



Mojaloop - TigerBeetle Integration

PI-20 Community Meeting

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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

1. Impact of work:

- Business
- Development

PI-19 Goals & Progress



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

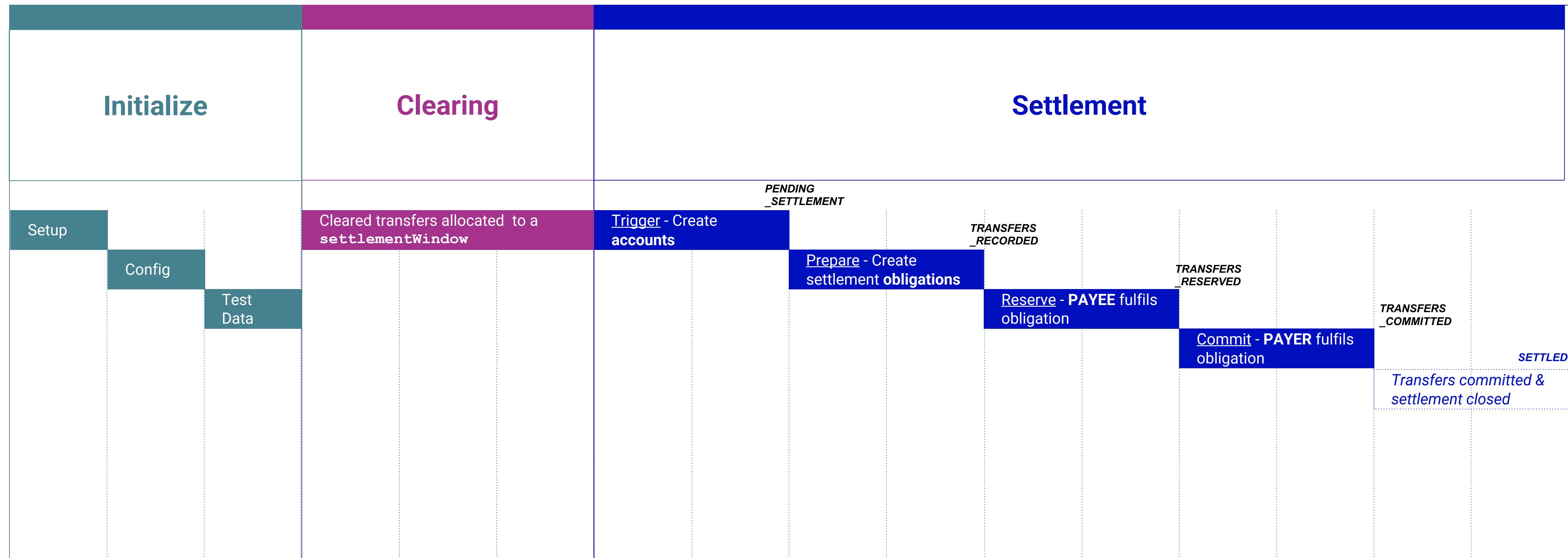
Constraints



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

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

Settlement Process





Demo - Clearing & Settlement

The screenshot shows a terminal window titled "Mojaloop / Tigerbeetle - Central Settlement". The terminal output is as follows:

```
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=${KAFKA_IMAGE:-'spotify/kafka-proxy'}
KAFKA_HOST=${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.
1. Complete settlement integration & expand testing.
1. Quantify performance.
1. Initiate community review process.

Thank you.

