Mojaloop vNext
PI 22 Update

28 Jun 2023
vNext Team

Agenda

- **Mojaloop vNext Introduction**
- **Progress Update**
- **Demo**
- **Next Steps**

Mojaloop vNext Introduction
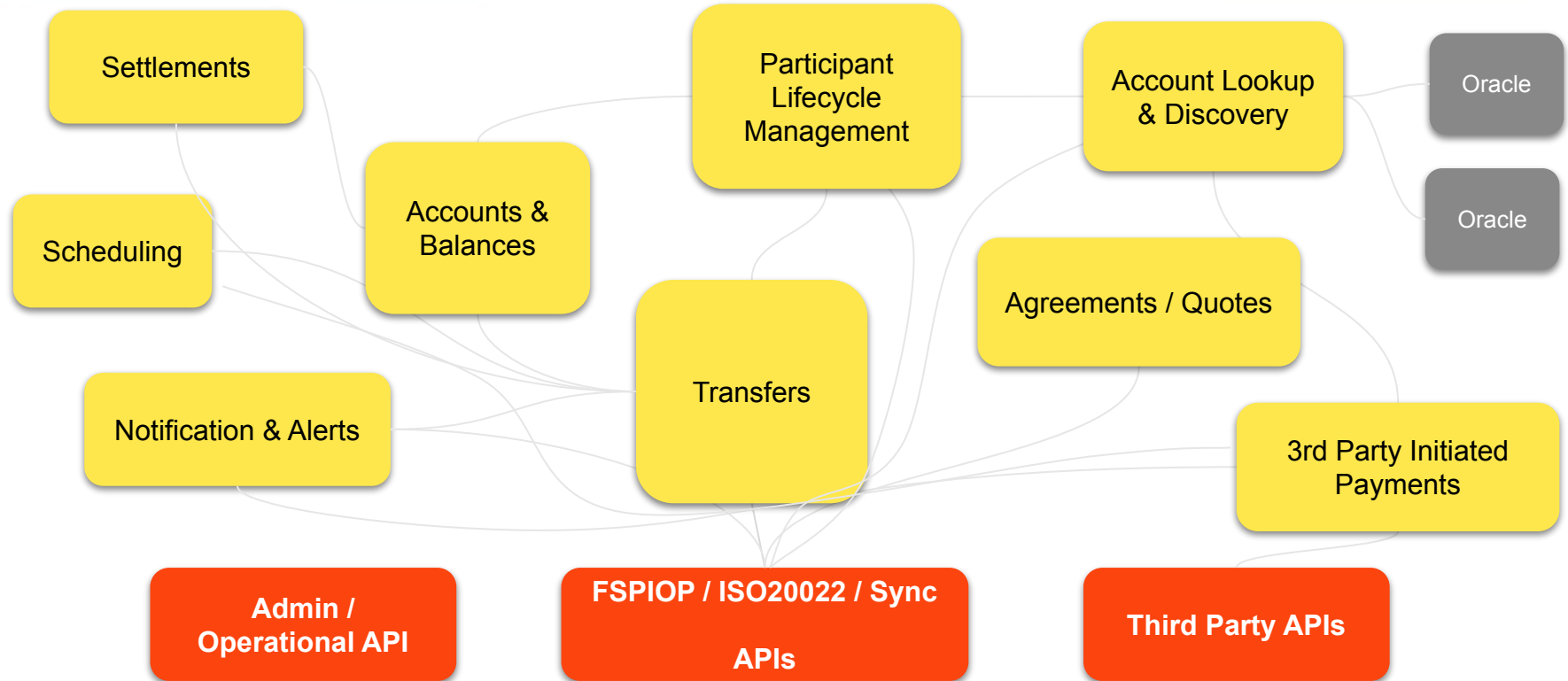
What is Mojaloop vNext?

Mojaloop vNext is the strict implementation

of the **agreed Reference Architecture**,

designed around its bounded context approach

What is Mojaloop vNext?

- Different architecture, built in parallel, codenamed vNext

- Same feature set, a future version, maybe v20?

- From the outside it is exactly the same FSPIOP v1.1 API

- When vNext is released, it will have a standard upgrade mechanism, SI's will have the ability to start working on custom upgrades as soon as alpha version is released

Bounded Context Approach

Settlements

Participant Lifecycle Management

Account Lookup & Discovery

Oracle

Oracle

Scheduling

Accounts & Balances

Agreements / Quotes

Transfers

Notification & Alerts

3rd Party Initiated Payments

Admin / Operational API

FSPIOP / ISO20022 / Sync APIs

Third Party APIs

Team focus in PI 21

Non-happy paths

Settlements Enhancements

Net Debit Cap

Test Coverage and Documentation

CI/CD Pipelines and Deployment

Alpha version release

Feature progress so far
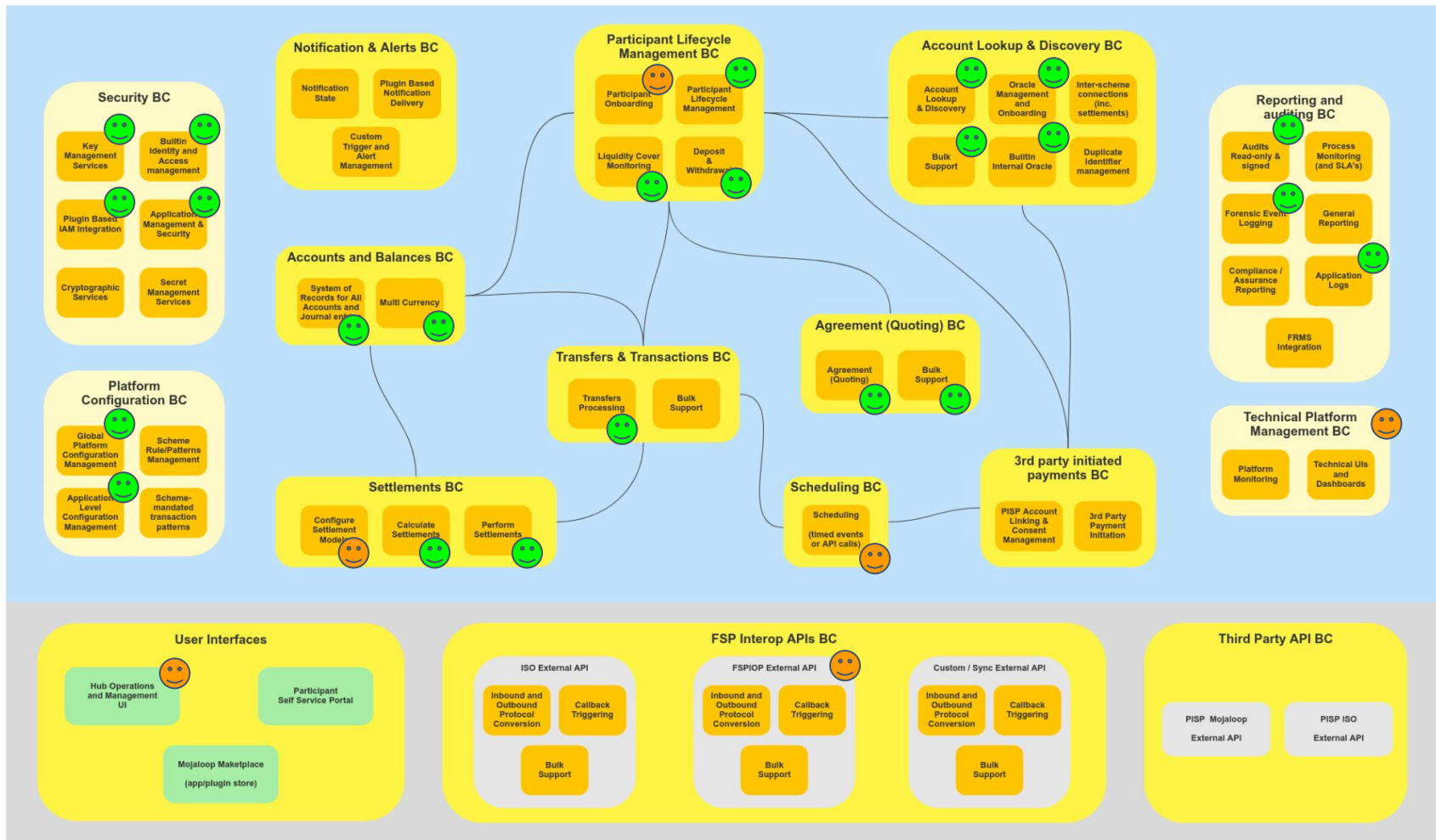
Business Main Use Cases

- **Onboarding** - Hub and participants - DONE

- **Lookups** - ALS, Built-in Oracles, Remote Oracle - DONE

- **Quoting** - Single and Bulk - DONE

- **Clearing** - Transfer prepare and fulfil - DONE

- **Settlements** - Gen, querying and exec/settling of Matrix - DONE

- **Accounts & Balances CoA** - TigerBeetle or Built-in Ledger - DONE

Feature progress so far

CrossCutting Concerns Main Use Cases

- **Authentication** - Built-in and external IAM Adapter - DONE

- **Authorization** - Fine Permissions, RBAC and Maker Checker - DONE

- **Platform Configuration -** Config changes without redeploying - DONE

- **Auditing** - Dual stage envelope and crypto signature - DONE

- **Logging** - Central logging facility with plugable storage - DONE

- **Admin APIs and UI** - Onboarding, Lookups, Quotes, Transfers, Settlements, Configs, Security, Operational reports, etc - WIP

Security BC

- Key Management Services
- Builtin Identity and Access management
- Plugin Based IAM integration
- Application Management & Security
- Cryptographic Services
- Secret Management Services

Notification & Alerts BC

- Notification State
- Plugin Based Notification Delivery
- Custom Trigger and Alert Management

Participant Lifecycle Management BC

- Participant Onboarding
- Participant Lifecycle Management
- Liquidity Cover Monitoring
- Deposit & Withdrawals

Account Lookup & Discovery BC

- Account Lookup & Discovery
- Oracle Management and Onboarding
- Inter-scheme connections (inc. settlements)
- Bulk Support
- Builtin Internal Oracle
- Duplicate Identifier management

Reporting and auditing BC

- Audits Read-only & signed
- Process Monitoring (and SLA's)
- Forensic Event Logging
- General Reporting
- Compliance / Assurance Reporting
- Application Logs
- FRMS Integration

Accounts and Balances BC

- System of Records for All Accounts and Journal entry
- Multi Currency

Platform Configuration BC

- Global Platform Configuration Management
- Scheme Rule/Patterns Management
- Application Level Configuration Management
- Scheme-mandated transaction patterns

Transfers & Transactions BC

- Transfers Processing
- Bulk Support

Agreement (Quoting) BC

- Agreement (Quoting)
- Bulk Support

Scheduling BC

- Scheduling (timed events or API calls)

3rd party initiated payments BC

- PISP Account Linking & Consent Management
- 3rd Party Payment Initiation

Technical Platform Management BC

- Platform Monitoring
- Technical UIs and Dashboards

Settlements BC

- Configure Settlement Model
- Calculate Settlements
- Perform Settlements

User Interfaces

- Hub Operations and Management UI
- Participant Self Service Portal
- Mojaloop Maketplace (app/plugin store)

FSP Interop APIs BC

ISO External API

- Inbound and Outbound Protocol Conversion
- Callback Triggering
- Bulk Support

FSPIOP External API

- Inbound and Outbound Protocol Conversion
- Callback Triggering
- Bulk Support

Custom / Sync External API

- Inbound and Outbound Protocol Conversion
- Callback Triggering
- Bulk Support

Third Party API BC

- PISP Mojaloop External API
- PISP ISO External API

Live Demo

Demo Notes

Test calls and screens are **only enabled in development**/test mode
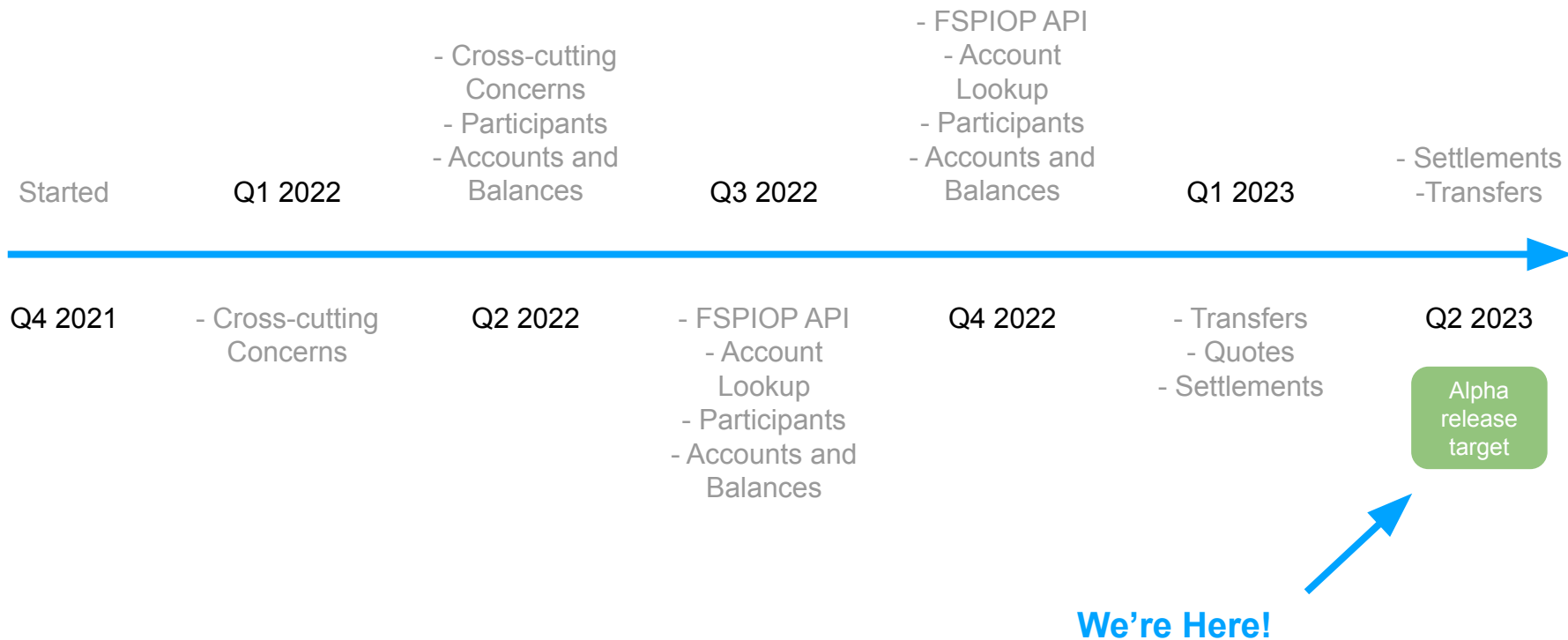
All requests to and from the Mojaloop vNext have

been going **through the FSPIOP API**

We'd like to get started with an PoC implementation of the

ISO20022 API as soon as possible

When can you use it?

Promised Roadmap

Started	Q1 2022	- Cross-cutting Concerns - Participants - Accounts and Balances	Q3 2022	- FSPIOP API - Account Lookup - Participants - Accounts and Balances	Q1 2023	- Settlements -Transfers

Q4 2021	- Cross-cutting Concerns	Q2 2022	- FSPIOP API - Account Lookup - Participants - Accounts and Balances	Q4 2022	- Transfers - Quotes - Settlements	Q2 2023

Alpha release target

We're Here!

Alpha release is ready!

You can test it now!

mini-loop-vnext - for everyone

https://github.com/mojaloop/mini-loop/tree/vnext-alpha

docker-compose - for devs

https://github.com/mojaloop/platform-shared-tools/tree/main/packages/deployment

What's in the Alpha release?

**Happy paths and most non-happy paths for
all main use cases - inc. cross cutting**

- **Onboarding** - Hub and participants
- **Lookups** - ALS, Built-in Oracles, Remote Oracle
- **Quoting** - Single and Bulk
- **Clearing** - Transfer prepare and fulfil
- **Settlements** - Generation, querying and execution/settling of Matrix
- **Accounts & Balances CoA** - Backed by TigerBeetle or Built-in Ledger

Does it work?

How does it perform?

Very early test runs - this is alpha!

- 1 hour long with less than 1% above 1 sec

- Internal message based tests, with simulators (JMeter soon)

- Logs, audits, security and settlements enabled

- Optimizations not yet performed

- Single instance, minimal install

- Using the built-in ledger implementation

How does it perform?

~100

transfers per sec

~500

lookups per sec

(get party and get participant)

How does it perform?

What's missing from Alpha?

- Certificate and JWS validation - Already designed

- Transfers Timeouts - WIP

- Bulk Transfers

- Proper Performance Optimizations

- Custom Notifications

- More tests, more code cleanup and better documentation
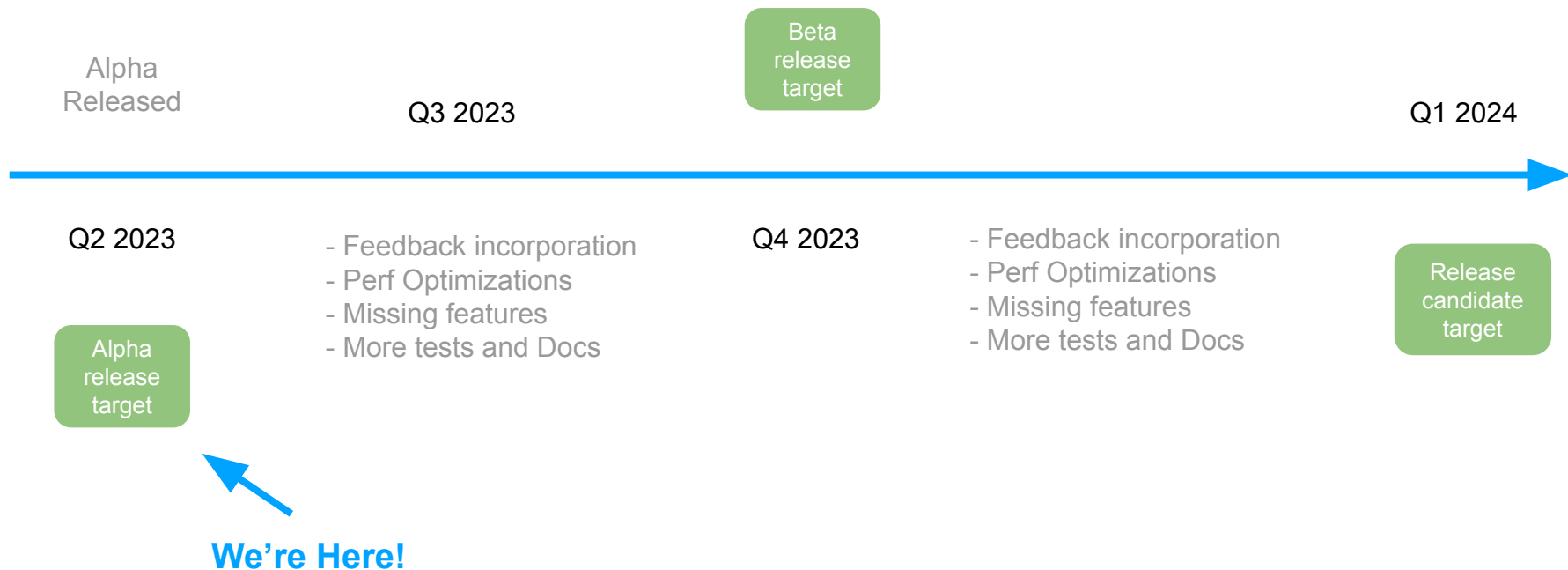
What's missing from Alpha?

Feedback from

Brave Implementers

willing to try it!

Next Steps

Roadmap to Production (WIP)

Alpha Released

Q3 2023

Beta release target

Q1 2024

Q2 2023

- Feedback incorporation
- Perf Optimizations
- Missing features
- More tests and Docs

Q4 2023

- Feedback incorporation
- Perf Optimizations
- Missing features
- More tests and Docs

Alpha release target

Release candidate target

We're Here!

How we work

Fortnightly Workshops - Thursdays at 11:00 UTC

For developers - snapshot releases for docker compose and K8s available in GitHub

For non-developers - mini-loop:

https://github.com/mojaloop/mini-loop/tree/vnext-alpha

slack **#vnext-build**

Team work - Thank you!

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Team work

ThitsaWorks

Experience Sharing