eKYC Documents Management System Using Blockchain
Introduction

Global financial organizations spend an average cost of USD 60 million to USD 500 million every year to meet the obligations of Know Your Customer (KYC) and Customer Due Diligence (CDD). Further, this cost is augmented by the fines levied due to lapses concerned with anti-money-laundering and KYC regulations. The FinTech blockchain market size is expected to grow from USD 230.0 Million in 2017 to USD 6,228.2 Million by 2023, at a Compound Annual Growth Rate (CAGR) of 75.9% during the forecast period.

The KYC process is a vital banking tool to gather, verify, screen, monitor, and store customer information to combat illegal transactions. KYC has gained attention in the present digital age due to agile techno-financial companies (Fintechs) and large technology companies (Bigtechs) invading banking markets like never. They are collaborating with financial institutions and becoming partners in offering cost-effective financial solutions globally. The demand for shared and transparent KYC, among partners with consensus-based KYC data control and access increases, to avoid a single point of failure. Internationally, all the Government Authorities/ Central Authorities are pushing financial institutions in the same direction through national policies, so the banks must have KYC at fingertips before initiating any transaction. The KYC can be shared internally between the banking departments and externally with other partners and consortiums like other banks or Fintechs. The blockchain technology strengthens a distributive KYC with a single version of records storage.

This paper explores blockchain-based KYC solution built to manage the banks’ efficiency both in inter-department and intra-bank customer onboarding.
Typical KYC verification process - Issues and Challenges

The typical KYC processes are generally repetitive, time-consuming, leading to high administrative overhead costs and inconsistency. The routine KYC verification is used for in-house or multi-branch usage. The KYC information, when locally stored with the bank, has the following challenges:

- Financial institutions must spend an unwanted cost, effort, and enormous time while processing KYC verification. This process makes FI’s to concentrate less on their core business.

- As KYC information is stored locally, other organizations cannot trust and access this KYC data.

- In the client onboarding process, the client must repeatedly submit the same documents for KYC, which will lead to a painful experience for the client.

- Typical KYC depository systems cannot adapt demands of changing regulatory requirements, and sometimes they fail to provide efficient security assurance to the existing stored information/data.

Blockchain KYC verification process advantages

The blockchain KYC, in its scope, will work by partnering and forming consortiums supporting multi-lateral ecosystems. The KYC processes will be non-repetitive, timesaving, leading to a reduction in overhead costs and inconsistency. The KYC verification can be scoped for inter-department and for the consortium, which would have the following advantages:

- The blockchain KYC system follows due diligence in the extensive ecosystem of partners and consortiums. It has a common distributive ledger registry, which stores digitized data tagged to each customer’s unique identification number.

- The blockchain KYC system has storage controls working by consensus deliberated by stakeholders, enhancing trust and confidence.

- The blockchain KYC information traceability will be end-to-end in nature, across the ecosystem, meaning elimination reconciliation between parties. Further, the immutability of information stored with timestamps gives conformity.

- The blockchain KYC information stored should have the nature to be primafacie evidence in compliance matters.
Leveraging blockchain to build KYC solution

In the KYC verification process, Blockchain technology is implemented in two ways:

1. Intra Bank
To conduct the KYC verification process, blockchain-based KYC makes the process hassle-free for the customer and ensures trust between departments and branches.

2. Inter Bank
Here, to conduct the KYC verification process, Bank A acts as the initiating bank and performs an initial KYC documents verification process for a client. The KYC Blockchain network ensures secure inter-Bank documents exchange—enhancing process efficiency, standardizing KYC processes, and performing near-real-time client validations.

Technical details

The KYC Blockchain solution is built on open-source permission-based blockchain platform. The solution exploits the platform provided network, smart contracts, and Dapp deployment features. The smart contracts are enabling the automation of KYC as per industry standards. Without blockchain, it is not easy to establish high level of trust in the ecosystem. The blockchain’s distributed database allows permissioned nodes (the represented banks) to access, contribute, and validate KYC data, thereby inherently building trust. Private keys and encryptions are used in platform to address client to node and node to node interactions, thus enhancing security.

The objective here is to support advanced cross-industry collaborations focusing on improving performance and reliability in global level transactions. While the aim is to support financial agreements interacting with smart contracts, given explicitly for finance and commerce use cases. The feature of privacy over private networks addresses the privacy constraints of banking KYC sharing. In eKYC, every node hosts services and executes DApps on Java virtual machine. The inter-node communication uses AMQP (Advanced Message Queuing Protocol). DApps support the interfacing to any UI layer of the eKYC application, thus, we have decoupled the UI technologies.
Blockchain KYC-AML solution

A typical transaction involving multiple financial institutions will be inefficient in carrying AML due diligence, ascertaining false positives, and reconciling. It leads to an escalation in AML cost and less work towards the purpose of fraud detection. As a solution, the KYC use case is scoped to be continued to address Anti Money Laundering (AML) compliance regimes efficiently. This solution resolves the information asymmetries occurring in reporting risky transactions to the Regulators from multiple transactions by having reliable Distributed Ledger Technology (DLT) that transparently share risky transactions with regulators. Moreover, this eliminates the earlier reconciliation efforts of banks in KYC-AML processes. As an improvement, the algorithms added for fraud detection are smart contracts running on the blockchain securely, meaning without manual intervention and no reason for fraud suspicion, making AML detections more appropriate and trustworthy in real-time. The KYC-AML system makes more time available to banks to spend on actual fraud and risk analysis than repeated transactions posting and reconciliations.
Conclusion

The KYC solutions implementation is of permission-based "KYC Documents Management System" using blockchain technology. The KYC implementation can be used in multiple Banking/Financial services use cases like Lender and Borrower, Portfolio Management, Stock Exchange, Insurance company, Trade Finance, Mutual Funds. Experts have estimated that Blockchain technology could save up to around USD 8-12 billion annually if Financial institutions adopt blockchain as a core technical tool in their day to day business operations. Permission-based KYC Blockchain network will help the Financial Institutions in managing the primary information of the clients. Further, it provides savings on infrastructure, maintenance, operational cost, and streamlines multiple business operations such as Letter of Credit, Lender and Borrower, Insurance, Mutual Funds applications.

Reference


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