Mojaloop - TigerBeetle Integration

PI-20 Community Meeting

26 October 2022

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Agenda

1. Business Drivers

2. PI-19 Progress

3. Constraints

4. Demo (Settlement)

5. Next steps & Questions

Business Drivers

1. Why are we doing this work?
   - Performance
   - Cost

2. Impact of work:
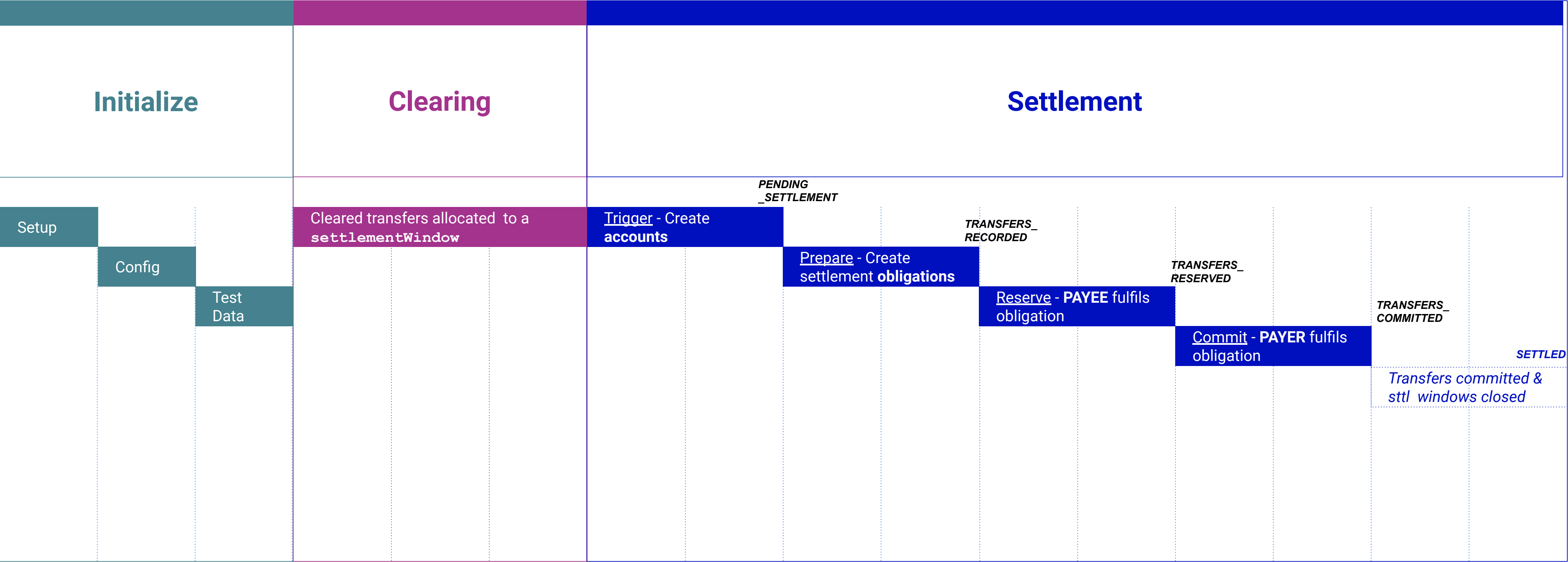   - Business
   - Development

PI-19 Goals & Progress

Goal	Integrate TigerBeetle into Mojaloop	
Key Objectives	1. Design document ✔ 2. Development for Central-Settlement ✔ 3. Regression & integration tests ✔	4. Integrate into vNext * ⓘ 5. Demonstrate settlement (*workaround*) ⓘ
Roadmap & Risks / Issues	**Roadmap** ● Remove data duplicated in SQL ● Integration review for Production readiness	**Risks / Issues** ● TigerBeetle production readiness
Define Success	● Add full test suite ● Complete implementation guide ● Quantify settlement performance ● Report total cost of ownership impact ● DA, Product Council & community review & approval process	

Constraints

1. Need to expose TigerBeetle Transfer timeouts via API (*beta*). Currently dependent on SQL for Transfer timeouts.

2. Remove data duplicated in TigerBeetle & SQL by introducing TigerBeetle range queries.

Settlement Process

Initialize	Clearing	Settlement

Initialize
- Setup
- Config
- Test Data

Clearing
- Cleared transfers allocated to a `settlementWindow`

Settlement

PENDING _SETTLEMENT

Trigger - Create **accounts**

TRANSFERS_ RECORDED

Prepare - Create settlement **obligations**

TRANSFERS_ RESERVED

Reserve - **PAYEE** fulfils obligation

TRANSFERS_ COMMITTED

Commit - **PAYER** fulfils obligation

SETTLED

Transfers committed & sttl windows closed

Demo - Clearing & Settlement

https://drive.google.com/file/d/1a7NesrbntvHyxzCpsIk7X6Hd7abJ6tpX/view?usp=sharing

Mojaloop - TigerBeetle Integration

Next Steps

1. Upgrade TigerBeetle to resolve the 2 constraints.

2. Complete settlement integration & expand testing.

3. Quantify performance.

4. Initiate community review process.

Thank you.