
Success Defined How?	1. A mojaloop RC for v14 is made available with all the core services upgraded to use node v16 LTS	1. A mojaloop release v14 is published which can be adopted easily by IaC and adopters

Mojaloop Component diagram PI-19





PI-18 Updates

1. Mojaloop [v14.0.0](#) release
 - a. Upgrade nodeJS version to **v16** LTS for core services
 - b. Changes to liquidity check (restrictive)
 - c. 3PPI services using 3PPI API **v1.0**
 - d. sdk-scheme-adapter changes
 - merging with ml-connector
 - additional validations
 - e. Bug fixes
 - [Timeout](#) transfers being stuck
 - Bitnami charts [maintenance](#)
 - [Transfer states](#) (and [bulk transfer](#)) usage in sdk-scheme-adapter were fixed
2. Support current adopters, implementers
3. Support 3PPI, Bulk implementation

PI 18: v14 Release Summary

1. Mojaloop services are upgraded to use **Node LTS v16** (for v14 release)

- a. Ubuntu version upgrade to LTS (v20.04)
- b. Supporting dependencies upgraded
- c. CI/CD configuration standardized for all core services

2. Improved QA; In addition to release notes, publish migration guide and regression test plan

- a. Introduced **ml-core-test-harness** - a light-weight generic Functional Testing Harness using ML-TTK for CI and Local Dev: <https://github.com/mojaloop/ml-core-test-harness>

3. Helm Release & Maintenance

- a. Updated for all components for **v14 release** (including latest LTS components, bug-fixes, etc)
- b. Updated **deprecated backend dependencies** (e.g. MongoDB)
- c. Deprecated Finance-Portal v1 / v2 for v3 (**Business Ops Framework**)

4. Core Clearing - Liquidity Check/Calculation Updates

- a. **Liquidity Cover based on Available Funds in Settlement Account**
- b. **Net-Debit-Cap is now a true limit**
- c. **Liquidity Check** is against the **lower of the two (i.e. either Available Funds or Net-Debit-Cap Limit)**
- d. DA decision: [design-authority-project/issues/90](https://github.com/mojaloop/design-authority-project/issues/90)

5. SDK-Scheme-Adapter - Merged forked Mojaloop-Connector

- a. Added additional testing hooks for **better QA capabilities**
- b. **Improved security mechanism** introduced by PM4ML (Payment Manager for Mojaloop) for **Certificate Management**
- c. **Improved alignment** to the **FSPIOP Specification** (e.g. status, extensionLists, etc)
- d. Near real-time monitoring via Prometheus for Operational Monitoring

6. Third-party

- a. Upgraded TPP components to adopt latest v1.0 API Specification

7. Notable Bug Fixes

- a. **mojaloop/#2810**: timeout events are being produced for transfers with an internal-state of ABORTED_ERROR, closes <https://github.com/mojaloop/project/issues/2810>

v14 Release - Mojaloop services upgraded to use LTS



announcements ▾

Tuesday, July 12th ▾

central-ledger

Type: **Github Release** Release Type

Tag: **v15.1.3** Version

<https://github.com/mojaloop/central-ledger/releases/tag/v15.1.3> Release Notes link

Status: **SUCCESS** @ Build: **17560** CI Job [View](#)

[See more](#)

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central-ledger

Type: **NPM Release**

Tag: **v15.1.3**

<https://www.npmjs.com/package/@mojaloop/central-ledger/v/15.1.3> NPM Package link

Status: **SUCCESS** @ Build: **17577** [View](#)

[See more](#)

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central-ledger

Type: **Docker Release**

Tag: **v15.1.3**

<https://hub.docker.com/layers/central-ledger/mojaloop/central-ledger/v15.1.3/images/sha256-ca905534cc110d7b37cc47a23bdb906b66ab218a0024237c894662d3eb976f51?context=explore> Docker Hub link

Status: **SUCCESS** @ Build: **17576** [View](#)

[See more](#)

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Example Slack Notifications for Github, NPM and Docker releases

1. Core-services upgraded to use LTS
 - a. Node LTS (v16)
 - b. Ubuntu version LTS (v20.04) for CI Jobs
2. Supporting dependencies upgraded
3. Improved maintainability through the standardization of folder structures, linting, scripts, Dockerfiles, etc
4. CI/CD configuration standardised for all core services
 - a. Updated CI dependencies (Orbs)
 - b. Release Notifications for Success / Failures
 - i. Github (Release Notes)
 - ii. NPM (Libraries)
 - iii. Docker (Services)

v14 Release - Improved QA



Improved Functional QA testing with the ML-Core-Test-Harness

<https://github.com/mojaloop/ml-core-test-harness>

1. Reusable light-weight test-harness for automated CI and local dev based on Mojaloop Testing Toolkit (TTK)
2. Allows existing TTK Test-Case Collections (Golden Path) to easily be executed on CI and local dev
3. Provides flexible “Profiles” to cater for many use-cases, allowing for a sub-set for backend dependency services to be deployed as and when required.

```
docker-compose --profile ml-api-adapter --profile central-ledger up
```

```
docker-compose --profile transfer up
```

Profiles available

Profile Name	Description
all-services	All mojaloop services including TTK
ttk-provisioning	For setting up mojaloop switch and onboard sample DFSPs
ttk-tests	TTK tests
debug	Debug utilities (kowl)
central-ledger	Central Ledger service
ml-api-adapter	ML API Adapter service
quoting-service	Quoting service
account-lookup-service	Account lookup service
discovery	Services used for discovery
agreement	Services used for agreement
transfer	Services used for transfer

v14 Release

Helm Release & Maintenance



1. Updated for all components for v14 release, including
 - a. Upgraded LTS components
 - b. Bug-fixes
 - c. Latest features
2. Updated deprecated backend dependencies ← Impact Switch Implementers
 - a. Bitnami introduced a 6 month Retention Policy (*MongoDB):
<https://github.com/bitnami/charts/issues/10539>
3. Deprecated Finance-Portal v1 / v2 for v3 (Business Ops Framework)

v14 Release



Core Clearing - Liquidity Check/Calculation Updates

1. Impacts DEFERRED Settlement Models
2. Liquidity Cover is based on Available Funds in Settlement Account ← Impact Switch Implementers
3. Net-Debit-Cap is now a true limit
4. Liquidity Check is against the lower of the two (i.e. either Available Funds or Net-Debit-Cap Limit)
5. DA Issue/Decision: <https://github.com/mojaloop/design-authority-project/issues/90>

Motivation

- A. Aligned to upcoming version (v3) of Settlements & Settlement Models
- B. Reduce liquidity risk and simplify the Settlement Process

v14 Release - SDK-Scheme-Adapter - Merged forked Mojaloop-Connector



1. Added additional testing hooks for better QA capabilities
2. Improved security mechanism introduced by PM4ML (Payment Manager for Mojaloop) for Certificate Management
3. Improved alignment to the FSPIOP Specification (e.g. status, extensionLists, etc)
4. Near real-time monitoring via Prometheus for Operational Monitoring

v14 Release



Third-party (3P) APIs ← Impact FSP & Switch Implementers using 3P features

1. Upgraded 3P components to adopt latest v1.0 API Specification
 - a. Re-factoring of APIs/Code to accommodate change
 - b. Updating 3P TTK Test Collections to match v1.0 API

Notable Bug Fixes

1. [mojaloop/#2810](#): timeout events are being produced for transfers with an internal-state of ABORTED_ERROR, closes <https://github.com/mojaloop/project/issues/2810>

Mojaloop v14.0.0

<https://github.com/mojaloop/helm/releases>

[v14.0.0 RC release notes](#) - <https://bit.ly/3BBI0Wn>



<https://github.com/mojaloop/helm/blob/release/v14.0.0-rc/.changelog/release-v14.0.0.md>

release/v14.0....

helm / .changelog / release-v14.0.0.md

Go to file

...

mdebarros chore: fixed minor typo ✓

Latest commit 71bfcaa 20 hours ago History

3 contributors

192 lines (153 sloc) 23.2 KB

Raw Blame

Helm Release Notes

For breaking changes, please review the section [#4](#) "Breaking Changes" below.





1. New Features

1. Change the basis for the liquidity check ([mojaloop/design-authority-project/issues/90](#)). Pull requests are [mojaloop/central-ledger/pull/899](#) & [mojaloop/central-ledger/pull/901](#)
2. [mojaloop/#2092](#): upgrade nodeJS version for core services ([ml-api-adapter/#501](#)) ([central-ledger/#902](#)) ([account-lookup/#445](#)) ([quoting-service/#302](#)) ([sdk-scheme-adapter/pull/319](#)) ([sdk-standard-components/#168](#)) ([auth-svc/#116](#)) ([als-consent/#13](#)) ([thirdparty-api-svc/#82](#)) ([thirdparty-sdk/#142](#)) ([simulator/pull/243](#)) ([mojaloop-simulator/pull/145](#)) ([bulk-api-adapter/pull/82](#)) ([transaction-requests-service/pull/90](#)) ([central-settlement/pull/381](#)) ([event-sdk/pull/67](#)) ([event-sidecar/pull/49](#)) ([als-oracle-pathfinder/pull/72](#)) ([email-notifier/pull/202](#)) ([event-stream-processor/pull/61](#)) ([central-event-processor/pull/243](#)) , closes [mojaloop/#2092](#)
3. **sdk-scheme-adapter**: add extensionList to quote request/response ([#269](#)) ([9cbed66](#))
4. **sdk-scheme-adapter**: proper response schema for post /authorization type response ([#270](#)) ([6525e1d](#))



ML TTK update

TTK PI-18 updates

1. **Node** v16 LTS upgrade 
2. New features overview:
 - a. **Prefix path**, **hostname** options
 - b. **Port** change (from 5000 to 4040)
3. Separate repository for TTK **client** libraries and CLI 
4. **Functional** testing in CI/CD using TTK 
5. Support for teams that have **adopted TTK** (or in the process of adopting) 



TTK - Client library and tools

➤ <https://github.com/mojaloop/ml-testing-toolkit-client-lib>

1. NPM package

```
npm install @mojaloop/ml-testing-toolkit-client-lib --global
```

```
ml-ttk-cli
```

2. Docker image

```
docker pull mojaloop/ml-testing-toolkit-client-lib
```



```
graph LR; subgraph Left; S1[✓ setup 3m 1s]; S2[✓ pr-tools/pr-title-check 19s]; end; S1 --- J1(( )); S2 --- J1; J1 --- S3[✓ test-coverage 1m 10s]; J1 --- S4[✓ test-dependencies 39s]; J1 --- S5[✓ test-integration 3m 23s]; J1 --- S6[✓ test-lint 41s]; J1 --- S7[✓ test-unit 2m 40s]; J1 --- S8[✓ vulnerability-check 40s]; J1 --- S9[✓ audit-licenses 50s]; J1 --- S10[✓ build-local 3m 28s]; S3 --- J2(( )); S4 --- J2; S5 --- J2; S6 --- J2; S7 --- J2; S8 --- J2; S9 --- J2; S10 --- J2; J2 --- S11[✓ test-functional 3m 42s];
```

Step	Duration
✓ setup	3m 1s
✓ pr-tools/pr-title-check	19s
✓ test-coverage	1m 10s
✓ test-dependencies	39s
✓ test-integration	3m 23s
✓ test-lint	41s
✓ test-unit	2m 40s
✓ vulnerability-check	40s
✓ audit-licenses	50s
✓ build-local	3m 28s
✓ test-functional	3m 42s

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TTK - Demo



1. Path and hostname options



Roadmap for core



Roadmap items for PI-19

1. Support Patch notification on failures (transfers FSPIOP API v1.2)
2. Update existing helm charts to support LTS k8s versions
 - a. Mojaloop release with separation of external dependencies into separate helm charts:
<https://github.com/mojaloop/project/issues/1852>
 - b. Update ingresses to support new k8s api versions
3. Support bulk implementation in sdk-scheme-adapter and related components
4. Enhance tracing components to use latest OSS standards
5. Support vNext implementation
6. Community support
 - a. Bug fixes (20-25% of sprint capacity for prioritized issues)
 - b. Support community contributions and absorption into Mojaloop as required



Thank you!