



LBChain project

Phase II results

September 2019

Introduction

LBChain Sandbox – The Objective and the Project

THE OBJECTIVE

Lietuvos Bankas seek to contribute to the development of new growth opportunities for FinTechs, through the development of a balanced and attractive regulation promoting financial innovations.

The objective of LBChain Sandbox is to promote innovation, attract investments and quickly and flexibly adapt to technological change; by supporting FinTechs in the development, testing and application of demand-driven innovations.

THE PROJECT

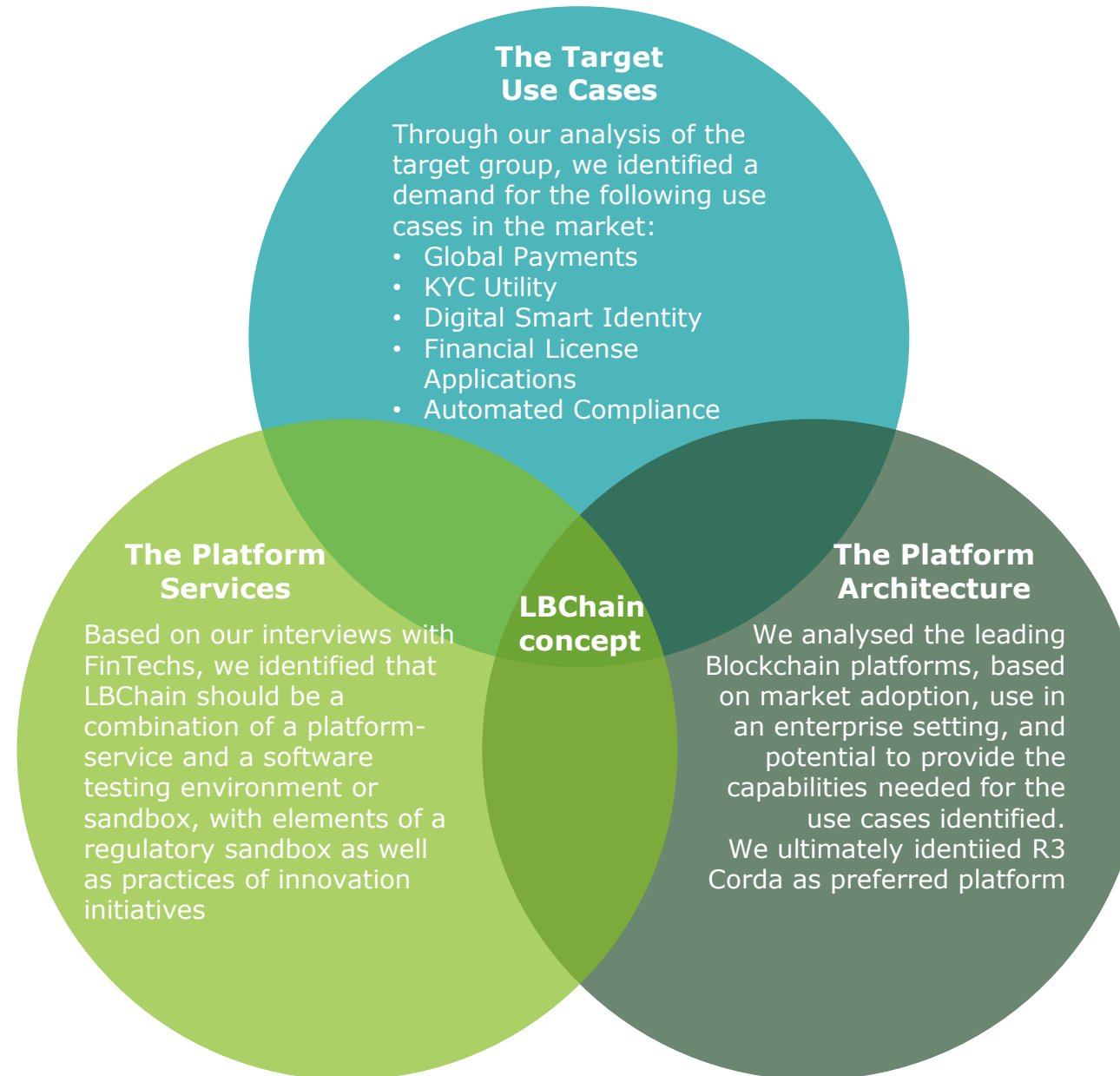
The LBChain Sandbox is a platform-service enabling permitted FinTechs interested in exploring Blockchain, access to a software testing environment (or sandbox) where they can test their envisioned use cases with the supervision of the Central Bank of Lithuania.

The LBChain project consists of three stages: concept development, prototype development and pilot production. After designing the concept of the platform/service, we have developed a Blockchain pilot platform as well as providing support for two FinTechs that have been selected by the Central Bank of Lithuania to pilot the platform by testing their use cases.

LBChain Sandbox – A recap of Phase I

During Phase I of the LBChain project we elaborated the concept of the LBChain Sandbox platform-service

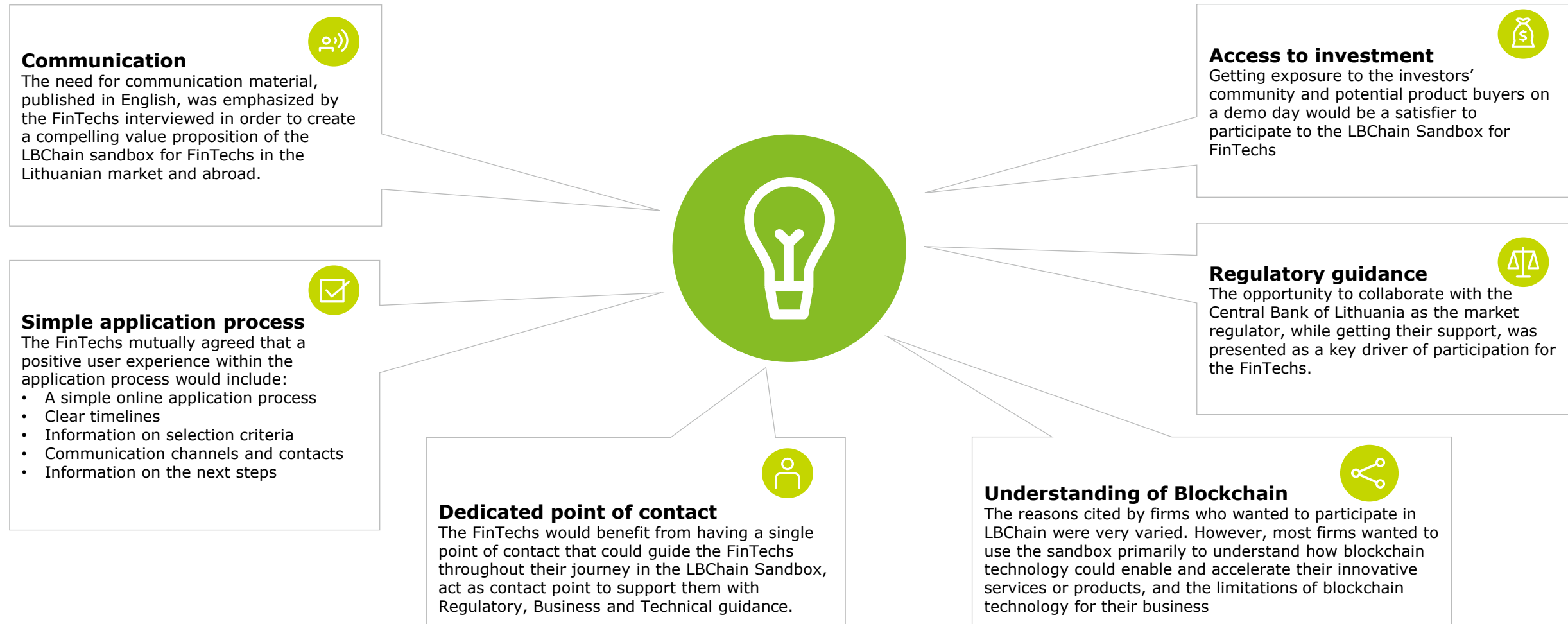
This is a summary of the key outcomes of our Phase I assessment



LBChain Phase II

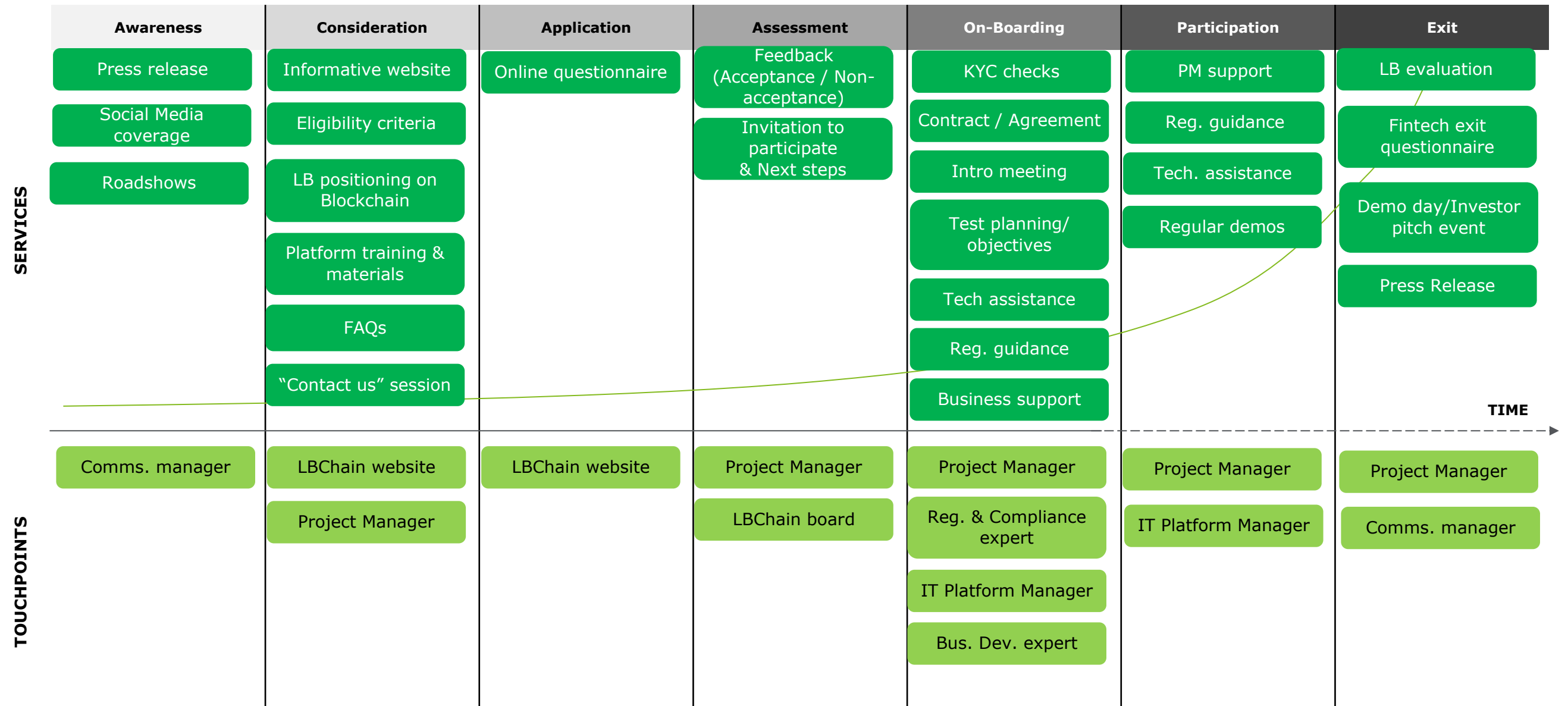
LBChain Phase II – Validation of the Platform Concept

At the outset of Phase II we tested the concept of the LBChain Sandbox Platform/Service with the two FinTechs selected to test their cases in Phase II and with a sample of other selected FinTechs, in order to propose a compelling concept which captures the maximum added value for the interested parties. These are some of the key insights we got from the interviews:



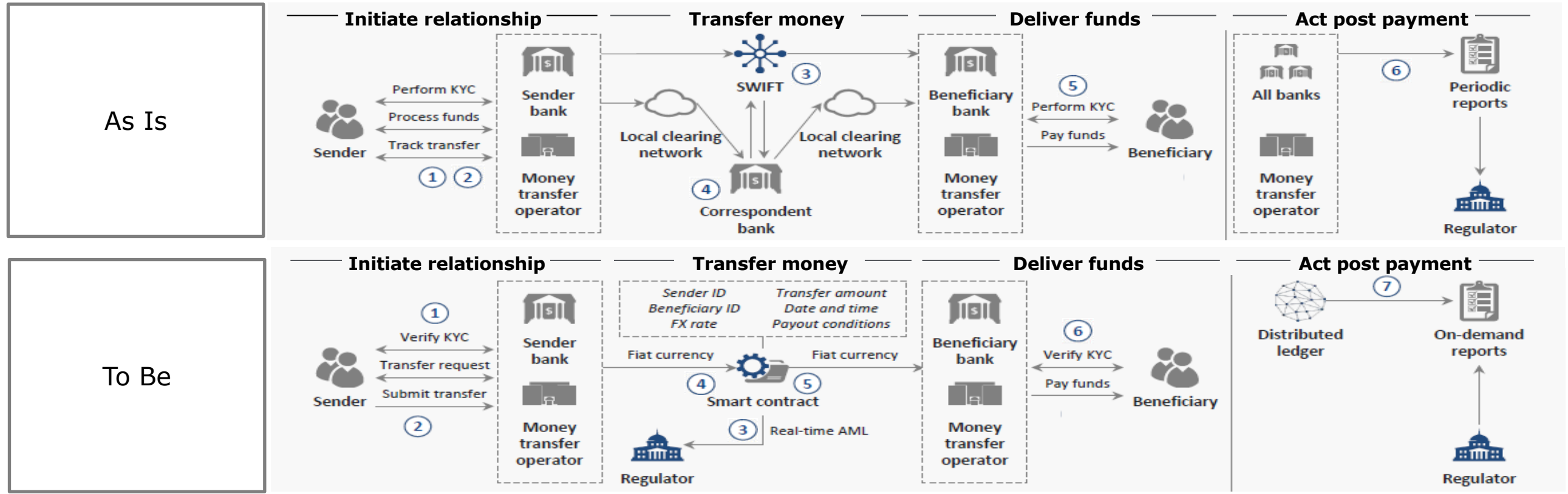
LBChain Phase II – Proposed Services

Based on the FinTech interviews we developed a customer journey map summarising the services that should be offered by the LBChain Sandbox:



Use Cases tested

Global Payment Use Case – As Is vs Blockchain solution

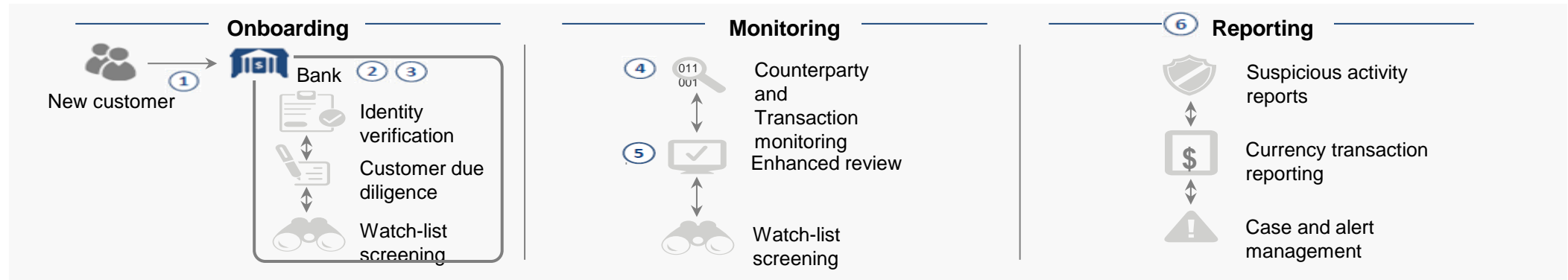


Future State Benefits

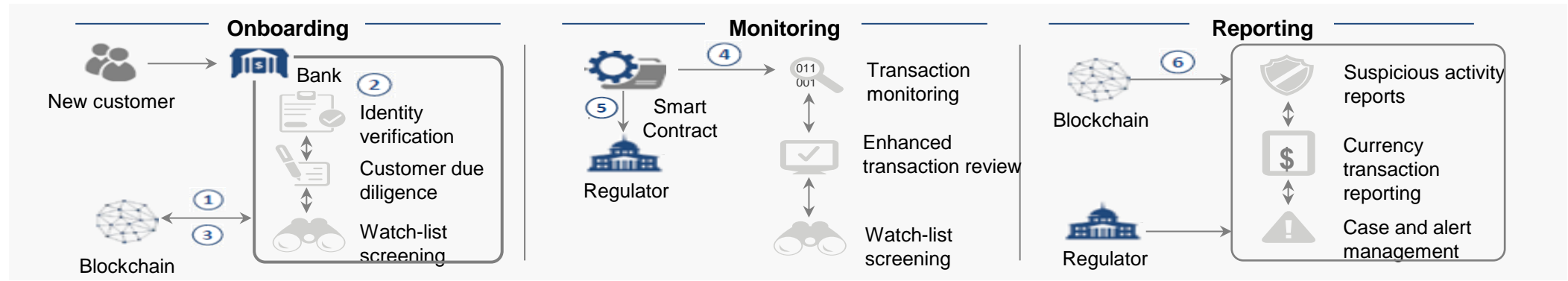
- ① **Transparency and immutability:** leveraging the digital profile stored on blockchain establishes trust and authenticates the sender.
- ② **Disintermediation and trustless exchange:** through smart contracts, foreign exchange can be sourced from participants willing to facilitate the conversion of fiat currencies.
- ③ **Disintermediation and trustless exchange:** regulators will have access to transaction data and can receive specific alerts based on predefined conditions.
- ④ **Faster transactions:** cross-border payments can be completed in real time.
- ⑤ **Lower transaction costs:** with fewer participants, the improved cost structure can generate value.
- ⑥ **Transparency and immutability:** leveraging the digital profile stored on blockchain establishes trust and authenticates the beneficiary.
- ⑦ **Disintermediation and trustless exchange:** the regulator will have on-demand access to the complete transaction history over the ledger.

KYC Use Case – As Is vs Blockchain solution

As Is



To Be

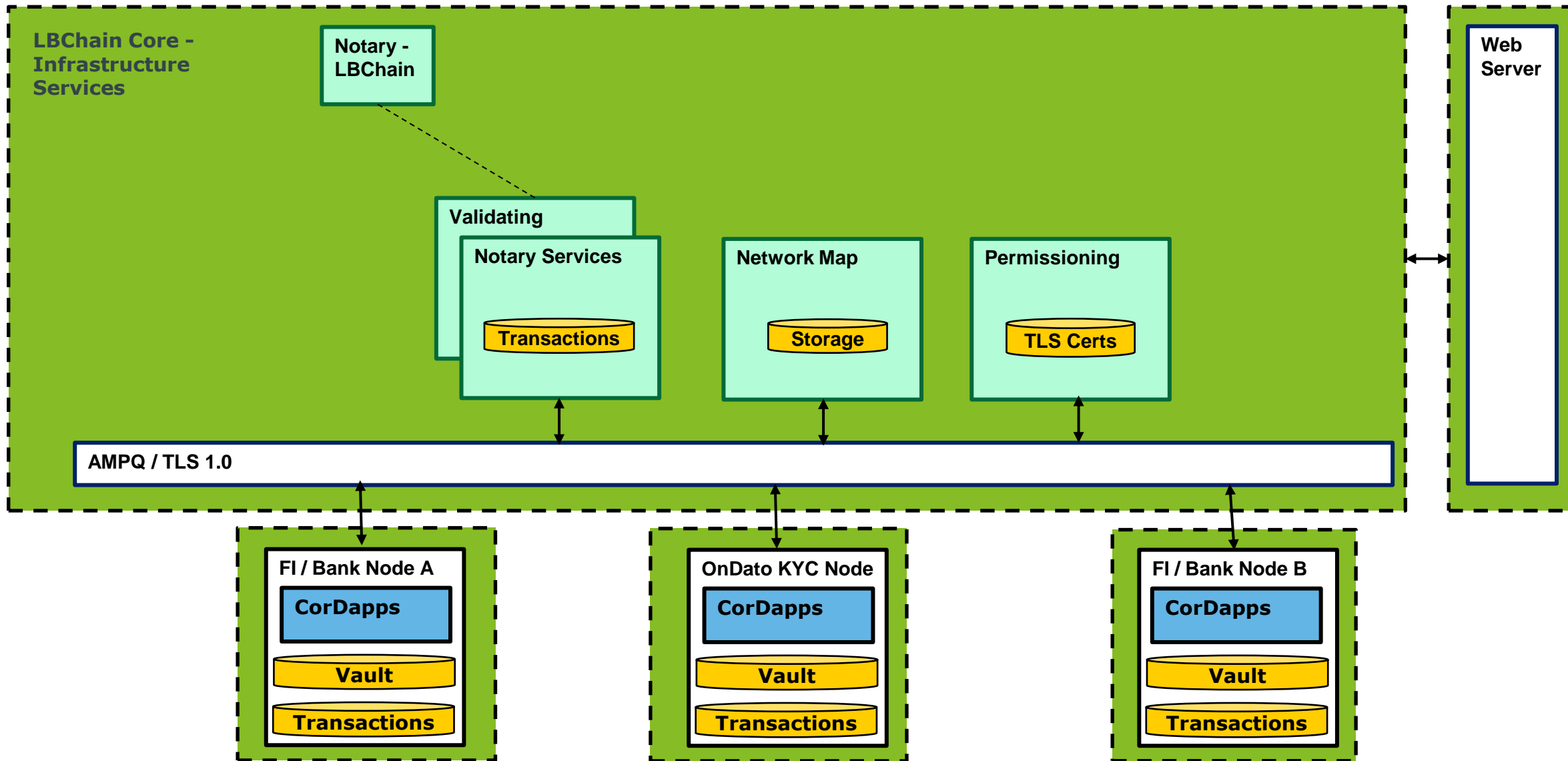


Future State Benefits

- ① **Duplication:** Entity's digital identity information is duplicated across every organization that it interacts with
- ② **Vulnerable KYC:** limited control exists over the veracity of information and supporting documentation
- ③ **Resource-intensive:** Duplicative KYC checks and due diligence that are already conducted are estimated to cost \$15k-\$50k per client
- ④ **Lower transaction costs:** Verified transaction will reduce a false positive alerts that are caused by incomplete information, and eventually reduce labor intensive manual reconciliation
- ⑤ **Disintermediation and trustless exchange:** eliminates 3rd parties and regulators will have access to real time transaction data and can receive specific alerts based on predefined conditions that will prevent fraud
- ⑥ **Lack of technology integration:** Generation of various types of reports to comply with compliance and audit procedures are labor intensive

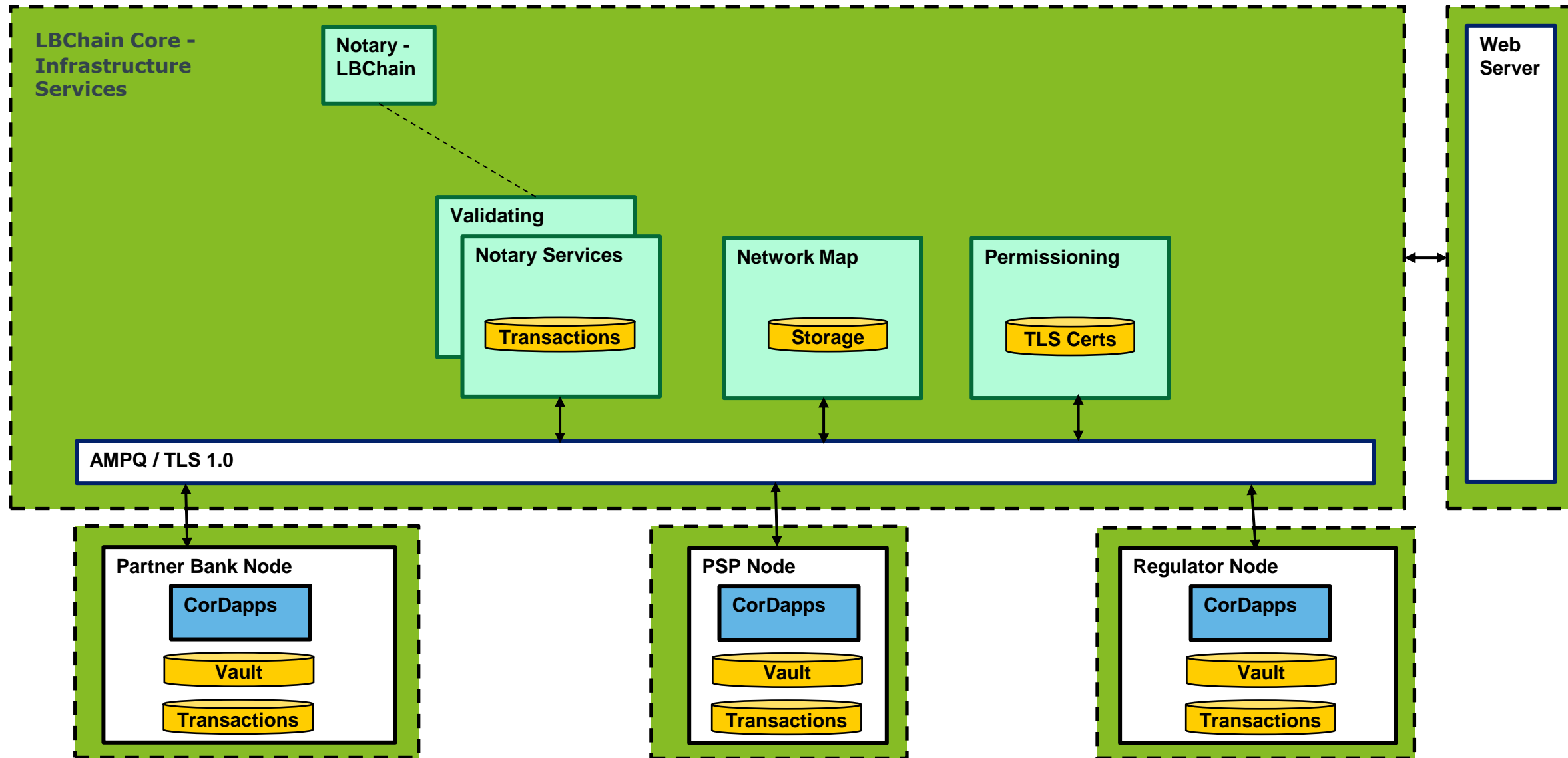
KYC Use Case – Solution Architecture

KYC components within a LBChain R3 Corda DLT / Blockchain network are described below



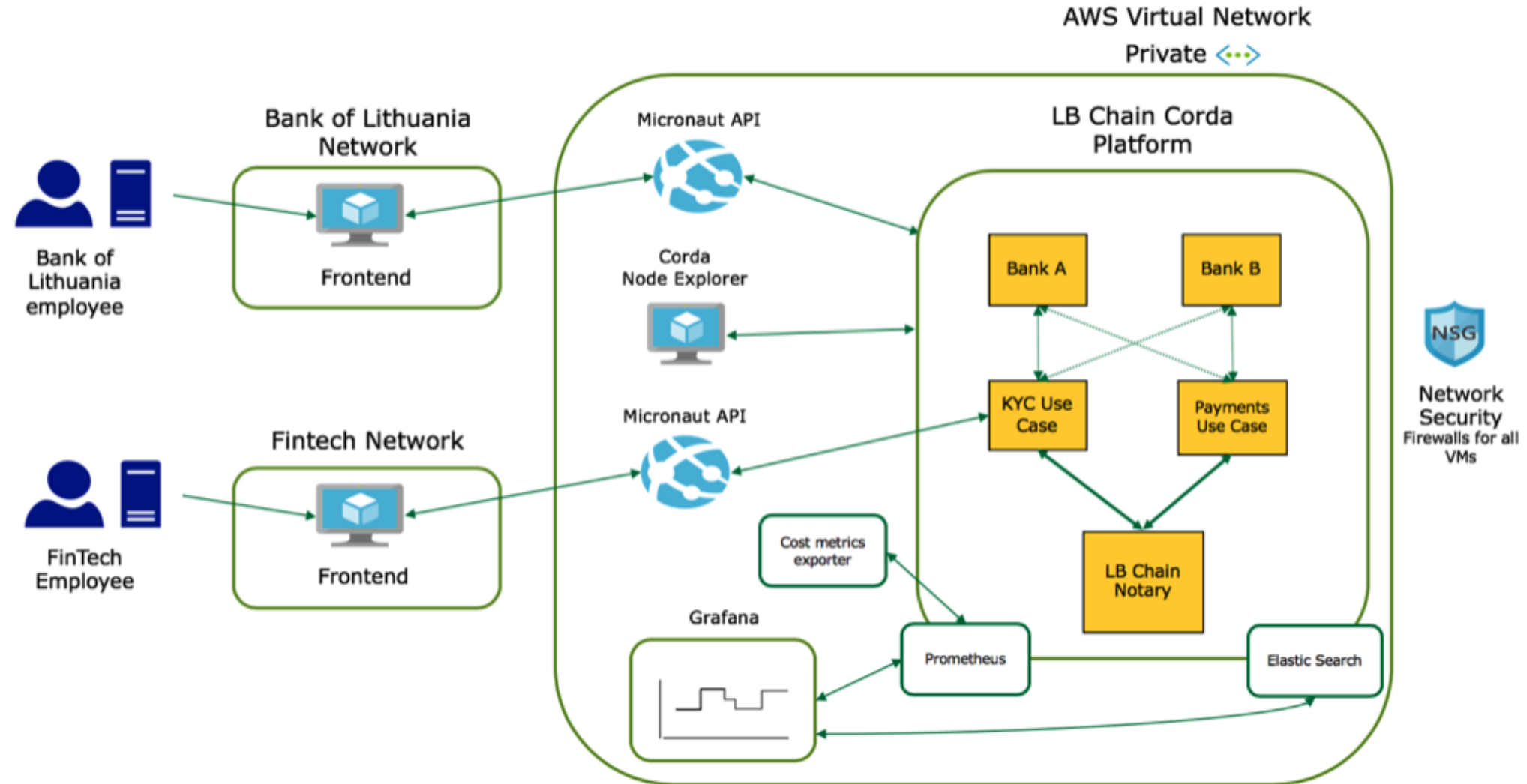
Global Payments Use Case – Solution Architecture

Payment components within a LBChain R3 Corda DLT / Blockchain network are described below



Platform demo

LBChain Platform – Architectural Components



LBChain Platform – Corda Explorer

The screenshot displays the Corda Node Explorer interface. The top bar shows the 'corda' logo and the title 'Corda Node Explorer'. A user profile dropdown menu is visible in the top right corner, currently showing 'BankA'. The left sidebar contains navigation icons for Dashboard, Transactions, Cash, Network (highlighted in red), and Settings. The main content area is divided into three sections: 'My Identity', 'Notaries', and 'Peers'. The 'My Identity' section shows 'BankA' with a public key and location of Dublin. The 'Notaries' section shows a 'Notary' with a public key and location of Vilnius. The 'Peers' section lists 'Ondato' (Paris) and 'BankB' (London). On the right side, a map of Europe shows the geographical locations of BankA, BankB, Ondato, and the Notary.

My Identity

- BankA
- Public Key : GfHq2tTVk9z4eXgyLi7v
- Location : Dublin

Notaries

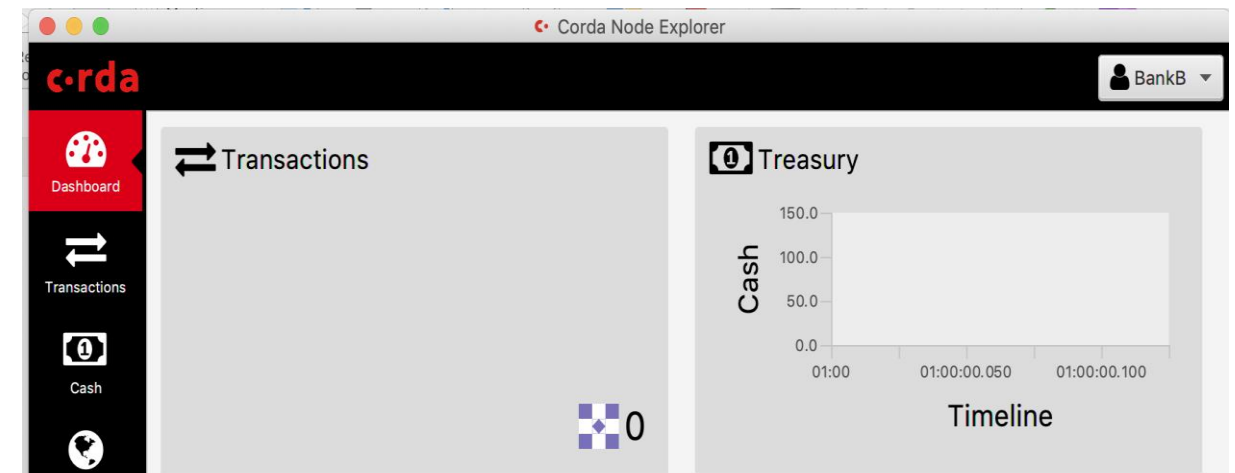
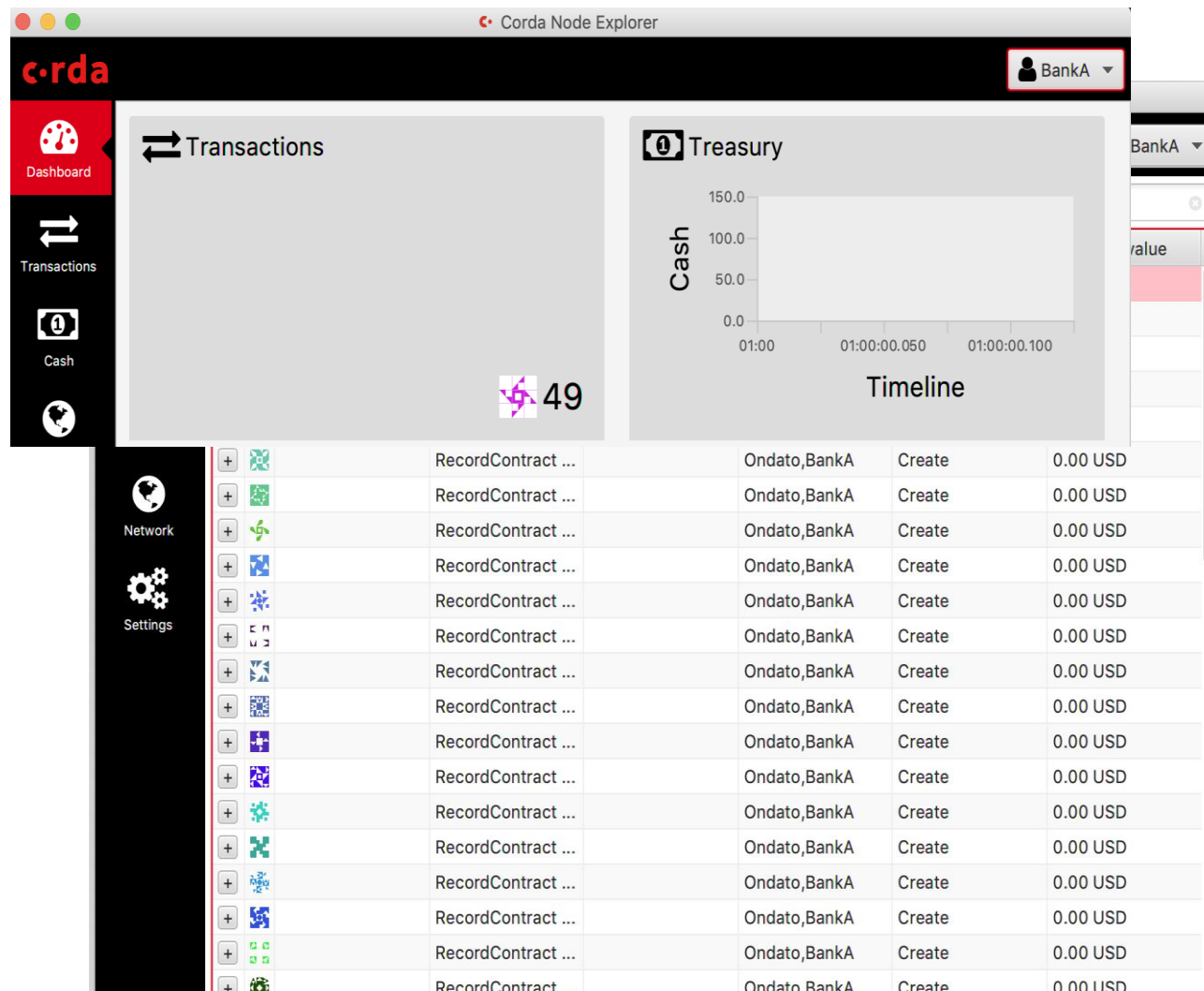
- Notary
- Notary Public Key : GfHq2tTVk9z4eXgyRBEj
- Location : Vilnius

Peers

- Ondato
- Public Key : GfHq2tTVk9z4eXgyGLS
- Location : Paris
- BankB
- Public Key : GfHq2tTVk9z4eXgyJBy\
- Location : London

LBChain Platform – Transaction segmentation

Only interested parties can see the transactions that happen on their node. This is a feature given by design in Corda



Here we are simulating a scenario where a number of transactions happen on Bank A. From the pictures below it is possible to see that:

- 49 transactions are displayed in Bank A node
- 0 transactions are displayed in Bank B node

LBChain Platform – Grafana Metrics





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