



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



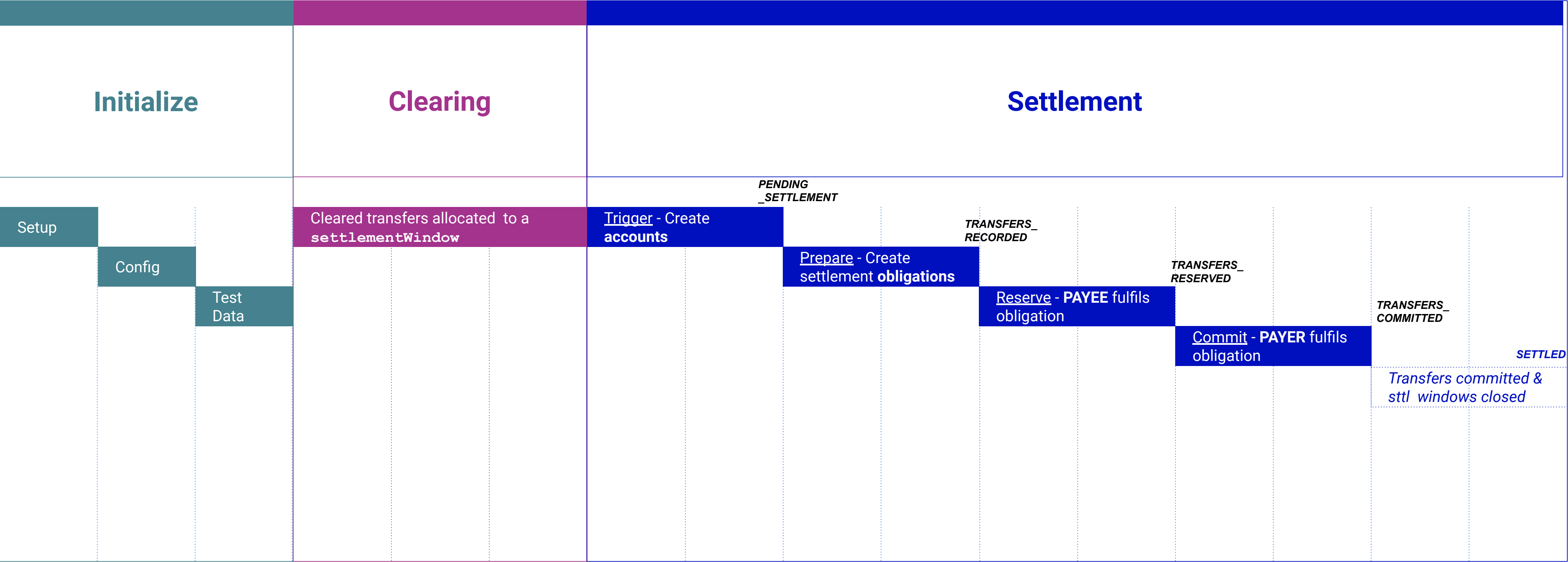
Goal	Integrate TigerBeetle into Mojaloop	
Key Objectives	1.Design document ✓ 2.Development for Central-Settlement ✓ 3.Regression & integration tests ✓	4. Integrate into vNext * ! 5. Demonstrate settlement (*workaround) !
Roadmap & Risks / Issues	Roadmap <ul style="list-style-type: none"> Remove data duplicated in SQL Integration review for Production readiness 	Risks / Issues <ul style="list-style-type: none"> TigerBeetle production readiness
Define Success	<ul style="list-style-type: none"> 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



Demo - Clearing & Settlement



```
Screen Record-Screen Recorder File Edit Help Mojaloop / Tigerbeetle - Central Settlement
ubuntu@ip-172-31-26-29: ~/workspace/MJL/central-settlement
ubuntu@ip-172-31-26-29:~/workspace/MJL/central-settlement$ reset
ubuntu@ip-172-31-26-29:~/workspace/MJL/central-settlement$ npm run test:integration:screen

> central-settlement@15.0.0 test:integration:screen
> sh ./test/integration-runner.sh ./test/integration-runner-screen.env

--==== Integration Tests Runner =====

===== Loading environment variables =====
DOCKER_IMAGE=${DOCKER_IMAGE:-'central-settlement'}
DOCKER_TAG=${DOCKER_TAG:-'test'}
DOCKER_FILE=${DOCKER_FILE:-'test-integration.Dockerfile'}
DOCKER_WORKING_DIR=${DOCKER_WORKING_DIR:-'/opt/app'}
DOCKER_NETWORK=${DOCKER_NETWORK:-'integration-test-net'}

DB_USER=${DB_USER:-'central_ledger'}
DB_PASSWORD=${DB_PASSWORD:-'password'}
DB_HOST=${DB_HOST:-'db-int'}
DB_PORT=${DB_PORT:-'3306'}
DB_NAME=${DB_NAME:-'central_ledger_integration'}
DB_IMAGE=${DB_IMAGE:-'mysql/mysql-server'}
DB_TAG=${DB_TAG:-'5.7'}

KAFKA_IMAGE=${KAFKA_IMAGE:-'spotify/kafkaproxy'}
KAFKA_HOST=${KAFKA_HOST:-'kafka-int'}
KAFKA_ZOO_PORT=${KAFKA_ZOO_PORT:-'2181'}
KAFKA_BROKER_PORT=${KAFKA_BROKER_PORT:-'9092'}

TIGERBEETLE_IMAGE=${TIGERBEETLE_IMAGE:-'ghcr.io/coilhq/tigerbeetle@sha256:c312832a460e7374bcd4bd4a5ae79b8762f73df6363c9c8106c76d864e21303'}
TIGERBEETLE_HOST=${TIGERBEETLE_HOST:-'tigerbeetle-int'}
TIGERBEETLE_PORT=${TIGERBEETLE_PORT:-'5001'}

APP_HOST=${APP_HOST:-'central-settlement-int'}

INTEGRATION_DIR=${INTEGRATION_DIR:-'integration'}
RESULT_DIR=${RESULT_DIR:-'results'}

TEST_DIR=${TEST_DIR:-'test'}

APP_DIR_TEST_INTEGRATION=${APP_DIR_TEST_RESULTS:-'$TEST_DIR/$INTEGRATION_DIR'}
APP_DIR_TEST_RESULTS=${APP_DIR_TEST_RESULTS:-'$TEST_DIR/$RESULT_DIR'}
```

<https://drive.google.com/file/d/1a7NesrbntvHyxzCpslk7X6Hd7abJ6tpX/view?usp=sharing>



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.

