



# Mojaloop vNext PI 21 Update

9 Mar 2023  
vNext Team



# Agenda

- Mojaloop vNext Introduction
- Progress Update
- Demo
- When can you use it?



# Mojaloop vNext Introduction

# Path to vNext?



## Performance PoC

(Q4 2020)

## Reference Architecture

(Q2 2021)

# Reference Architecture Refresher



A Reference Architecture...

...is a set of documents, that **captures the essence** of the product  
and **provides guidance** to the implementation  
of its **future versions**.



# Reference Architecture Refresher



## Goals for a reference architecture implementation

- Cleaner and Smaller codebases, with Less Dependencies
- Easier to Contribute and Extend
- Easier to Test, Deploy and Operate
- Secure, Performant at Scale and Cost Effective
- Mojaloop Marketplace



**How does that relate  
to Mojaloop vNext?**

# What is Mojaloop vNext?



**Jul 2021 - PI15**

Reference Architecture Team proposed the  
Mojaloop vNext build workstream  
(was called V2 back then)



# What is Mojaloop vNext?



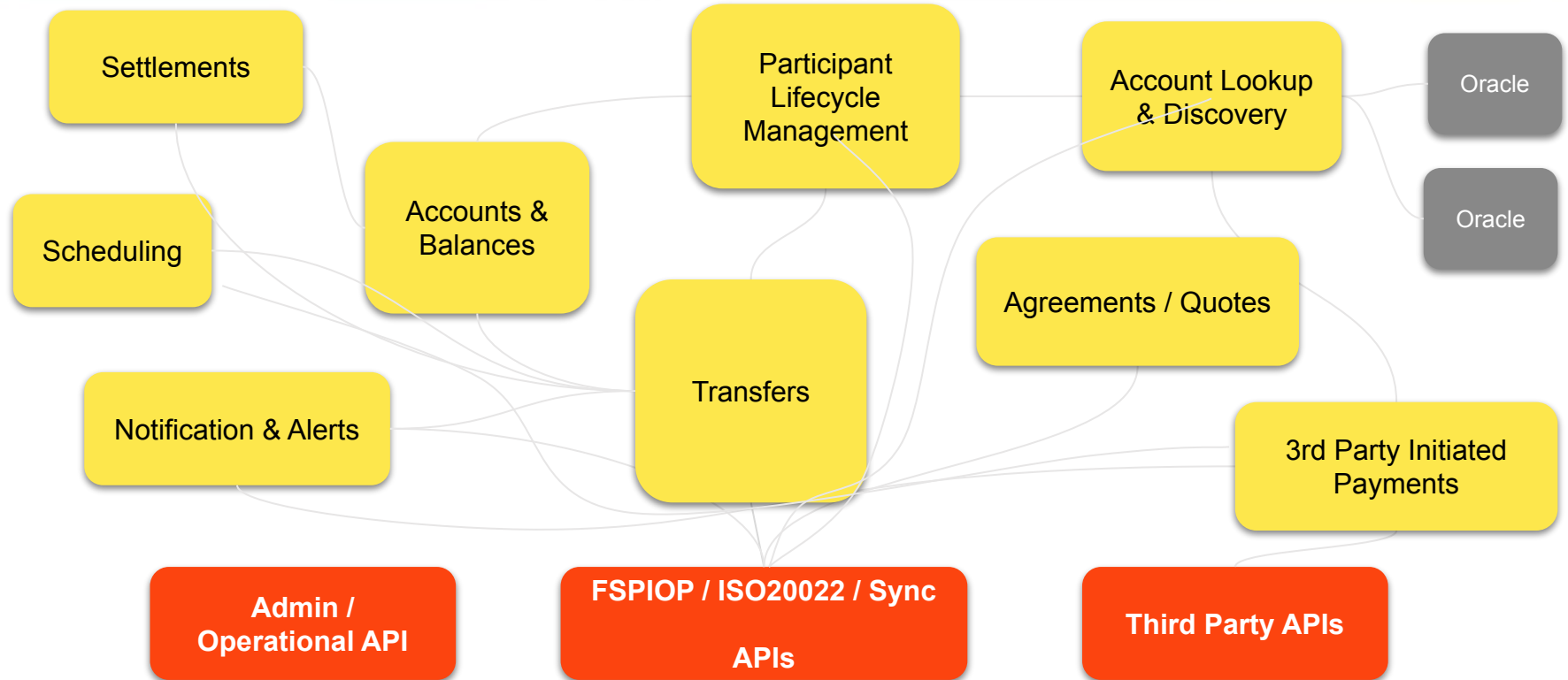
Mojaloop vNext is the strict implementation  
of the **agreed Reference Architecture**,  
designed around its bounded context approach

# What is Mojaloop vNext?



- Different architecture, built in parallel, codenamed vNext
- Same feature set, a future version, maybe v20?
- 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



# How does it fit the pillars?



Evolution to continuous quality,  
delivering modularity at scale,  
easy and cheap to adopt!



# Mojaloop vNext build progress update



# Progress so far



## Business Main Use Cases

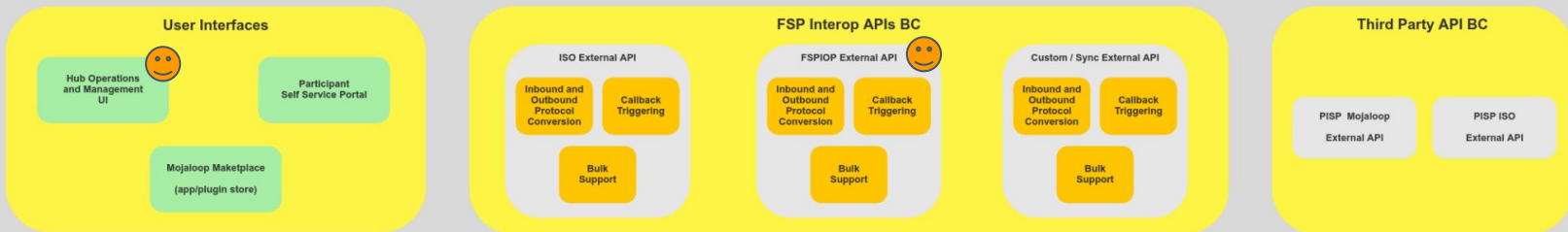
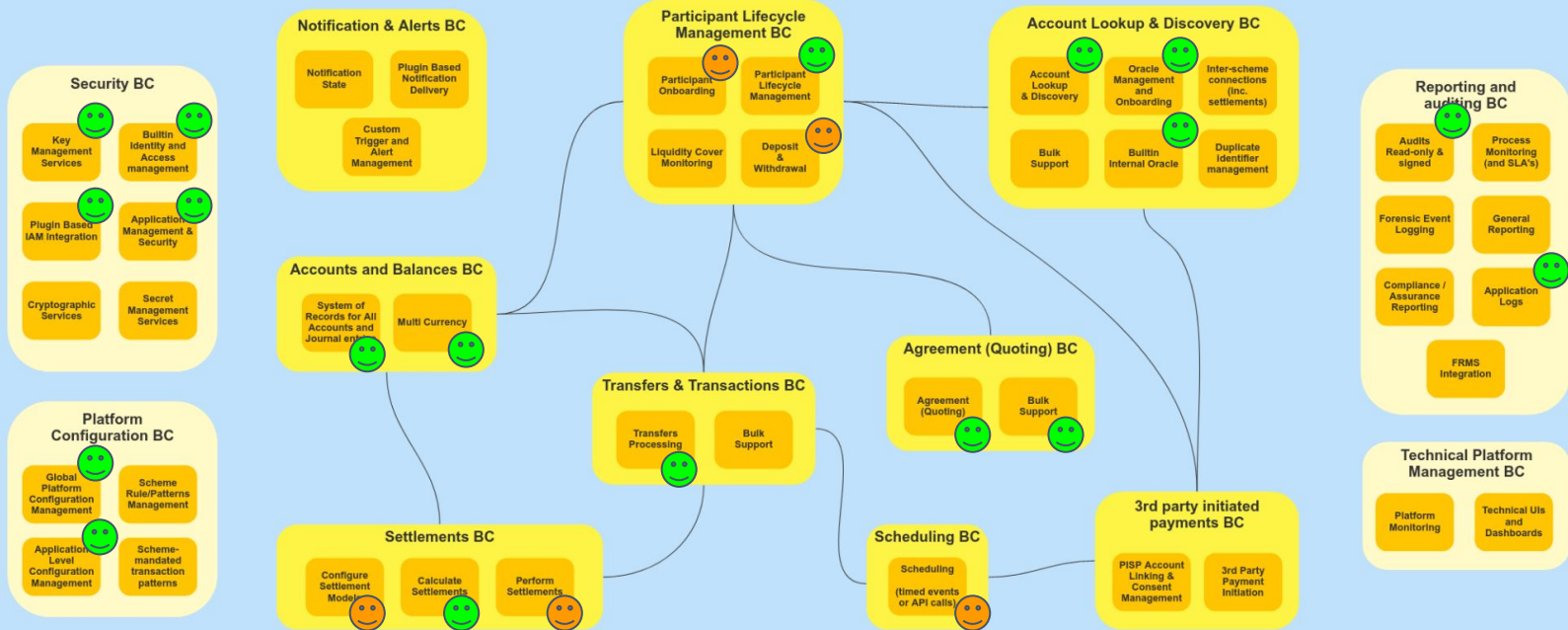
- **Onboarding** - Hub and participants - DONE
- **Lookups** - ALS, Built-in Oracles, Remote Oracle - DONE
- **Quoting** - Single and Bulk - DONE
- **Clearing** - Transfer prepare and fulfil - WIP
- **Settlements** - Gen, querying and exec/settling of Matrix - WIP
- **Accounts & Balances CoA** - TigerBeetle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

# 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





# Live Demo

# Demo - Onboarding



1. HUB and its accounts
2. Onboard participants, with endpoints and accounts
3. Approve participant creation (maker-checker)



# Demo - Account Lookup



## Design philosophy:

- Multiple oracles
- Includes a built in oracle implementation
- Can create multiple remote oracle adapters to talk to any other oracle implementation

# Demo - Account Lookup



1. Register the built-in Oracle to handle MSISDN type lookups
2. Create the association of a MSISDN account with a Participant in the built-in Oracle
3. Simulate a Get Participant request and see the response in the TTK
4. Simulate a Get Party request request and see the response in the TTK

# Demo - Quoting



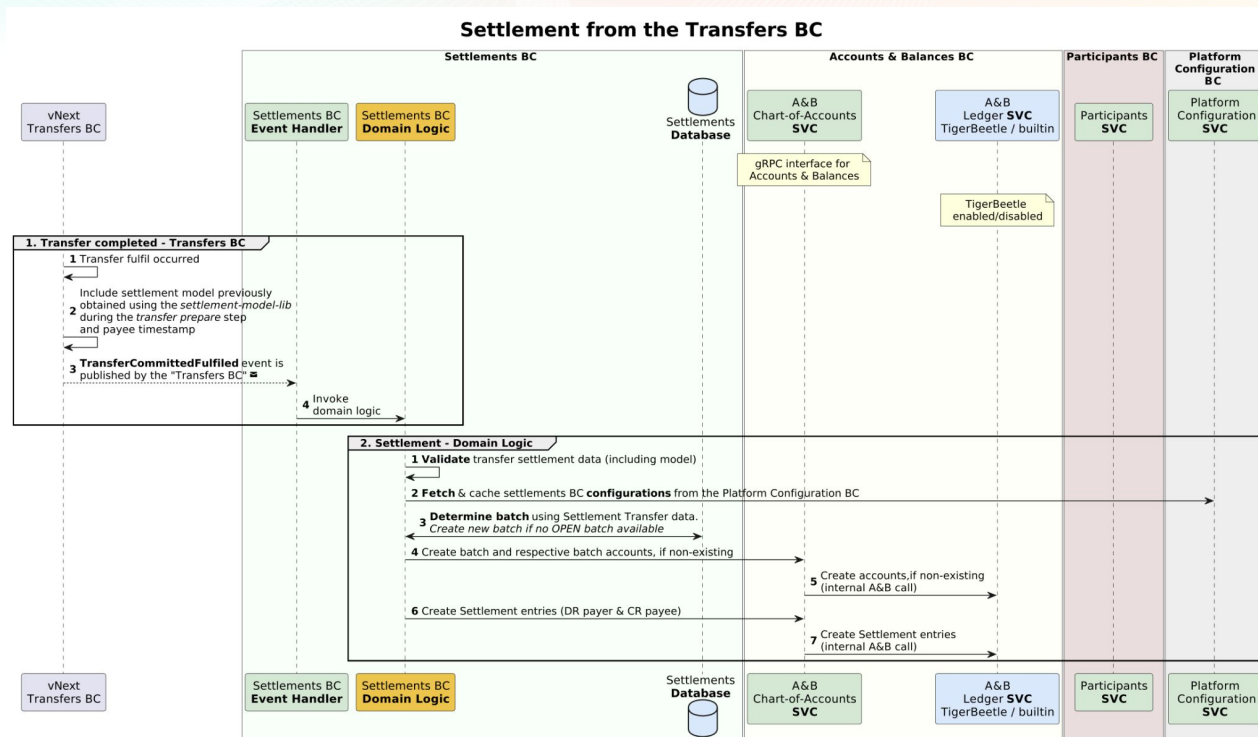
1. Create a quote from the Admin UI
2. Show the Quote data in the TTKs
3. Show the Quote data in the Admin UI

# Demo - Transfers



1. Create a transfer from the Quote
2. Show the transfer in the TTKs
3. Show the Transfer data in the Admin UI

# Demo - Settlement





# Demo - Settlements



1. Create a transfers from the Admin UI
2. Show the batch just created for the transfer in the Admin UI
3. Create a Settlement Matrix
4. Create a new transfer and recalculate the Matrix
5. Execute the Settlement Matrix

# Demo - Where's the Interop API?



It's been there all the time,  
all requests to and from the Switch have  
been going through the FSPIOP API

We hope to get started with an PoC implementation of the ISO20022  
after releasing the alpha version

# 20 Microservices



## Infra (8)

Zookeeper  
Kafka  
TigerBeetle  
MongoDb  
ElasticSearch  
Kibana  
RedPanda  
Mongo Express

## Cross-cutting (7)

Authentication Service  
Authorization Service  
Logging Service  
Auditing Service  
Platform Configuration Service  
Admin UI  
Interop FSPIOP API

## Applications (13)

Participants Service  
Accounts and Balances CoA Service  
Accounts and Balances Ledger Service  
Account Lookup Service  
Built-In Oracle Service  
Quotes Service  
Scheduling Service  
Transfers Event Handler Service  
Transfers Command Handler Service  
Transfers REST API Service  
Settlements Event Handler Service  
Settlements Command Handler Service  
Settlements REST API Service

10+ - Typescript **Type Libraries**

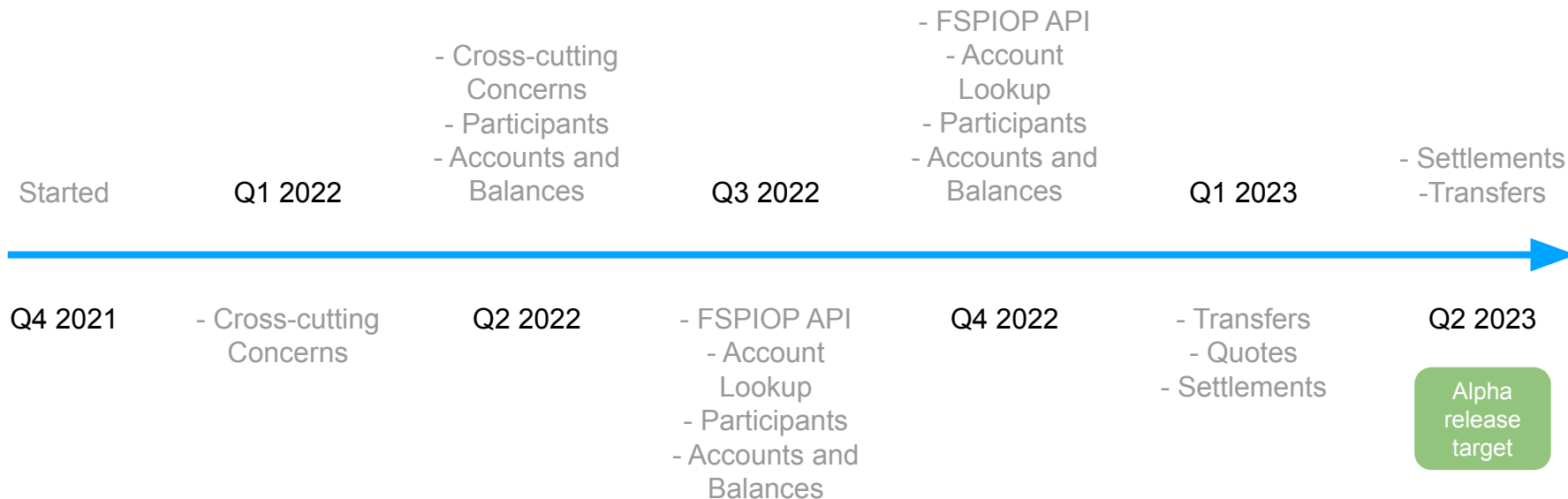
9 - **Client Libraries**

And of course the **TTK & TTK UI**



**When can you use it?**

# Roadmap to Alpha





# Current Target Dates



Alpha Release - **End of Q2 2023**

Beta Release - **End of Q4 2023**

# What's in the Alpha release?



## Happy path 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

# Anything before alpha?



**Fortnightly Workshops**

**Starting 23rd March 2023 12:00 GMT**

For developers - Docker compose available in GitHub

For non-developers - Talk to the team!

 **slack #vnnext-build**

# Thank you to the team



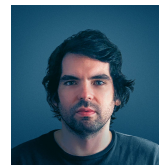
Jason Bruwer

Coil



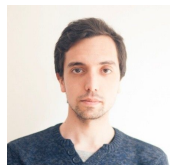
Gonçalo Garcia

Student



José Antunes

Crosslake



Rui Rocha

Crosslake



Elijah Okello

Student

# Thank you to the team - Update!



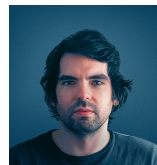
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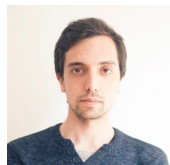
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Aung Mon Ko

ThitsaWorks



Myo Min Htet

ThitsaWorks



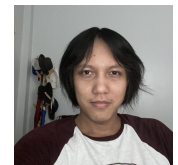
Sithu Kyaw

ThitsaWorks



Soe Htut Linn

ThitsaWorks



Zwe Htet Myat

ThitsaWorks