Blockchain islands—Chain them all the way

Business networks, such as supply chain, trade finance, lending networks, or others, always involve some form of payment or verification in each digital interaction. There is growing interest in using blockchain technology to prevent friction in trade and commerce for such business networks including the associated underlying shared functions such as payments or the "Know Your Customer" (KYC) procedure. World Economic Forum estimates that blockchain can help narrow the $1.5 trillion gap between demand and supply in global trade finance. Data from Mordor Intelligence shows that the digital payments market is projected to grow at a CAGR of 14.1% between 2018 and 2023; however, research from Transparency Market Research shows that blockchain based crypto currency payments, albeit smaller in size, are expected to grow at more than double that rate (CAGR of 31.3%) till 2025. KYC on blockchain could save 25-30% costs by removing duplication and use of clear audit trails (Source: KYC experiment by Monetarty Authority of Singapore – MAS). Recently MAS issued KYC guidelines for blockchain based digital asset token offerings. However, most of the current blockchain experiments and proof of concepts (POCs) are specifically focusing on either trade finance or payments or KYC. As the number of blockchain POCs' applications continue to develop in these areas, it is critical for financial services industry to begin addressing end-to-end blockchain POCs that integrate business networks with underlying shared functions such as payments or KYC. By integrating such islands of blockchain networks during experiments, financial services industry players can realize higher ROI and enable the interworking of multi-vendor blockchain platforms.

To maximize end to end efficiencies, financial industry players should expand the scope of blockchain proof of concepts (POCs) and pilots to cover both business networks and shared services

Introduction

There has been a significant increase in the use of blockchain technology to effectively address challenges within an organization's business networks , such as trade, finance, supply chain, as well as several proven proof of concepts have been accomplished on a global scale. In addition, the use of blockchain for payment networks is becoming more common. It is important to first verify the applicability of blockchain to each of these areas and if the industry is experiencing that problem. However, continuing the study of integration in such blockchain islands and associated platform interoperabilites should not continue to be the main resource. As more POCs develop in these areas, it is time to start focusing on integration of some of these blockchain island experiments.

Why integrate blockchain islands?

The following factors have been cited as benefits of blockchain based payments in business:

- Elimination of reconciliation through shared ledgers and balances
- Disintermediation and deregulation of intermediaries in payments and opportunity for new "reputation based" intermediaries that could challenge status quo
- Faster clearing and settlement of payments
- New ways for regulators and banks to collaborate through blockchain for enhanced compliance controls and liquidity management in domestic banking systems

Ther are other solutions that result from the integration of blockchain islands as highlighted below.

Auto-population of "purpose of payment" fields

One aspect of payments that is full of friction and has largely been untouched by blockchain is "purpose of payment". This process is highly regulated by central banks to ensure payments are properly classified for accurate tracking, reporting, and management. For example, a MT 103 SWIFT message has multiple fields that could indicate purpose of payment:

- Remittance information (:70)
- Sender to receiver information (:72)
- Regulatory reporting (:77B)

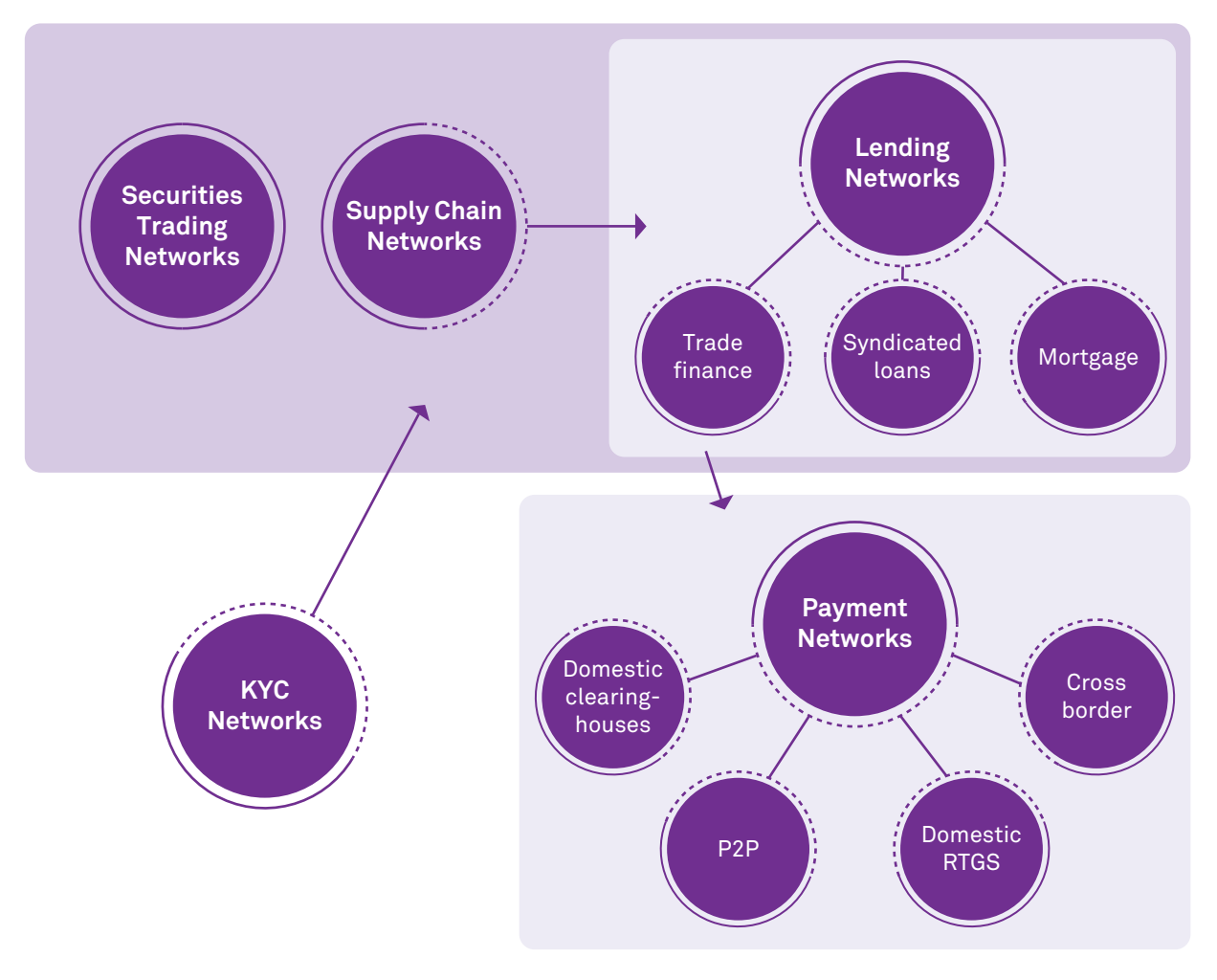
Often this information is incomplete or missing in payment messages of these fields. In addition, there are a variety of codes for purpose of payment across countries which results in hesitation to comply. In fact, banks could receive a fine for insufficient documentation of payment purpose if the amount is above certain threshold. Payments could often be slowed down as banks and trading parties seek additional information to reconcile payment purpose.

The integration of blockchain based transactions and payment networks could automatically populate data relevant to the purpose of payment. This can happen because much of the source information for purpose of

payment is already being shared in the distributed ledgers of business networks, such as trade, finance, or supply chain. In comparison to other technologies, distributed ledgers allow a broader reach of shared information beyond the trade, finance, or supply chain network and into the associated payment network.

Advanced liquidity forecasting for banks

Especially for larger payments, banks must plan in advance for liquidity and avoid settlement risks. They rely primarily on forecasts and statistics to anticipate their liquidity needs. In order to increase accuracy in liquidity forecasting, insights on "expected payments" from business networks should flow into payment networks. Usually, bank treasuries monitor liquidity and settlement risks in payment networks. This new process will benefit from such integration by increased accuracy in liquidity forecasting.



The opportunity—Integration of blockchain islands

Business networks have significant documentation to support why two parties are participating in a transaction. For example, a buyer could be sending a letter of credit through their bank to a supplier or the supplier could be sending a bill confirming shipment of goods and requesting final payment. In a retail scenario, an individual could be making a payment to another person for a real estate transaction. Details such as the purpose of a specific transaction can be useful in populating purpose of payment fields as well as liquidity forecasting in payment networks.

Additional technologies such as text, document and image processing or cognitive and robotic automation may also be required to support the migration process to review document contents, extract relevant data, and automatically populate the purpose of payment fields.

Challenges

In order to successfully integrate the blockchain islands, it is crucial to be aware of these challenges:

1. Interoperability of blockchain platforms is constantly evolving and bridges between blockchain platforms are emerging.

2. Universal standards and infrastructure for interoperability has yet to be developed.

3. As more blockchain island networks are integrated, sophisticated solutions for auto population of payment purpose and bank liquidity forecasting will need to be developed.

Looking ahead

The integration of blockchain island networks exemplifies a potential new frontier in blockchain evolution. It could lead to growth of blockchain networks and accumulate benefits of the integration from multiple use cases and networks. For example, when several blockchain business networks integrate with a blockchain payment network, the sheer combination will amplify and accelerate the financial benefits for the payment network.

There are many opportunities for innovation in automating document recognition, information extraction, and population in blockchain networks. These technological capabilities will help accelerate the benefits of chaining blockchain islands together.

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