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The Mojaloop Sandbox
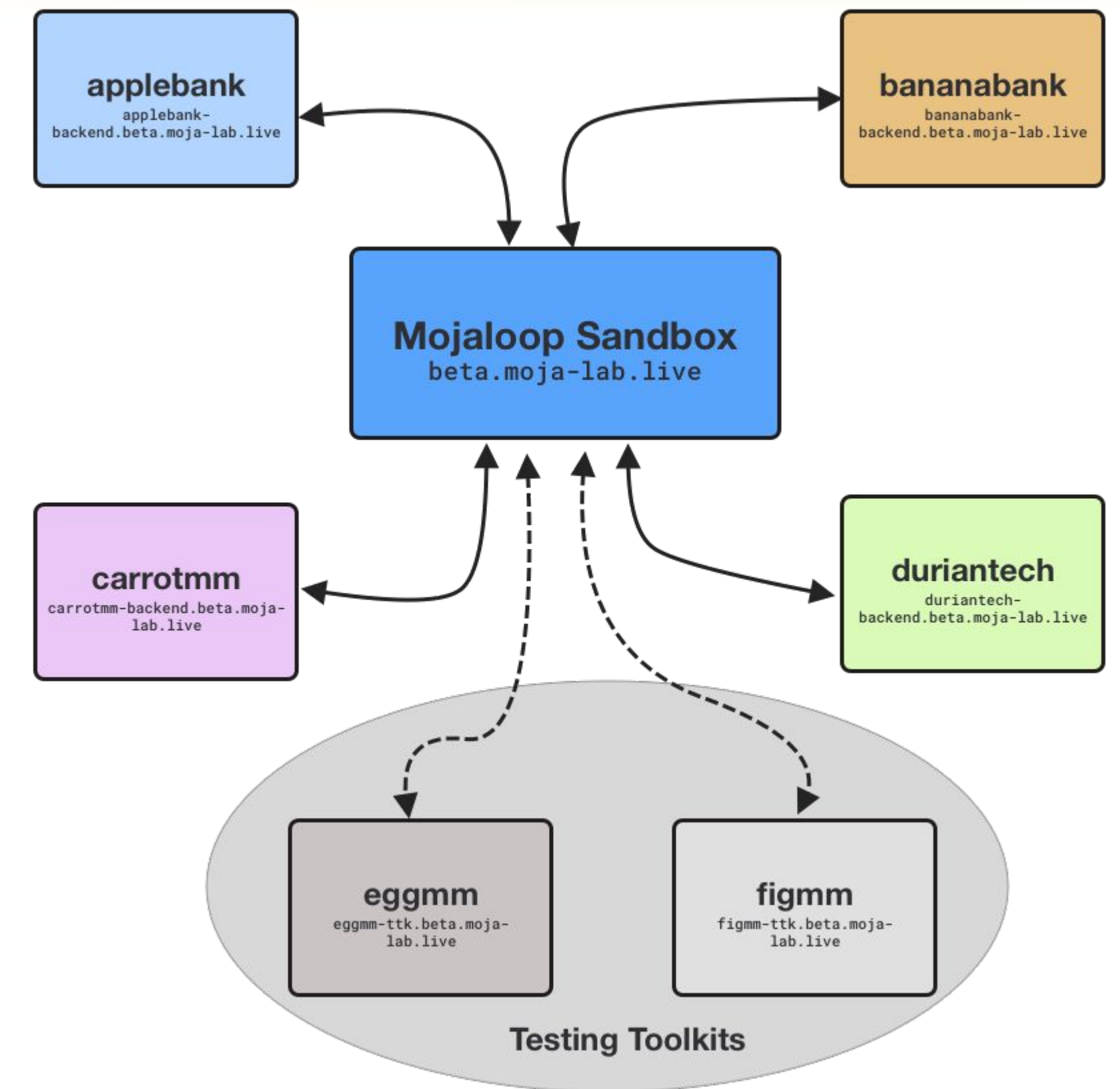
PI 13 - January 2021

Lewis Daly

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What have we got?

1. 'Vanilla' Mojaloop installation based on our helm charts

2. Basic API Gateway (with Kong)

   a. FSPIOP API: `beta.moja-lab.live/api/fspiop`

   b. Admin API: `beta.moja-lab.live/api/admin/central-ledger`

3. Dev Portal (http://beta.moja-lab.live)

4. DFSP Simulators, Testing Toolkit Instances

Dev Portal

1. Deploy alongside the Mojaloop Helm Charts

2. Integrated guides with copy/pasteable curl commands

3. Common entrypoint for devs to check out a deployed, up and running Mojaloop environment

Q

Getting Started

Overview

APIs

FSPIOP (Mojaloop API)

Admin API

Settlement API

Thirdparty-DFSP

Thirdparty-PISP

Guides

1. DFSP Setup

2. P2P Transfer

3. DFSP Simulators

4. TTK P2P Transfer (Easy)

5. Thirdparty PISP API Local

Demos

Open API for FSP Interoperability (FSPIOP) `1.1` `OAS3`

https://raw.githubusercontent.com/mojaloop/mojaloop-specification/master/fspiop-api/documents/v1.1-document-set/fspiop-v1.1-openapi3.yaml

Based on API Definition updated on 2020-05-19 Version 1.1.

Note: The API supports a maximum size of 65536 bytes (64 Kilobytes) in the HTTP header.

Sam Kummary - Website

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Servers

{protocol}://hostname:<port>/switch/ ⌄

Computed URL: `https://hostname:<port>/switch/`

Server variables

| protocol | https ⌄ |

participants ⌄

POST `/participants/{Type}/{ID}` Create participant information

GET `/participants/{Type}/{ID}` Look up participant information

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Users

And the current users are registered and available for lookup in the Account Lookup Service

dfspId	Id Type	Id Value	Display Name
payeefsp	MSISDN	27713803912	Test
applebank	MSISDN	123456789	Alice Alpaca
applebank	MSISDN	11194979	Alex Alligator
bananabank	MSISDN	218493479	Bob Bobbish
bananabank	MSISDN	292455793	Belinda Bells
carrotmm	MSISDN	32929423	Cathy C
carrotmm	MSISDN	32929124	Colin Creevey
duriantech	MSISDN	410283497	Dobby Elf
duriantech	MSISDN	4448483173	Draco Dragon

You can play around with the existing DFSPs by using the Simulator UI⧉ . Check out the Simulator Guide for details on how to use the simulator UI.

APIs

Mojaloop has a variety of APIs you can interact with:

Name	Version	Who	Base URL
FSPIOP (Mojaloop API)	v1.1	DFSPs	beta.moja-lab.live/api/fspiop
Admin	v1	Hub Admins, DFSPs	beta.moja-lab.live/api/admin /central-ledger
Settlement	v1	DFSPs	(not currently available with this lab)
Thirdparty-DFSP	v0.1	DFSPs	(Coming Soon)
Thirdparty-PISP	v0.1	PISPs	(Coming Soon)

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1. DFSP Setup

This guide will help you set up your own bare-bones DFSP server to send and receive Mojaloop requests using Mojaloop's FSPIOP API

1. Prerequisites:

- A `DFSP_ID` , you can make up any set of strings you would like, e.g. `lewsdfsp`
- `node` , `npm` and `npx`
- `jq`
- `docker`

> Does this guide look too command line heavy for you? Try using the Testing Toolkit instead.

2. Run a Mock server to listen to async callbacks

Since Mojaloop is an Async API, we need to run a server to listen to callbacks from the Mojaloop Switch.

We use docker here to run a simple web server which prints out it's inbound requests.

```sh
docker run -p 8081:8080 --rm -t mendhak/http-https-echo:15
```

Once this server is up and running, you can test it out with the following:

```sh
curl -X POST localhost:8081 -d '{"hello":"world"}'
```

You should see the following output in the docker window:

```
----------------
{
    "path": "/",
    "headers": {
```

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What's Missing

1. ⅔ of Mojaloop's Security - TLS + JWS

2. Payment Manager, Connection Manager, Finance Portal

3. Thirdparty APIs (for PISP)

ModusBox were kind enough to help fill some of these gaps with their own environment, but we're moving towards a common place with the IAC contribution.

How did it get used?

1. Account Lookups: (`GET /parties`) - 130

2. Parties Registered: (`POST /participants`) - 100

3. Quotes Requested (`POST /quotes`) - 65

4. Transfers Requested (`POST /transfers`) - 48

5. DFSPs registered by users - 9