Journey to contribution

Focus on the Mojaloop Toolkit (TTK)

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Mojaloop Toolkit (TTK)

Open API toolkit

1. Connecting systems & Building PoCs
   → Exploring; Simulating; Demonstrating APIs & (new) use-cases

2. Development against an API
   → OpenAPI definition validation; mocking & monitoring
   Start with working test case; develop component to replace API calls

3. Validating APIs
   → building & executing tests; managing collections & reports; mocking APIs;
   CI validation; helm deployment tests

Diverse audience

Meeting place of

- Product Owners and Product Consumers
- Coders and non-coders
- Developers & quality assurance experts
- Exploring ideas & repeatable test cases
- Designed Functions & Designed Failures
- UI based & CI execution
- Product Demonstration & Integration Validation

Why?
Tool that supports all Mojaloop Pillars

1. Capacity Building

   Support adoption and mojaloop contributions (API exploring & explaining, Dev env, POC)

2. Exploring a new use case; POCs

3. Build POCs when connecting systems

4. Functional test harness that developers can run locally, in a CI environment, or run as deployment tests
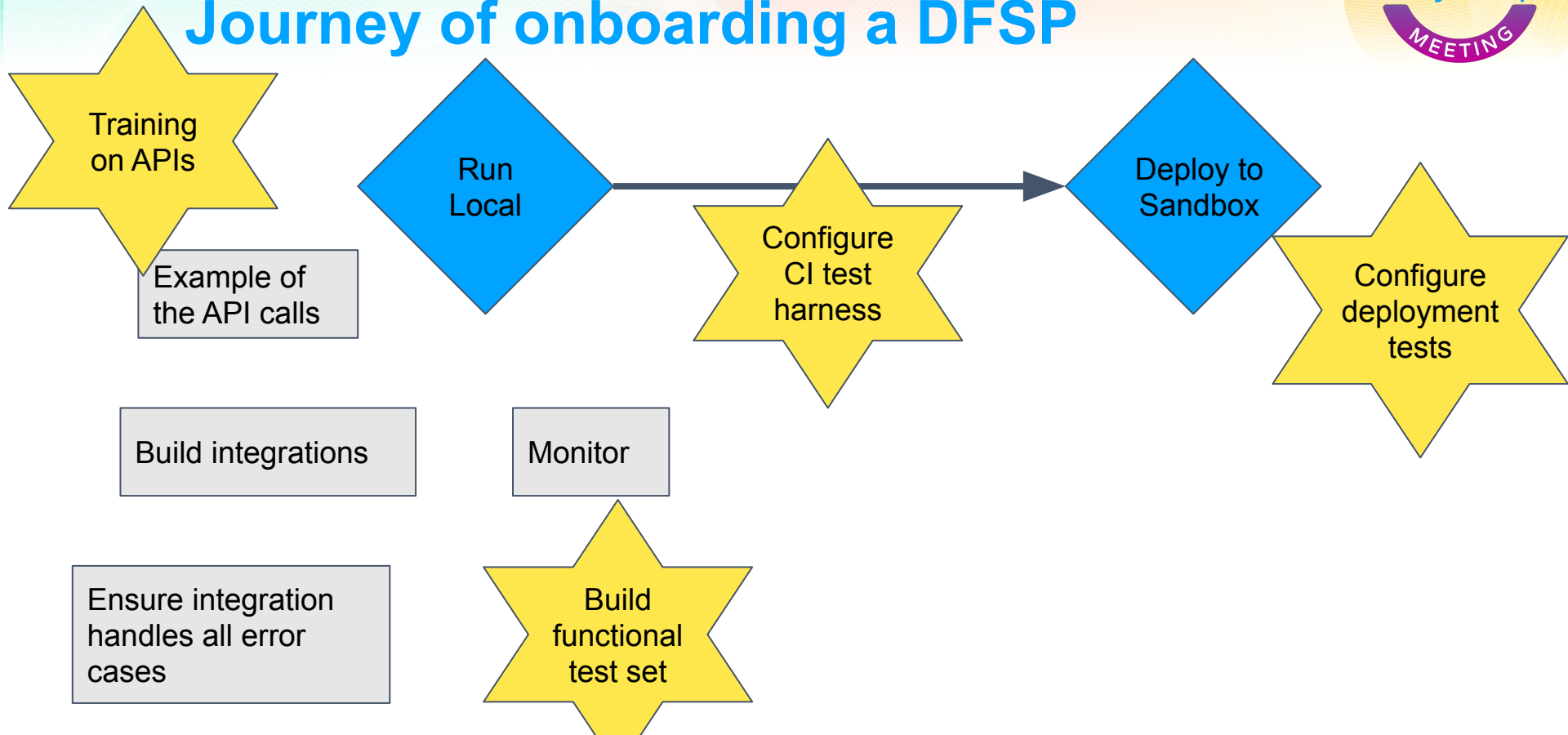
mojaloop

Make Adoption Easier

Achieve Scale

Connect to Other Systems

Quality Product
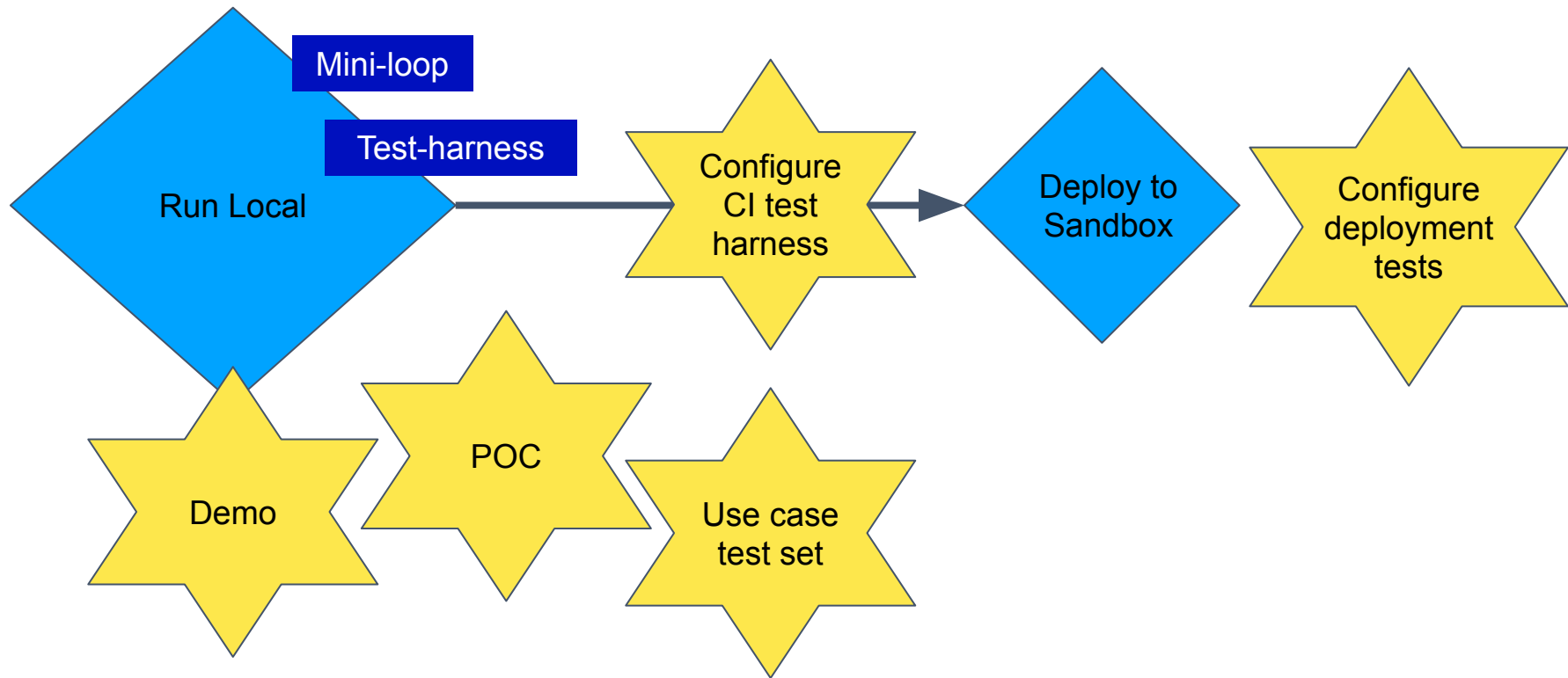
System Integrators
Journey of onboarding a DFSP

Training on APIs

Example of the API calls

Run Local

Configure CI test harness

Deploy to Sandbox

Configure deployment tests

Build integrations

Monitor

Ensure integration handles all error cases

Build functional test set

Hub Operators

Building the Hub

Pre Program Activities

- Scheme Stakeholders
- Regulators
- Hub operators
- Wallet Providers
- Banks
- MFIs / SACCOS
- Fintechs

↻ Orchestrating a Mojaloop Scheme Business and building Capacity

Developing the business case

Initial use-case chosen

↻ Business case for scheme, hub & participants

↻ Scope of Scheme, Hub, Regulator & Participants defined

Commitment from Regulator

↻ Scheme aligned to Regulator for use-case

↻ Seek Regulator approval or no objection

Deploying a sandbox

Hub operator appointed

↻ Scheme Rules defined

↻ Hub operator chosen

Sandbox Built

↻ Letter of commitment from Participants

Stage Delivery

Setting up for Go-live

Production system built + real money transactions

↻ Regulator approval

↻ Production system built

↻ DFSP taken live

Scheme Legal entity defined

↻ Scheme built

↻ Governance defined

↻ Participant agreements

Minimum participant connections reached

↻ Participants connected

Building the hub

UAT passed

↻ Use-case functional and non-functional components built and tested

Settlement Bank process defined

↻ Scheme Rules defined

↻ Settlement Bank chosen

COMMUNITY MEETING
mojaloop

Journey to contribution

1. Mojaloop Community

2. Mojaloop Training Program (MTP)

3. Testing Toolkit

4. ML workstreams

Mojaloop Toolkit - wider implications

ML Toolkit for DPGs

1. APIs are where the digital public goods projects meet
2. Need to demonstrate interoperability between the systems
3. Having a combined and shared understanding is useful
4. Open API definitions
5. Sequence diagrams
   a. → A good demonstration tool based on agreed API interfaces

Mojaloop Toolkit - good product market fit

It takes time to get developer teams to try TTK, but once they do, they don't stop praising it.

→ Good product market fit

Examples: PISP delivery team; ISO 8583 team, Mojaloop vNext; Mojaloop Golden Path test collection; Miniloop;
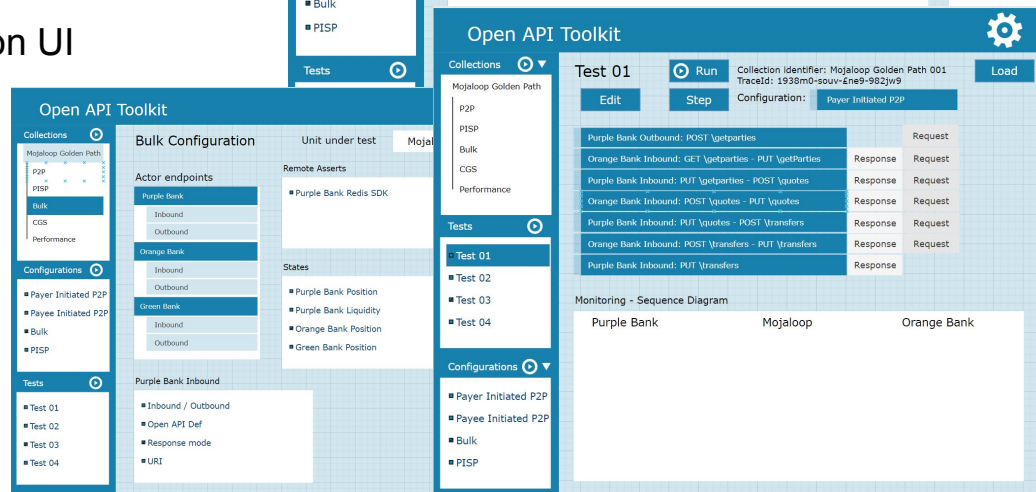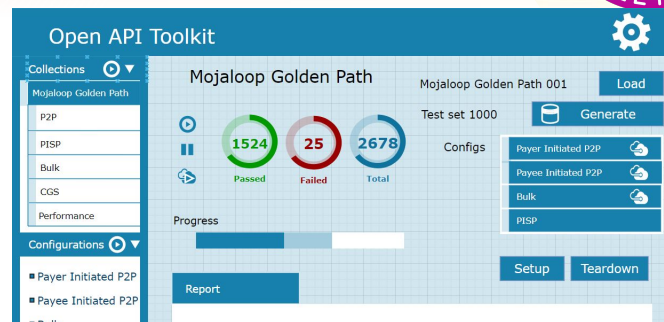
Survey feedback link

What could the future look like?

Generalisations

1. Hub mode state stores
2. Explicit test configuration
3. Asserts
4. Test Report delivery/storage
5. Tying mock rules to tests by using open tracing standards.
6. Puggable micro-front end demonstration UI

More feature enhancements

1. Refactor UI
2. Decoupling of UI from test running
3. Enhance test data parameterisation

Making the most of an API first approach

Open API definition

- Exploring
- Validation
- Prepopulation of test cases & examples
- Prepopulation of Mock responses
- Enables complex state flow mocking and responding as multiple system components
- Asynchronous calls

References

[Survey feedback link](#)

[Mojaloop Training Program Course](#)

[Build a Mojaloop Integration Harness](#)

[Mojaloop Toolkit Github repository](#)

[Mojaloop Toolkit UI repository](#)

[Mojaloop Toolkit testsets](#)

[Mojaloop Test Harness](#)

[Mini-loop](#)

[Payment Manager Integration Harness](#)

[PISP Bootcamp POC](#)