Swiss Banking

The Deposit Token

Proof of Concept

September 2025

Results Report

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Executive Summary

The Swiss Bankers Association (SBA), in collaboration with PostFinance, Sygnum Bank, and UBS, conducted a Proof of Concept (PoC) to evaluate the feasibility of a blockchain-based Deposit Token. The initiative tested whether tokenized deposits could support secure, interoperable, and programmable transactions on public blockchains while remaining fully compliant with Swiss financial regulations. The PoC lays the groundwork for a standardized, multi-bank infrastructure for blockchain-based financial services in Switzerland and demonstrates the potential for banks to offer programmable payment solutions without compromising the integrity of the traditional banking model.

The PoC focused on off-chain deposit transfers triggered by on-chain tokens in an account-based model. Two use cases were tested: a peer-to-peer transaction between clients of different banks, and an escrow-like transaction involving conditional settlement of tokenized assets. These transactions were executed on a public blockchain with permissioned access and made use of the Swiss Interbank Clearing (SIC) system for settlement.

Legally, the Deposit Token was structured as a digital representation of a payment instruction under Swiss law, avoiding complex constructs such as ledger-based securities or assignment of claims. It does not constitute a new form of money or a crypto asset, but rather a standardized instruction to debit and credit traditional bank accounts. Technically, the token was implemented rather represents a standardized instruction via a shared smart contract on Ethereum, with role-based access control and full auditability. Minting and burning were tied to corresponding debits and credits in separate mirror accounts off-chain, ensuring alignment of the Deposit Token with underlying fiat deposits.

The PoC demonstrated that a single smart contract could enable seamless transactions across multiple banks, confirming both technical fungibility and operational feasibility. All transactions met AML, CTF, and sanctions screening requirements, showing that compliance processes could be integrated into blockchain workflows. The model supported legally binding transactions with settlement finality achieved through SIC. A multi-role governance framework was also tested, with responsibilities enforced on-chain.

Despite its success, the PoC revealed limitations. The model remained dependent on off-chain banking infrastructure, lacked an automated integration with core banking systems, and constrained broader blockchain use cases due to its non-blockchain-native design.

To address these limitations, future phases of the Deposit Token initiative should explore native deposit tokens with on-chain master records to enhance transparency and reduce reliance on legacy systems. Integration with wholesale central bank digital currencies (wCBDC) or an automated trigger solution with the RTGS could streamline settlement and improve interoperability. In on-chain interactions, not tested in the PoC, the use of zero-knowledge proofs would support privacy and scalability, while secure identity layers would ensure compliance and trust in on-chain interactions.

If adopted, these enhancements would position the Deposit Token as a foundational component of Switzerland's digital financial infrastructure, enabling regulated financial institutions to deliver programmable, interoperable, and compliant blockchain based solutions.

1 Introduction

The potential of Distributed Ledger Technology (DLT) goes beyond cryptocurrencies and extends to the tokenization of further types of assets as well as to the issuance of innovative forms of money, namely retail and wholesale Central Bank Digital Currencies (CBDCs), Stablecoins and Deposit Tokens. Against the background of a growing blockchain-based digital economy and the dynamics in the field of blockchain-based payments and asset tokenization, this Proof of Concept (PoC) aims to test the feasibility of Deposit Tokens by shedding light on economic, technological, regulatory and operational questions as well as practical implications related to the usage of Deposit Tokens as a regulated on-chain cash-leg.

In DLT, the Swiss Financial Sector has achieved several remarkable success stories in the past few years, such as the world's first licensed blockchain-based digital exchange, the first licensed DLT trading facility and two fully regulated banks with a business model centered around digital assets and cryptocurrencies. The SBA Deposit Token – part of a broader project exploring the potential of digital currencies for a blockchain-based financial market infrastructure – aims at contributing to this success story, and it underscores the important role banks have in providing money to their clients, the economy and the financial system. Its proposition is creating and establishing a joint standardized multi-purpose tool to enable blockchain-based use cases for the Swiss financial industry and beyond. Hence, the SBA Deposit Token constitutes the centerpiece around which blockchain-based financial use cases can be built, and a tokenized economy can start to unfold. This economy would be characterized by 24x7 availability and more efficient operations due to its higher automation potential. These characteristics may lead to new emerging business models such as escrow transactions or smart contract-based peer-to-peer lending between clients of different banks.

"SBA Deposit Token constitutes the centerpiece around which blockchain-based financial use cases can be built, and a tokenized economy can start to unfold."

Recently, there have been prominent announcements of similar Deposit Token projects. Known projects, however, represent single-bank solutions primarily designed for internal efficiency within a narrow set of clients. The SBA Deposit Token PoC distinguishes itself from such other projects, as the vision of this project is to create a common infrastructure that can be used by multiple Swiss banks domestically in Switzerland. While it conceptually builds on the traditional deposit system and does not alter the underlying balance sheet logic, its innovation lies in the programmable, interoperable and automated execution of payment processes via smart contracts. This enables new forms of transaction coordination beyond today's system boundaries, such as instantaneous delivery-versus-payment (DvP) settlement in trading, automated distribution of proceeds in corporate actions (e.g., dividend or interest payments), blockchain-based lending & borrowing, as well as "event- or usage-driven" payments.

Tokenization of deposits always refers to deposits held with a bank, i.e. repayable liabilities accepted by the public. Conceptually, tokenization of deposits can occur in various ways, where the master account is either maintained on the blockchain (on-chain) or in traditional systems such as banks' core banking systems (off-chain). Bringing deposits on-chain requires the integration of a blockchain into the core-banking system and is a major but feasible task. The PoC has opted for a less intrusive approach where the deposits are

recorded off-chain, and the Deposit Token represents a payment instruction which enables the user[1] to trigger a payment off-chain. For this report this is referred to as "tokenized deposits" since the authoritative record is not the blockchain.[2] As outlined in the conclusion of this report, this is only an intermediate step. The long-term vision of the project remains a Deposit Token where the blockchain is considered the authoritative record. Thus, in the context of the PoC and this report, when we speak of the Deposit Token, we refer to tokenized deposits, keeping in mind that the goal we are trying to achieve is a "native" Deposit Token.

From a technical perspective, the SBA Deposit Token refers to a mapping of addresses to balances combined with certain methods to add and subtract from those balances. It is these balances that constitute the Deposit Token. From a legal perspective the Deposit Token is defined by assigning a specific legal meaning to such entries in a distributed ledger by way of a contractual agreement among the parties involved. The PoC focused on a Deposit Token with the specific legal meaning of a digital representation of a payment instruction.[3] This option is based on the time-honored Swiss payment instructions law[4], a framework that is highly flexible and enables contractual solutions for various use cases and technical and operational solutions. The various design options that are possible and can be addressed with payment instructions law raise different legal and other issues that need to be addressed in terms and conditions governing the relationship between participating banks and their clients as well as in a framework agreement among participating banks, establishing conditions for the participation of banks and their clients and providing ongoing due diligence and reporting obligations. The drafting of such an overarching framework agreement was out of scope of the PoC, but it must be thoroughly looked at in the case of a productive setup. The creation of client-facing terms and conditions, however, would be the responsibility of each participating bank in the event of a productive setup. Importantly, the Deposit Token does not constitute a new claim or form of money, but represents a standardized, programmable payment instruction to trigger a traditional deposit transaction by which accounts are credited or debited. Its role is therefore not to carry value independently, but rather to coordinate the execution of payments between identified participating banks and their clients. In legal terms, a transaction of a Deposit Token never transfers a claim on-chain. Instead, it triggers the termination of a claim towards a bank and the creation of a new claim at another bank, both off-chain. Because a Deposit Token is always linked with a deposit account, the Deposit Tokens' creation and revocation (or technically speaking the mechanism of mirroring traditional deposits on the blockchain) is reserved for those financial institutions that are authorized to accept and hold deposits from customers.[5] Consequently, Deposit Tokens require blockchain wallets that are unambiguously associated with an authorized financial institution, which must ensure that bank clients have been properly identified and that transactions based on Deposit Tokens are subject to the applicable compliance standards and adequate transaction monitoring procedures.

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1 Can be a bank client or a participating bank

2 See Glossary

3 For an overview of other options initially taken into consideration and a detailed assessment of the option focused on in the PoC see Appendix B

4 "Anweisungsrecht", Art. 466 seq. of the Swiss Code of Obligations (CO)

5 Financial Institutions licensed under Art. 1b of the Swiss Banking Act (BA) might be eligible in a future setup. However, the intricacies of non-banks participating in a Deposit Token scheme have not been assessed in detail in the PoC and would need to be thoroughly evaluated

The scope of the Deposit Token PoC consists of two pre-defined use cases: namely, (i) a simple payment transaction among clients of the participating Swiss banks,[6] and (ii) an escrow transaction among the same banks involving a Deposit Token and a previously agreed tokenized asset through an escrow-like smart contract. A gradual expansion of this initial scope is intended, but outside of the scope of this PoC. This document solely discusses the implementation of a tokenized deposit live transaction conducted within the PoC. In the future other technical setups might be deemed more feasible and better accommodated with the vision[7] of a use-case agnostic Deposit Token with properties of a public good.

2 Cornerstones

Based on the groundwork laid in the SBA Deposit Token Whitepaper[8], three Swiss banks – under the umbrella of SBA – explore the potential of jointly building a blockchain-based deposit token system[9] that allows to link the traditional bank systems with blockchains and make commercial bank money available on these growing ecosystems. Importantly, the development and testing of this Deposit Token is based on an unanimously agreed upon token standard amongst the participants of the PoC and executed on a public but permissioned environment. A gradual expansion of this initial scope is intended, but outside the scope of this PoC.[10]

2.1 Overarching Principles

The Deposit Token PoC was built on a set of foundational principles that ensure utility, security, legal robustness, and future scalability across the Swiss financial system. These principles are:

1. **Universal Interbank Usability:** A single token smart contract for the Deposit Token is created that can be seamlessly used across all participating banks. This universal applicability simplifies the user experience and enhances liquidity within the ecosystem, reducing fragmentation across institutions.
2. **User-Defined Counterparty Risk:** Each bank client retains control over their counterparty exposure based on the institution with which they choose to have a relationship with. This enables differentiated risk profiles and aligns with the traditional framework of depositors selecting their banking partners.
3. **Public Chain with Permissioned Access:** The Deposit Token operates on a public blockchain infrastructure, allowing for transparency and innovation, while preserving compliance and control through a permissioned layer. Only approved entities may participate in Deposit Token creation, transaction, and revocation.

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6 PostFinance, Sygnum and UBS

7 See Chapters 2.1 Proposed Solution and Chapter 6 Conclusion and Outlook

8 SBA, The Deposit Token – New Money for Digital Switzerland (2023)

9 Hereafter also referred to as scheme or model

10 See Conclusion and Outlook

4. **Legally Binding Transactions:** Transactions initiated with the Deposit Token are legally enforceable.

   This includes:

   - **Settlement-Backed Transfers:** Each Deposit Token based instruction triggers a corresponding settlement in the underlying banking infrastructure and the Swiss Interbank Clearing (SIC) system, ensuring the movement of funds in central bank money. In the future, other forms of settlement between banks are possible (e.g. wCBDC or RTGS-Link).
   - **Compliance by Design:** All transactions are subject to the same compliance checks as traditional financial operations, including Anti-Money-Laundering (AML), KYC, and sanctions screening.
   - **Bank-Friendly Integration:** The architecture is designed to integrate with the existing SIC payment system, minimizing implementation complexity.
   - **Retail Enablement:** The deposit token is designed to be operable in retail settings, allowing for future use by individuals and merchants under appropriate regulatory frameworks.

5. **Flexible and Adaptable Legal Framework:** Robust and technically neutral legal framework within the boundaries of the applicable laws and regulations to allow leveraging various technical implementations and business models.

2.2 Objectives and Learning Goals

This PoC was developed to explore the feasibility and implications of implementing an interoperable equivalent to payment instructions on the blockchain issued by commercial banks. The following learning objectives were defined to guide and evaluate the project:

1. **Cross-Bank Token Acceptance:** Assess whether a single, technically fungible Deposit Token can be issued and accepted across multiple commercial banks – while preserving the existing banking model, in which each institution retains full control over its own client relationships and risk exposure.
2. **Integration with Legacy Banking Infrastructure:** Determine the extent to which smart contract infrastructure – including token minting, revocation, technical transaction-, and escrow functionality – can be effectively integrated into existing bank systems. In specific:
   - Core banking systems
   - Accounting and reconciliation layers
   - Compliance and sanctions screening tools
   - The SIC system
3. **Compliance and Legal Enforceability:** Define and test the process requirements, roles, and technical controls necessary to ensure that all on-chain operations remain fully compliant with applicable financial regulations, specifically:
   - Transaction monitoring in the context of AML and Counter-Terrorist Financing (CTF)
   - Sanction screening
   - Support for legally binding settlement

4. **Programmability and Escrow-Based Asset Exchange:** Evaluate the capability of the system to support escrow-based transactions including tokenized assets, using programmable smart contracts to ensure instantaneous, two-way settlement – even across bank boundaries – while maintaining legal certainty and auditability.
5. **Operational Role Clarity and On-Chain Governance:** Examine the design and effectiveness of a multi-role governance model (Platform Admin, Bank Authorities, Operators, Clients), in which each actor is strictly defined, and on-chain enforced responsibilities to minimize systemic risk and ensure secure, auditable operations.
6. **Technical Scalability and Futureproofing:** Assess how the architecture can be designed to:
   - Scale across additional banks and asset types
   - Transition toward a wCBDC-based settlement system if available
   - Maintain upgradeability and security via controlled contract upgrade mechanisms and emergency controls

3 Design

3.1 Use Cases

The PoC tested two main use-cases with selected clients from a dedicated user group of the participating banks:

1. **Peer-to-peer transaction:** A client from bank 1 instructs its bank to mint a Deposit Token and initiates payment by transfer of the Deposit Token to a client from bank 2. The client from bank 2 instructs[11] its bank to redeem the Deposit Token and thus credit their deposit account. The transaction is settled between the two banks via SIC.
2. **Escrow-like transaction:** A client from bank 1 instructs its bank to mint Deposit Tokens. Unlike a traditional escrow with a neutral third party, this escrow-like setup relies on a smart contract to automatically enforce conditional settlement based on predefined parameters. Thereafter, the client from bank 1 links the Deposit Token to a smart contract acting as a technical escrow agent, whereas the client from bank 2 links their predetermined asset to the same smart contract. When the required balance for both legs of the transaction is met, withdrawal for both tokens from the smart contract is locked. Then the two banks will settle the transaction by conducting a SIC payment from a mirror account at bank 1 to a mirror account at bank 2. Upon providing confirmation on-chain by bank 1 and bank 2 that the payment was successfully conducted, the smart contract transfers the respective tokens to the predetermined recipient (i.e., the client from Bank 1 receives the asset token, while the client from Bank 2 receives the deposit token.

11 In the PoC bank 2 was automatically instructed to redeem the token and credit the deposit account

3.2 Token creation & revocation processes

The Deposit Token scheme is built on the traditional crediting and debiting process through the creation (minting)[12] and revocation (burning)[13] of tokens on the blockchain. These processes are designed to ensure that the outstanding Deposit Token always correspond with bank deposits, maintaining trust and integrity across the system.

Creation: The "Minting" Process

The Deposit Token is minted by bank 1 (the issuing bank) at the request of its client (the payor), meaning that an entry in the blockchain network is created that represents a specific nominal value (face value of the instruction that the Deposit Token represents) which is linked to the payor's account in the traditional core banking system outside of the DLT. It is assumed that the terms and conditions will provide that the Deposit Token references to a bank account with sufficient funds. When a client requests Deposit Tokens (1), the issuing bank follows a two-step process:

1. The issuing bank debits the payor's deposit account (2) and credits a mirror account (3) designated for the Deposit Token creation. This ensures the underlying funds are reserved and not double-spent and that the bank's books are updated.
2. The issuing bank then interacts with the smart contract to mint the corresponding Deposit Tokens, in the client's wallet (4). At this point, the tokens are available for use.

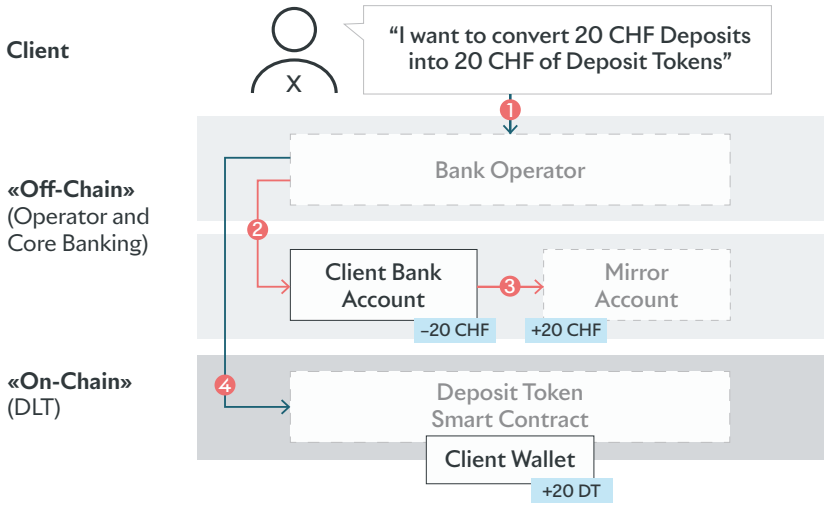

Figure 1: Creation - The "Minting" Process · **Source:** Own Illustration by SBA

12 In Blockchain terminology "minting" is considered the technical process of generating a new token. Hence, in this report we refer to the creation of entries in the shared ledger as such

13 In Blockchain terminology "burning" is considered the technical process of destroying an existing token. Hence, in this report we refer to the revocation of entries in the shared ledger as such

Revocation: The "Burning" Process

The revocation of Deposit Tokens follows the reverse sequence:

1. Depending on the contractual framework, either the client initiates a so-called burn request by transferring the Deposit Token to its own bank for redemption or this happens automatically 1. In the case of interbank transactions, this is the receiving bank. The bank then invokes the smart contract to revoke (burn) the tokens, removing them from circulation by transferring them to the 0x address 2.
2. Following the burning of the token, the bank debits the mirror account 3 and re-credits the client's deposit account with the corresponding amount 4.

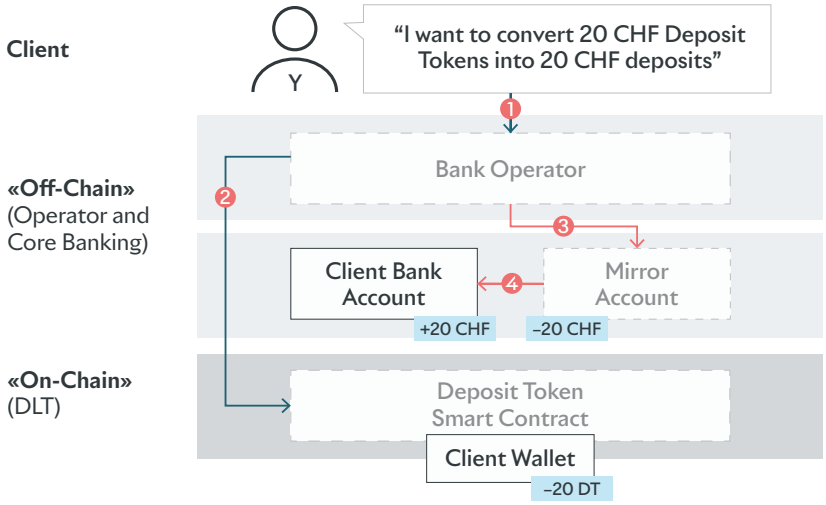

Figure 2: Revocation - The "Burning" Process · **Source:** Own Illustration by SBA

Key Message

This "mint-and-burn"-mechanism ensures:

- Outstanding Deposit Tokens always correspond with the underlying bank deposits
- The process remains in the visibility and control of the regulated banking system
- Full auditability and transparency for compliance and oversight

3.3 Use Case 1: P2P Deposit Token Transaction

The token transaction process is structured to be integrated into the mechanics of conventional payment systems while leveraging the programmability of blockchain infrastructure.

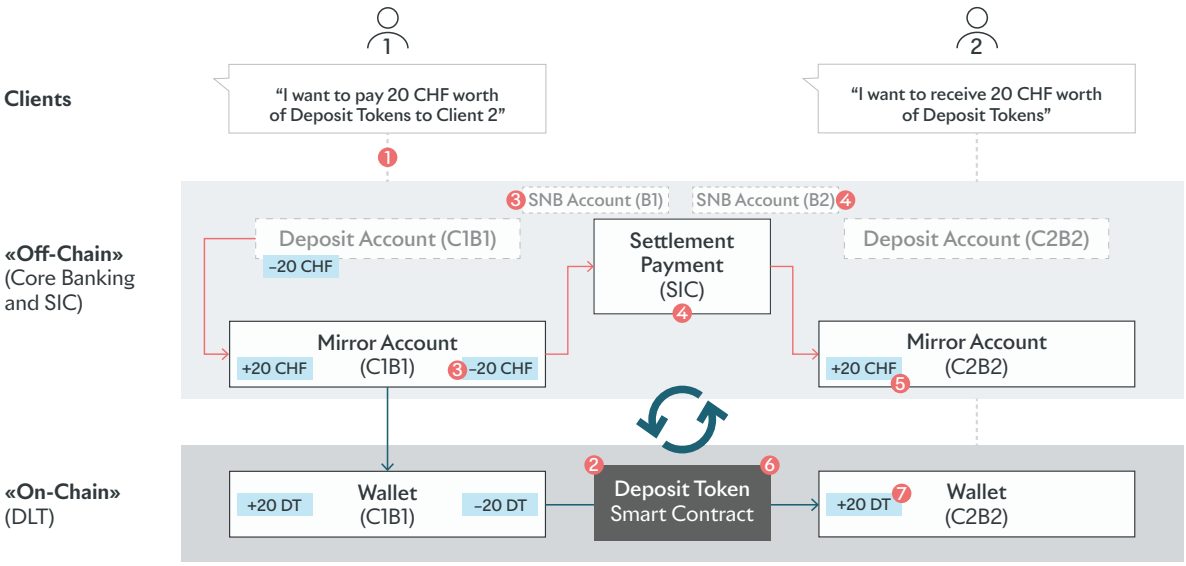

Figure 3: Stylized Transaction Process. The actual PoC-transaction is reflected in Appendix A · **Source:** Own Illustration by SBA

In short, the transaction process for the PoC is structured as follows:

1. **Client Initiation:** The payor instructs his bank (the issuing bank) to transfer Deposit Tokens to a recipient wallet of the payee held at another bank (the receiving bank) (1).
2. **Transfer Trigger by Issuing Bank's Operator:** The issuing banks operator triggers the transfer request from the payor's wallet to the payee's wallet. This action sets the transaction status to *pending* in the Deposit Token smart contract (2).
3. **Mirror Account Debit (Payor):** The issuing bank debits the payor's mirror account and credits its account at SNB, reserving the token amount for transfer and ensuring consistency between its internal ledger and the blockchain (3).
4. **Compliance Checks at Issuing Bank:** The issuing bank performs compliance checks – including AML, sanctions screening, and any additional regulatory requirements. The transaction does not proceed unless these checks are successfully passed.
5. **Interbank Settlement via SIC:** A corresponding payment is processed through the SIC system, debiting the issuing bank's account at SNB and crediting the receiving bank's account at SNB (4).
6. **Compliance Checks at Redeeming Bank:** Before finalizing the transfer, the redeeming bank performs its own compliance checks, ensuring that the incoming funds and wallet destination meet all regulatory obligations.

7. **Mirror Account Credit (Payee):** The redeeming bank debits its account at SNB and credits the Mirror account corresponding to the payee. This confirms internal receipt of the funds and ensures the incoming Deposit Token fully corresponds to the account holdings 5.
8. **Smart Contract Finalization:** Once all checks are complete and the SIC settlement has occurred, the redeeming bank's operator invokes the smart contract to accept the transfer of the Deposit Token 6. This action sets the transaction status to *completed* and triggers the crediting of the token to the payee's wallet on the blockchain 7.

Key attributes of the process

- The ability to accept or reject a deposit token transfer directly into a client's wallet – once compliance checks and SIC settlement are complete – enables wallet-to-wallet transfers between clients without relying on a centralized "receiver wallet" at the receiving bank. This removes the need for an additional on-chain transaction from such a "receiver wallet" to a client wallet, reducing associated fees and operational effort.
- The interbank settlement component (currently executed via SIC) can later be replaced or augmented by a wCBDC or other settlement mechanism with minimal system changes.
- The tested architecture ensures that no payment is finalized unless both compliance and fiat settlement steps have occurred, protecting all parties from settlement or regulatory risk and maintaining the integrity of the system end-to-end.

3.4 Use Case 2: Escrow-like Transaction

The escrow-like transaction model builds on the standard transaction process by introducing a technical smart contract mechanism between the two transacting parties. This means that both legs of the transaction – the Deposit Token and the asset to be exchanged – are first referenced in a smart contract. This approach ensures that settlement will only occur once all conditions are met. It is especially relevant for exchanges involving tokenized assets, where the payment and the delivery of the asset must be coordinated.

In an escrow transaction neither party takes the risk that the counterparty will not complete its side of the transaction. By structuring the process around mutual confirmation, compliance verification, and interbank settlement, the escrow-like mechanism ensures that the transaction only proceeds when everything is in place – and both parties are protected.

In the following example of the escrow application, bank 1 – representing the buyer – initiates the transaction by setting up the smart contract and immediately instructing the Deposit Token transaction process. The other asset is then provided by the seller (client of bank 2). The transaction only completes once both legs are in place and all compliance and settlement steps have been fulfilled.

1. **Smart Contract Setup and Deposit Token Instruction by Bank 1:** A bank 1 operator[14] sets up the smart contract with the transaction parameters, including the buyer wallet, the Deposit Token and asset pair, and the agreed price. As part of this step, the operator also references the Deposit Token from client 1 in the smart contract 1.
2. **Asset by Client 2 (Bank 2):** Client 2, the seller, references the corresponding asset[15] in the smart contract 2. Once both the Deposit Tokens and the asset are referenced, the smart contract verifies the information 3.
3. **Verification and Lock Confirmation:** The smart contract checks that both sides of the transaction match the predefined criteria – token amounts, asset types, and wallet addresses. If everything is in order, the transaction is marked as ready for finalization 4.
4. **Compliance Checks and Interbank Settlement:** The banks involved perform their respective compliance checks (e.g., AML, sanctions screening) as described in *3.3 Transaction Process* as part of the settlement via SIC 5.
5. **Final Approval by Receiving Bank (Bank 2):** Once the compliance checks and the SIC settlement are complete, the receiving bank (bank 2) formally confirms the settlement on-chain by triggering the execution of the escrow smart contract 6.
6. **Instantaneous (Atomic) Release by the Smart Contract:** Upon triggering the escrow, the smart contract simultaneously executes both transfers. The asset is released to client 1 (bank 1). The Deposit Tokens are instructed to be transferred to client 2 (bank 2) and their transfer state is set to 'pending'. Bank 2 then needs to approve the transfer of the Deposit Tokens directly into the client wallet on-chain, upon which the transaction is finalized 7.

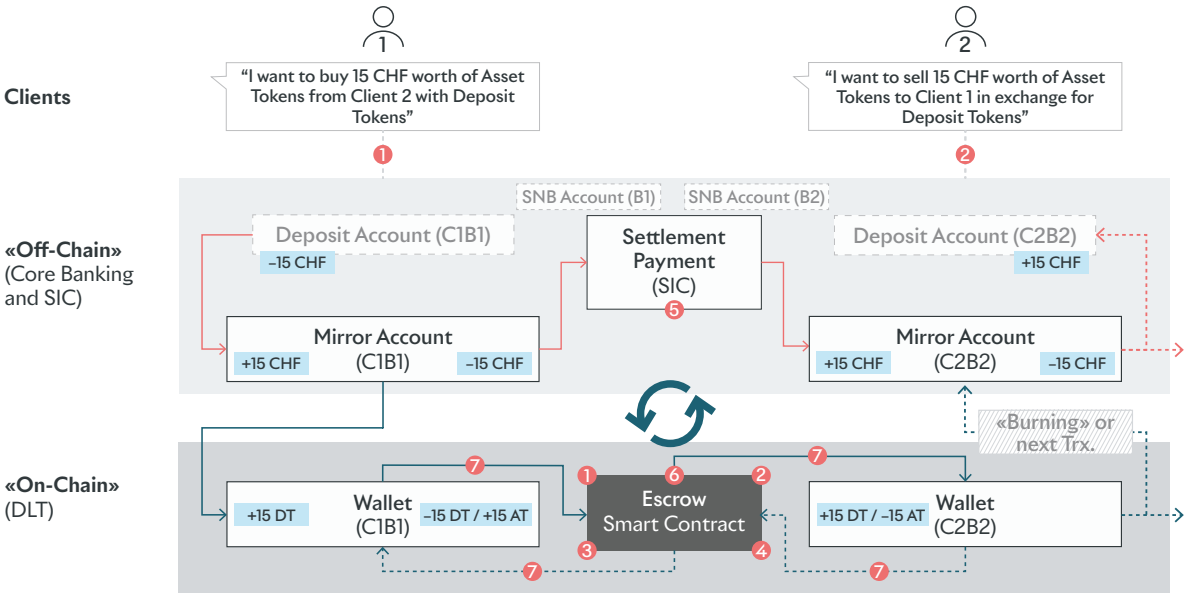

Figure 4: Stylized Escrow-like Transaction · **Source:** Own Illustration by SBA

14 See 4.1 Governance & Roles

15 e.g., tokenized equity, bond, or another digital asset

4 Technical Implementation

The following diagram provides an overview of the key participants and their interactions within the system, from platform administration to Deposit Token lifecycle management and escrow-like functionality. It displays design implementation (see chapter 3) and specifically illustrates how rights and responsibilities are distributed across platform-level, bank-level, and client-level roles, with all critical actions executed as on-chain transactions.

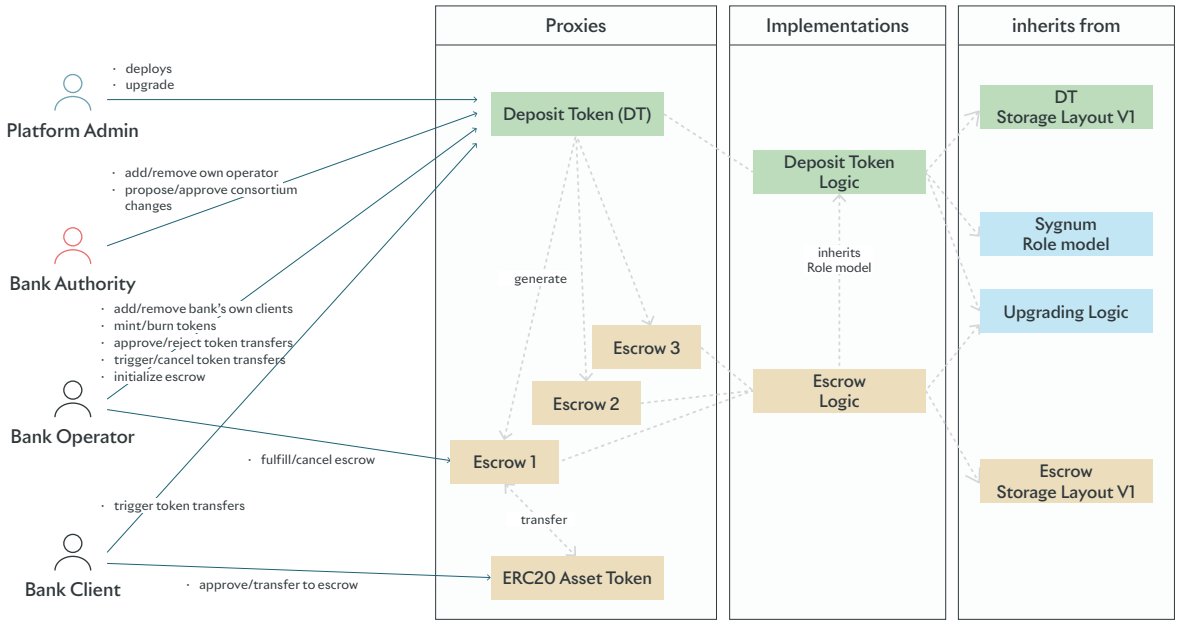

Figure 5: Technical Governance of the PoC · **Source:** Own Illustration by SBA

4.1 Governance & Roles

The governance structure of the Deposit Token scheme - which in a productive setup must be assessed in detail, reevaluated and specified in a rulebook or similar governance document - is designed to ensure secure, decentralized, and role-specific control over the Deposit Token lifecycle, compliance workflows, and escrow-like interactions. Each actor operates with clearly defined and permissioned responsibilities enforced on-chain via smart contracts. Governance actions are logged immutably on the blockchain, supporting transparency and auditability.

For the PoC the roles have been assigned as follows:

1. Platform Admin (Sygnum) – *Role: Technical Governance*

- Responsible for the initial deployment of the Deposit Token smart contract
- Can upgrade the smart contract as needed (e.g., for protocol improvements or security updates)
- Operates at the platform level

2. Bank Authority (PostFinance, Sygnum and UBS) – *Role: Institutional Governance*

- One bank authority per participating bank
- Authorized to manage its institution's role in the system through on-chain governance actions
- Responsibilities include:
  - Proposing or approving consortium changes (e.g., modifying platform rules)
  - Proposing or approving the addition of new bank authorities, whereby a minimum of 50 % of existing bank authorities must approve the addition of the new bank authority by voting on-chain
  - Adding or removing bank operators (delegated staff)
  - Minting and burning tokens
  - Approving or rejecting transactions initiated by clients or operators
  - Triggering or cancelling transactions
  - Initializing escrow DvP transactions

3. Bank Operator (Designated employee(s) per participating bank) – *Role: Operational Control*

- Acts on behalf of the bank authority to carry out transactional and client-facing activities
- Responsibilities include:
  - Adding/removing client wallets (whitelisting)
  - Triggering transactions (on behalf of clients or internal processes)
  - Fulfilling or cancelling escrow agreements once settlement and compliance are confirmed
  - Supporting day-to-day token creation and escrow operations

4. Bank Client (One client per participating bank) – *Role: Token End-User*

- The bank client is the wallet owner and initiator of transactions
- Has limited but critical permissions:
  - Trigger transactions from their own wallet (requires approval by the bank)
  - Approve transactions for conditional settlement

4.2 Deposit Token Smart Contract

At the heart of the Deposit Token PoC lies a robust smart contract architecture designed to enable the transactions in a secure and compliant environment. These smart contracts are developed in Solidity (≥ v0.8) and follow strict best practices including 100 % unit test coverage and adherence to OWASP[16] and secure coding guidelines.

16 OWASP Smart Contract Top 10 | OWASP Foundation

Core Functionality

The Deposit Token Smart Contract serves as a permissioned ERC-20 framework with embedded role-based access control (RBAC). It governs the full lifecycle of the transactions, ensuring secure and controlled interactions across a multi-bank consortium. Its main functions include:

- **Minting & Burning:** Only authorized bank operators can mint the Deposit Token or burn the Deposit Token ensuring a one-to-one correspondence with deposits at the participating banks.
- **Initiation of Transactions:** Transactions require explicit approval from both the sending and receiving banks, with compliance checks and SIC-based interbank settlement as prerequisites.
- **Escrow-like Transactions:** Deposit Tokens can be used for buying tokenized assets via a smart contract, which references both legs of the transaction until conditions are met and settlement is triggered.
- **Transparency & Auditability:** All balances, transaction statuses, and role associations are publicly accessible on-chain, promoting transparency and verifiability without compromising control.[17]
- **Permissions handling:** Clearly segmented roles, such as *Platform Admin, Bank Authority, Bank Operator* and *Bank Client,* are programmatically enforced on-chain and preserve the integrity of the different workflows.

Together, these contracts form the programmable foundation of the Deposit Token ecosystem, supporting secure, interoperable, and legally enforceable transactions between institutions and their clients. The complete set of smart contracts is published under a permissive open-source license and made available to the public on GitHub. To ensure security and robustness, smart contracts have been externally audited by Nethermind.[18]

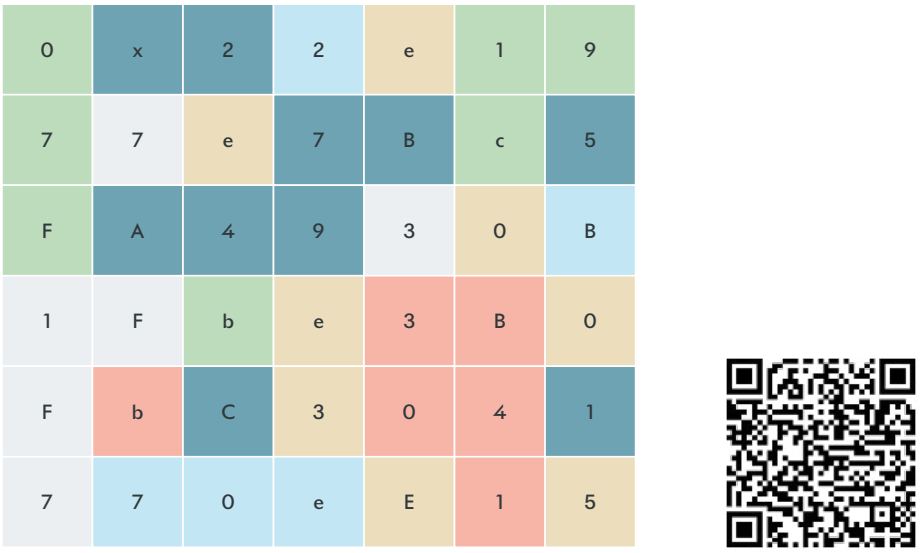

Figure 6: Artistic rendering of Ethereum Deposit Token Smart Contract Address, Scan QR to see smart contract on-chain
Source: SBA (Made with AI)

17 The wallet address is likely to be a personal data and may also fall under bank client confidentiality. Appropriate waivers would have to be obtained for this in a live setup

18 See Appendix A – Report available upon request for members of the SBA

5 Results

5.1 Overall Assessment

The PoC demonstrated that a cross-bank deposit token can be issued and accepted across multiple banks. Integration with legacy banking infrastructure was only tested at a lightweight level, leaving deeper core banking integration for future work. Compliance and legal enforceability were confirmed, with AML/CTF monitoring, sanction screening, and legally binding settlement validated. The programmability and escrow functionality were successfully proven, enabling automated, enforceable transactions with immediate settlement. Operational role clarity and governance need further refinement to clearly define responsibilities and on-chain enforcement. Finally, technical scalability and futureproofing were analyzed, with a revised architecture proposal supporting additional banks and potential future wCBDC integration.

The results were corroborated by two use-cases which were successfully executed between three participating institutes – Sygnum, UBS and PostFinance. The respective smart contracts and the transaction history can be reconciled here:

Smart Contract Library[19]

- **Proxy:** https://etherscan.io/address/0x22e1977e7Bc5FA4930B1Fbe3B0FbC3041770eE15#code
- **DT:** https://etherscan.io/address/0x99305BDb702317b818dB8650c8F035AEd599B334#code
- **Escrow:** https://etherscan.io/address/0x650D372f5F5dEfd4226A48E2217De09E01ebb8Ec#code
- **Wine Token:** https://etherscan.io/address/0x0Cc7018326A83Ec0437EA9Eb78eC1161634eFE80#code

5.2 Peer-to-Peer Use-case

The Proof of Concept successfully demonstrated the ability to execute P2P payments using deposit tokens across multiple participating banks, with both on-chain token movements and off-chain settlement via SIC. The process included full compliance checks at each interbank payment step.

19 The Smart Contracts are licensed under the MIT-License and can be found on the GitHub Repository (Deposit Token Smart Contract, Escrow Smart Contract)

The following end-to-end flow was tested:

1. Token Minting by Sygnum

- **Off-chain:** The client of Sygnum requests the issuance of Deposit Tokens to enable a CHF 20 transfer. Sygnum debits CHF 20 from the client's main account and credits the same amount to the client's mirror account.
- **On-chain:** CHF 20 Deposit Tokens are minted to the client's blockchain wallet.

2. Payment instruction to UBS

- **Off-chain:** The client of Sygnum instructs a payment to the client of UBS, resulting in a SIC 4 account-to-account transfer of CHF 20 from Sygnum's client mirror account to UBS's client mirror account, accompanied by standard compliance checks.
- **On-chain:** In parallel, CHF 20 Deposit Tokens are instructed to be transferred from Sygnum's client wallet to UBS's client wallet.

3. Acceptance of payment by UBS

- **Off-chain:** UBS accepts the incoming transfer of CHF 20 from Sygnum's client mirror account to UBS's client mirror account.
- **On-chain:** UBS accepts the incoming transfer of CHF 20 Deposit Tokens to its client's blockchain wallet.

4. Payment instruction to PostFinance

- **Off-chain:** The client of UBS instructs a payment to the client of PostFinance, resulting in a SIC 5 account-to-account transfer of CHF 20 from UBS's client mirror account to PostFinance's client mirror account, accompanied by standard compliance checks.
- **On-chain:** In parallel, CHF 20 Deposit Tokens are instructed to be transferred from UBS's client wallet to PostFinance's client wallet.

5. Acceptance of payment by PostFinance

- **Off-chain:** PostFinance accepts the incoming transfer of CHF 20 from UBS's client mirror account to PostFinance's client mirror account.
- **On-chain:** PostFinance accepts the incoming transfer of CHF 20 Deposit Tokens to its client's blockchain wallet.

6. Payment instruction to Sygnum

- **Off-chain:** The client of PostFinance instructs a payment to the client of Sygnum, resulting in a SIC 4 account-to-account transfer of CHF 20 from PostFinance's client mirror account to Sygnum's client mirror account, accompanied by standard compliance checks.
- **On-chain:** In parallel, CHF 20 Deposit Tokens are instructed to be transferred from PostFinance's client wallet to Sygnum's client wallet.

7. Acceptance of payment by Sygnum

- **Off-chain:** Sygnum accepts the incoming transfer of CHF 20 from PostFinance's client mirror account to Sygnum's client mirror account.
- **On-chain:** Sygnum accepts the incoming transfer of CHF 20 Deposit Tokens to its client's blockchain wallet.

8. Token Revocation by Sygnum

- **Off-chain:** The client of Sygnum requested the redemption of Deposit Tokens. Sygnum debits CHF 20 from the client's mirror account and credits the same amount to the client's main account.
- **On-chain:** CHF 20 Deposit Tokens are burned from the client's blockchain wallet.

Key Observations

The peer-to-peer transaction tests confirmed that all on-chain token movements were precisely synchronized with their corresponding off-chain SIC settlements. This full end-to-end alignment demonstrated that the proposed Deposit Token model can be integrated into the existing banking framework without operational discrepancies, thereby meeting the core objective of integration with legacy banking infrastructure. The successful matching of token transfers to fiat movements through the SIC system also validated that such integration is feasible without disrupting accounting, reconciliation, or compliance processes. However, leveraging the traditional system for critical controls has brought limited benefits.

The tests further showed that tokens were seamlessly accepted and transferred across all three participating banks, confirming the objective of cross-bank token acceptance. Each institution retained full control over its own client relationships and risk exposure while participating in a shared, interoperable token ecosystem. From a compliance perspective, standard KYC/AML and sanctions screening procedures were successfully applied at every SIC payment step without introducing measurable delays. This finding is directly aligned with the objective of compliance and legal enforceability, proving that the system can operate within existing regulatory frameworks and maintain the legal certainty required for settlement.

5.3 Escrow-like Transaction

The PoC further demonstrated the ability to execute escrow-like transactions involving asset-backed tokens, using wine tokens[20] as an example. This test introduced an escrow mechanism to facilitate simultaneous token and deposit exchanges between Sygnum and UBS clients.

The following end-to-end flow was tested:

1. Token Minting by Sygnum

- **Off-chain:** –
- **On-chain:** CHF 15 worth of wine tokens are minted to the client's blockchain wallet.

20 Tokenized parts of a physical wine bottle

2. Token Minting by UBS

- **Off-chain:** The client of UBS requests the issuance of Deposit Tokens to enable a CHF 15 transfer. Sygnum debits CHF 15 from the client's main account and credits the same amount to the client's mirror account.
- **On-chain:** CHF 15 Deposit Tokens are minted from the smart contract to the client's blockchain wallet.

3. Escrow Setup by Sygnum

- **Off-chain:** –
- **On-chain:** Sygnum creates an escrow smart contract and linkes it with CHF 15 worth of wine tokens from the Sygnum client wallet.

4. Escrow Funding (UBS) and Initiation of Payment Instruction

- **Off-chain:** –
- **On-chain:** The client of UBS instructs CHF 20 Deposit Tokens to be linked with the escrow smart contract.

5. Escrow Execution

- **Off-chain:** Settlement UBS → Sygnum
- **Off-chain:** A SIC 4 account-to-account transfer of CHF 15 from UBS's client mirror account to Sygnum's client mirror account, accompanied by standard compliance checks is instructed.
- **On-chain:** The escrow contract executes the exchange, instructing the transfer of CHF 15 deposit tokens to the Sygnum client wallet and CHF 15 worth of wine tokens to the UBS client wallet.

6. Settlement Completion by Sygnum

- **Off-chain:** Sygnum credits CHF 15 to the client's mirror account, completing the fiat transfer.
- **On-chain:** Sygnum accepts the incoming CHF 15 Deposit Tokens from the escrow smart contract into the client wallet and approves the final transfer of the wine tokens to the wallet of the UBS client.

Key Observations

The escrow-based transaction successfully synchronized on-chain token exchanges with off-chain SIC settlements, confirming that simultaneous asset-backed token swaps and fiat payments can be executed without operational discrepancies. The workflow validated that the escrow mechanism ensures atomic settlement: both parties receive the correct tokens and fiat amounts simultaneously, reducing counter-party risk.

Cross-institutional participation was seamless: Sygnum and UBS maintained control over their respective client relationships and risk exposure, while the escrow facilitated a fully interoperable token exchange. Compliance checks remained fully effective, with standard KYC/AML procedures applied at each off-chain settlement step, demonstrating the model's regulatory viability.

6 Conclusion and Outlook

For the first time, three banks have successfully conducted a trial of this kind on a public blockchain. The project demonstrated how regulated financial institutions can transact in an interoperable manner, paving the way for new rails in payments and settlement. In the Deposit Token PoC, we evaluated the potential of tokenized deposits as reliable, secure settlement tools for DLT-based use cases in Swiss finance. This PoC has established legal, economic, and technical groundwork for further development in the realm of tokenized deposits.

"For the first time, three banks have successfully conducted a trial of this kind on a public blockchain. The project demonstrated how regulated financial institutions can transact in an interoperable manner, paving the way for new rails in payments and settlement."

The PoC explored a non-native, account-based tokenized deposit model, where payment instructions were represented on a blockchain with the blockchain acting as an informational layer rather than the settlement layer. This approach minimized disruption to existing banking infrastructure, reducing operational risks and regulatory friction while enabling rapid deployment and experimentation. This enabled the successful exploration of the feasibility and future potential of implementing an interoperable equivalent to traditional deposits on the blockchain issued by commercial banks using one common token standard.

However, the model has a few important constraints to consider. First, it did not integrate DLT with core banking systems and remained fully dependent on traditional off-chain payment processes and controls. Second, transactions required settlements via SIC and subsequent reconciliation with on-chain activities to achieve finality. Finally, the model applied was fully compliant, but offered only limited compatibility with fully tokenized ecosystems, restricting potential for broader blockchain-based use cases.

Successful future adoption and the application of Deposit Tokens (as opposed to tokenized Deposits in the PoC) depend on several critical factors. First, a robust framework for operational role clarity and on-chain governance must be established. Second, close collaboration with the Swiss National Bank will be required to ensure alignment with wCBDC initiatives incl. alternative considerations of DLT integration possibilities. Third, Deposit Tokens must be operationally and legally on par with traditional deposits. This condition is now generally fulfilled, as tokenized from the PoC deposits represent payment instructions and deposits exist exclusively off-chain, therefore qualifying as regulated bank deposits and falling under the deposit insurance. However, it remains essential that each bank ensures that its technical and legal setup fully complies with the requirements for this classification.

An advanced Deposit Token design will present significant challenges, particularly in the complex integration with core banking systems. Banks will need to implement new protocols and frameworks that enable seamless communication between traditional banking processes and blockchain technology. This includes ensuring that on-chain activities are accurately reflected in off-chain processes. By overcoming these challenges, banks might leverage the full potential of Deposit Tokens, offering enhanced transparency, efficiency, and innovation in financial services.

In the future, furthermore, the adoption of zero-knowledge proofs[21] will be crucial to address privacy, scalability, and permission requirements. The development of a secure identity layer will also be necessary to meet compliance standards and support trusted interactions on-chain. Also, active partnerships with industry stakeholders will be key to fostering innovation and driving practical implementation. Finally, a more decentralized governance model could be implemented, replacing the single platform administrator with a multi-signature wallet mechanism, ensuring that platform updates can only proceed if a predefined number or fraction of bank authorities approve them.

However, a majority voting mechanism for admitting new bank authorities may further constrain the scalability of the Deposit Token network. As an alternative, governance could be enhanced by introducing a supervising authority responsible for overseeing the admission and removal of bank authorities from the network.

The key design enhancements we recommend pursuing in a subsequent phase are:

1. **On-chain Master Records:** banks maintain Deposit Tokens as on-chain master records ensuring transparency while complying with legal standards.
2. **SNB/SIC DLT access:** Allow the SNB to reference on-chain data to update sight deposits accounts, potentially using wholesale CBDCs or triggering off-chain sight deposit adjustments via a bridge.
3. **Integrated Identity Layer:** Deploy secure Layer 2 or certified third party solutions to handle customer identification data on-chain.

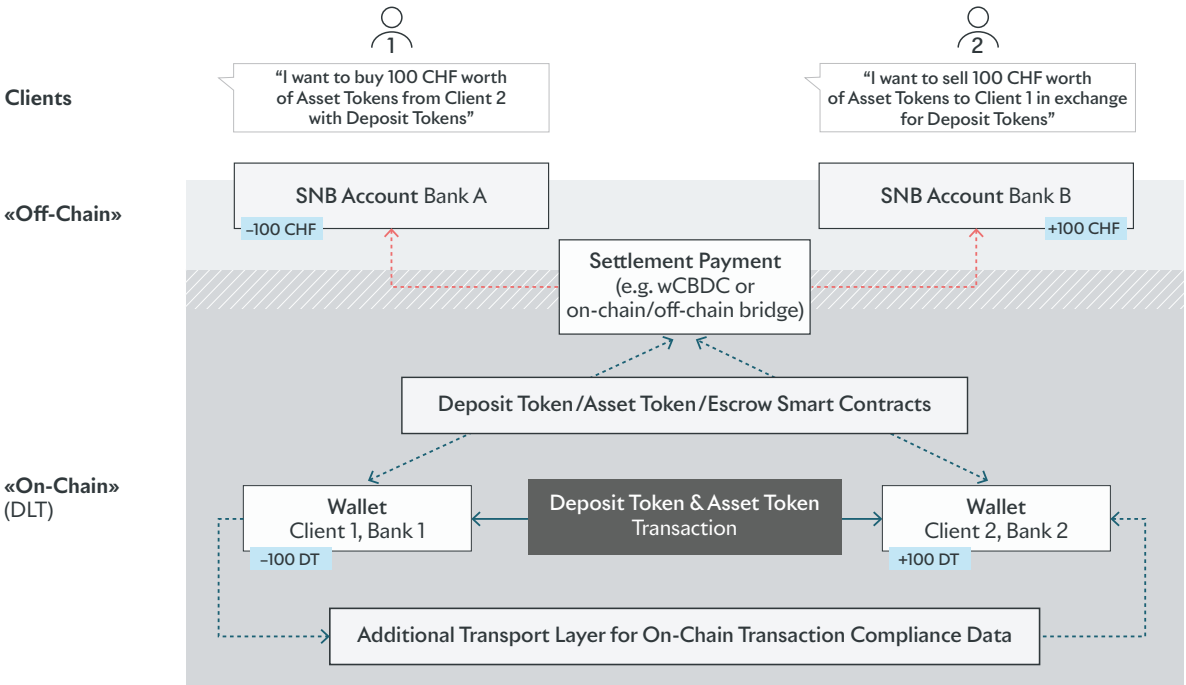

Figure 7: Outlook - Bringing Settlement On-Chain · **Source:** Own Illustration by SBA

21 A cryptographic method allowing verification without revealing underlying data

A potential next phase of the project would necessitate the involvement of various industry partners along with a broader group of participating banks. It is crucial to apply the insights gained from the previous phases to this new stage. The proposals for such subsequent phase will be reviewed by the SBA board of directors, with the aim of establishing a potential mandate by the first quarter of 2026. The next phase aims to enhance collaboration, innovation, and system scalability. It may also clarify how Deposit Tokens differ from other forms of digital money, depending on their most suitable use cases.

Future phases should also assess the implications of evolving regulatory and technological developments, the integration of Deposit Tokens into accounting frameworks. Additionally, the establishment of a comprehensive framework agreement between participating banks will be essential to ensure operational clarity and legal certainty. Finally, the potential qualification of the Deposit Token scheme as a payment system under Swiss law must be carefully evaluated to determine its systemic relevance and regulatory treatment.

Glossary

Creation ("Minting"): The process of generating new entries in the Deposit Token Smart Contract and allocating them to a Wallet.

Deposit Token Smart Contract: A Smart Contract maintaining a ledger of wallet balances, enforcing the logic for updating that ledger, and providing additional functions, such as role management and escrow.

Deposit Tokens: Ledger entries in the Deposit Token Smart Contract that represent balances assigned to wallet addresses and serve as the authoritative record of a bank deposit.

Mirror Accounts: Accounts in a bank's core banking system in the client's name but not directly accessible to the client.

Receiving Bank: The bank that maintains the account of the client receiving the payment.

Revocation ("Burning"): The process of removing entries in the Deposit Token Smart Contract from a Wallet and allocating them to the Zero Address.

Sending Bank: The bank instructed by a client to execute a payment through a transfer.

Settlement: The process of transferring funds from the Mirror Account at the Sending Bank to the Mirror Account at the Receiving Bank via SIC.

SIC: Swiss Interbank Clearing; Switzerland's real-time gross settlement system for interbank payments.

Smart Contract: A self-executing program on a blockchain that enforces rules and agreements once predefined conditions are met.

Tokenized Deposits: Ledger entries in the Deposit Token Smart Contract represent balances assigned to wallet addresses but do not serve as the authoritative record of a bank deposit.

Transfer: The process of reallocating entries in the Deposit Token Smart from one Wallet to another Wallet.

Wallet: A set of cryptographic keys (public and private) that identify a user on a blockchain and enable interaction with Smart Contracts.

Zero Address: The special blockchain address 0x0000000000000000000000000000000000000000 used to burn tokens.

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Appendix A: Technical Documentation

1 Smart Contract Audit Report

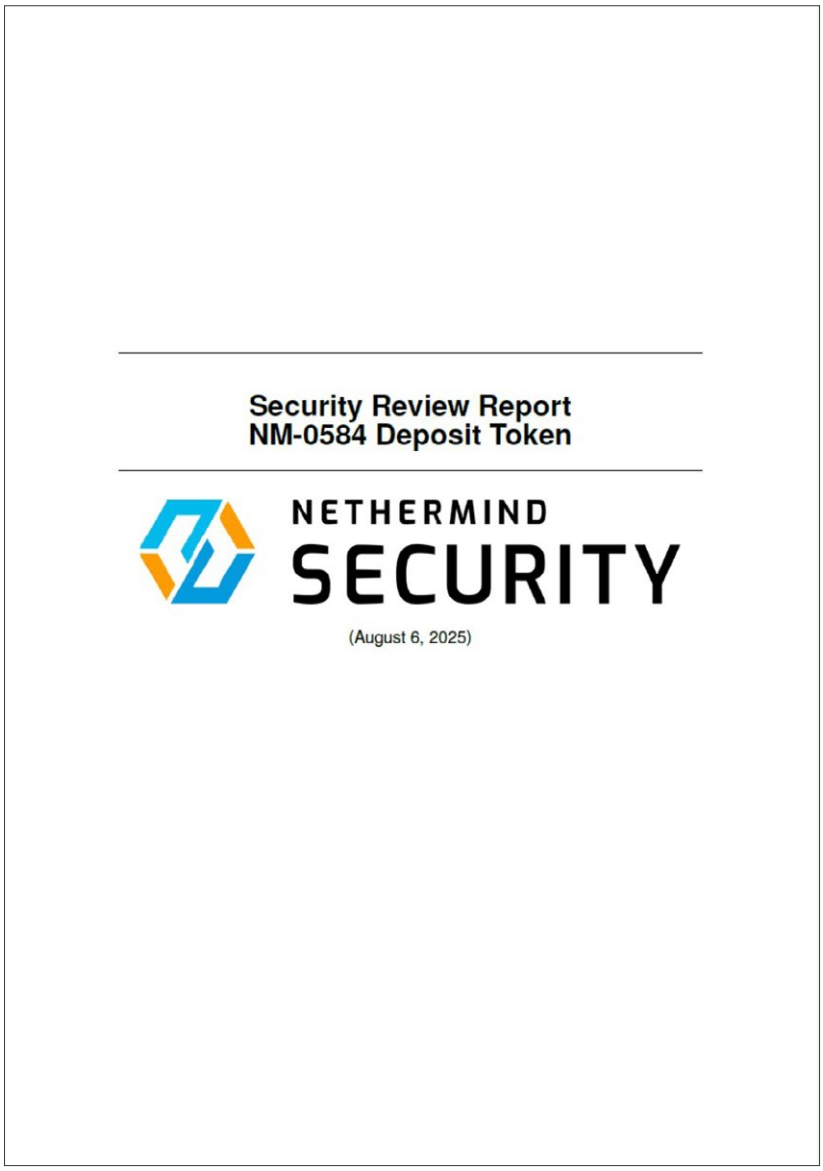

Figure 8: Screenshot of the Smart Contract Audit Report. Available to members of the SBA on request.

2 Technical Illustrations

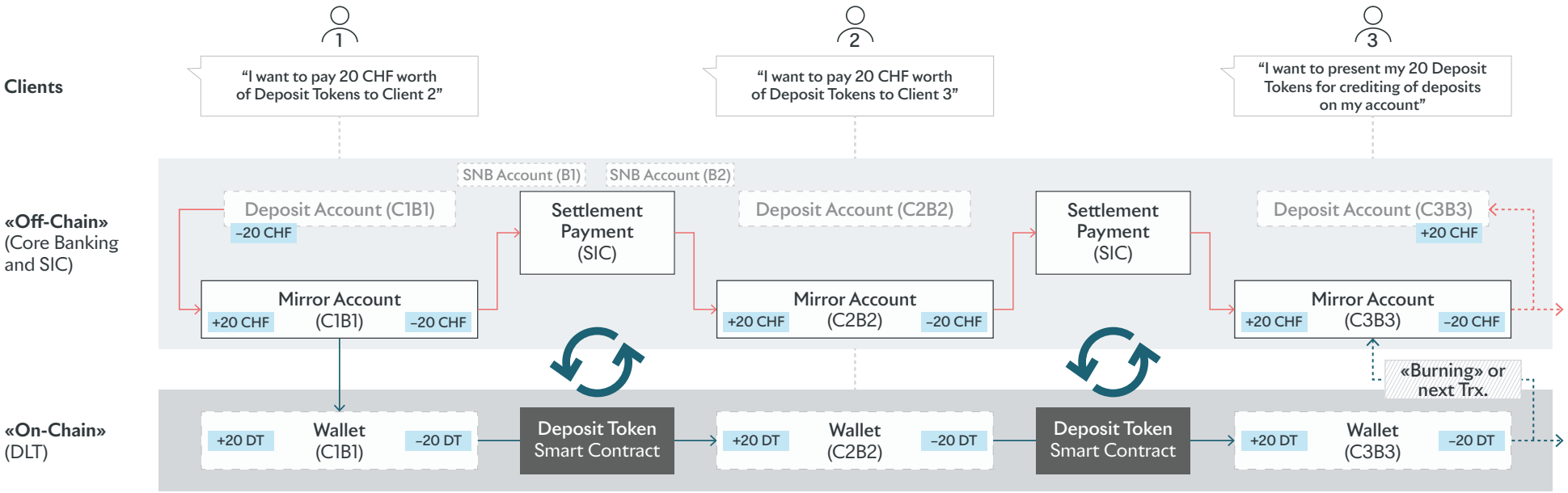

Figure 9: Use-Case 1 illustrated as a perpetual payments flow · **Source:** Own Illustration by SBA

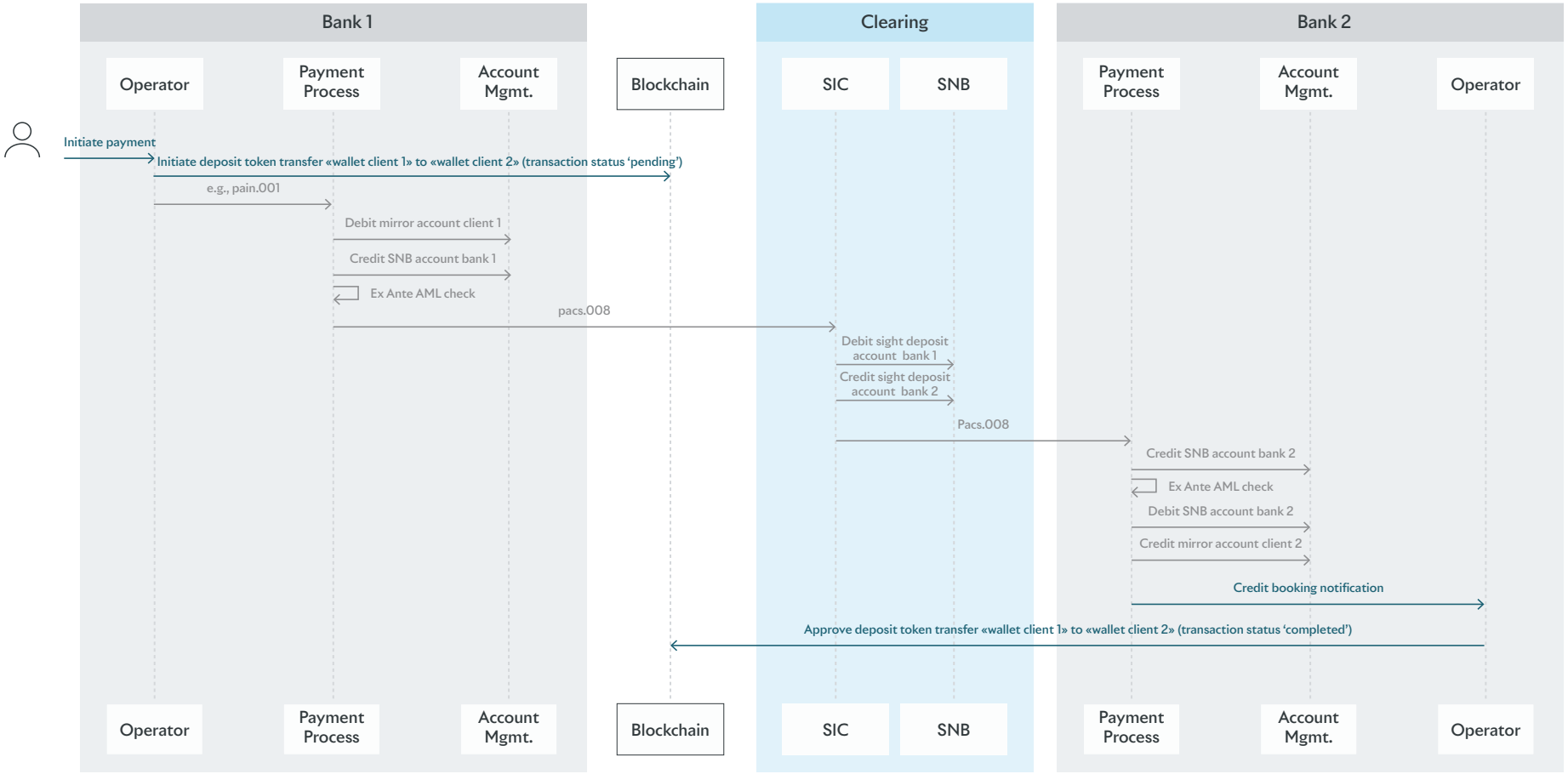

Figure 10: Technical Illustration of Use-Case 1 incl. SIC Payment · **Source:** Own Illustration by SBA

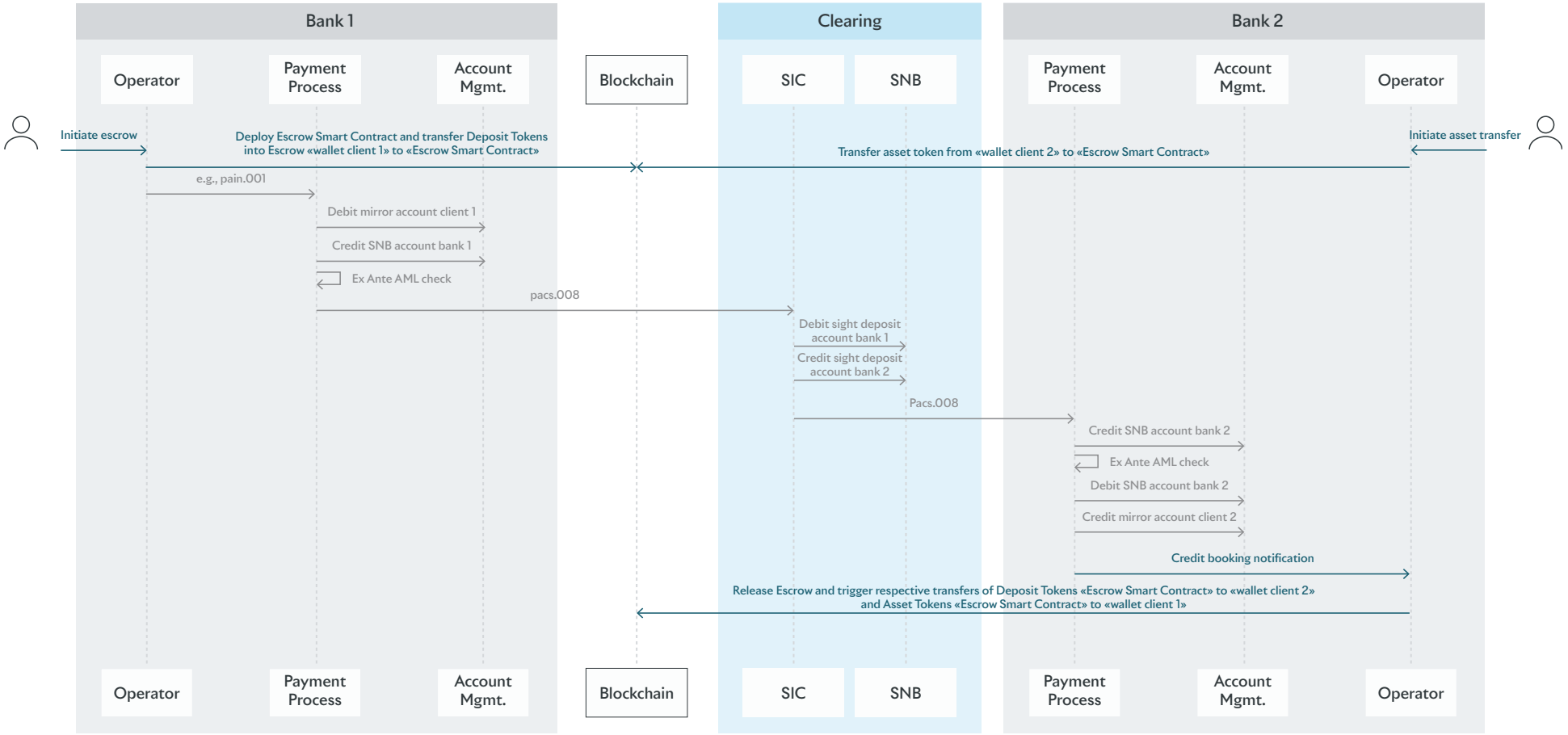

Figure 11: Technical Illustration of Use-Case 2 incl. SIC Payment · **Source:** Own Illustratoin by SBA

Appendix B: Legal and Compliance

1 Introduction

From a technical perspective, the term "Deposit Token" refers to a mapping of addresses to balances combined with certain methods to add and subtract from those balances. These balances constitute the "Deposit Tokens". What a Deposit Token is from a *legal* perspective is defined by assigning a *certain legal meaning* to such entries in a distributed ledger by way of a contractual agreement among the parties involved. Swiss law therefore offers a high level of flexibility to legally structure what a Deposit Token is.

For purposes of the PoC three options to structure the Deposit Token were initially taken into consideration

- (1) a digital representation of the bundle of rights resulting from the account relationship with a bank and in the form of a ledger-based security;
- (2) a digital representation of a payment instruction (Art. 466 seq. CO);
- (3) a digital means to trigger a payment, i.e. the Deposit Token would merely be a technical instrument serving as a message to trigger a SIC payment either directly (e.g. via bridge/trigger solution) or indirectly (via client accounts, similar to direct debit authorization).

The PoC focuses on a Deposit Token as a digital representation of a payment instruction (option 2). This option is based on a time-honored and highly sophisticated legal framework (Art. 466 seq. CO), which is highly flexible and enables contractual solutions for various use cases and technical and operational solutions. Option 1 would have required to develop a new legal framework, resulting in legal uncertainties, and was therefore considered to be too complex for the purposes of the PoC. Option 3 would be feasible technically and legally, but its implementation seems to be more complex compared to option 2 because it would require integration with core banking and other systems.

2 Deposit Token as a Payment Instruction

As outlined in the report, the Deposit Token is structured as a digital representation of a payment instruction (Art. 466 seq. CO). The payment instruction is a *dual authorization* in a *triparty relationship* between a bank (the paying agent), the person giving the instruction (the payor) and the recipient of the instruction (the payee). The paying agent is authorized by the payor to deliver money, securities or other fungible items to the payee on behalf of the payor. The payee, on the other hand, is authorized to collect the payment from the paying agent in its own name (see Art. 466 CO).

Subject to certain exceptions, the issuance of a payment instruction to the payee does not, *per se,* create an obligation of the paying agent to make payment to the payee. Such an obligation only arises after acceptance of the payment instruction by the paying agent (Art. 468(1) CO).

The paying agent is not normally bound to accept the payment instruction received from the payor, unless otherwise agreed (article 468(3) CO) or unless the paying agent is the payor's debtor (Art. 468(2) CO).

The unconditional acceptance of a payment instruction creates a new obligation of the paying agent in favor of the payee, which is independent *(abstract)* from the underlying obligations. From the payee's perspective, unconditional acceptance creates a claim against the paying agent. Acceptance therefore limits the defenses the paying agent can raise against the payee's claim to those arising out of their bilateral relationship or from the terms of the payment instruction; but excluding defenses arising from the paying agent's relationship with the payor (Art. 468(1) CO). However, the paying agent may make the acceptance subject to certain conditions or reservations. Since the payee's claim is based on an abstract contractual relationship with the paying agent which arises only if and when the paying agent accepts the payment instruction, it is from a strict legal perspective not correct to say that claims are being transferred from the payor to the payee. Therefore, from a legal perspective the Deposit Token does not transfer values on-chain. The value is always the claim against the bank.

3 Contractual Framework

There are no statutory requirements as to the form of a payment instruction. While it would be possible to issue a payment instruction in the form of a ledger-based security (Registerwertrecht, Art. 973d seq. CO), this is not required from a legal point of view. Payment instructions law (Anweisungsrecht) provides a highly flexible legal framework that can easily be adapted to various use cases by way of specific contractual arrangements.

The various options that are possible and can be addressed with payment instructions law raise different legal and other issues that need to be addressed in the terms and conditions governing the relationship between participating banks and their clients as well as in the framework agreement among participating banks establishing conditions for the participation of banks and their clients and providing ongoing due diligence and reporting obligations. The drafting of a framework agreement was out of scope of the PoC but will have to be looked at in case of a productive setup. The creation of the terms and conditions will be the responsibility of each participating bank in the event of a productive setup.

4 Design Options

As already explained, the legal framework is highly flexible and therefore permits the design of Deposit Tokens with very distinct features, considering the requirements of different use cases. In each case payment instructions (i.e. authorizations of the payor to the paying agent and the payee) are communicated via the DLT network to the parties involved. The applicable contractual framework will then determine if the paying agent is obliged to accept the payment instruction or if acceptance can be subject to conditions.

This high degree of flexibility is one of the main advantages of this option and permits us to create bespoke legal frameworks with minimal effort based on a firm and time-tested legal basis.

To demonstrate the outer boundaries of this concept the PoC project team developed two model concepts:

- **Payment instruction with automatic off-chain settlement:** In this structure the applicable contractual framework provides that the payment instruction shall automatically be accepted by the paying agent, thus creating without further ado a claim of the payee against the paying agent. The payor's account is debited, and the payee's account is credited. The payment obligation of the payor is fulfilled with the crediting of the payee's account.
- **Payment instruction without automatic off-chain settlement:** The applicable contractual framework may also provide that the payment instruction is not automatically accepted by the paying agent. The payee may therefore hold the Deposit Token in his wallet. This option offers the possibility to make onwards transfers from the first payee to other payees. Depending on the contractual agreement between payor and payee, the payment obligation of the payor is fulfilled with the transfer of the Deposit Token.

Due to its nature and the limited scope, the PoC was conducted by making use of the first option. The second option raises additional legal issues, including in relation to the accounting treatment of Deposit Tokens held by a payee, deposit insurance, settlement finality and compliance (payment instrument with the same compliance requirements as traditional payments and external wallets with additional compliance requirements). The solution of these issues was not in scope of the PoC and will have to be further analyzed in a potentially subsequent project phase.

5 Qualification as Deposits

The qualification of a Deposit Token as deposits is relevant for regulatory and accounting purposes (including for determining whether a Deposit Token would be covered by deposit insurance). The Deposit Token under the PoC is directly associated with accounts maintained with a Swiss bank and serves, one way or another, the purpose of initiating payments from one account to another account. While the claims underlying these accounts clearly qualify as deposits, the Deposit Token as such would in our view not qualify as a deposit as it is solely a payment instruction. The relevant action is most likely the creation of a claim of the payee against the paying agent that is reflected in the relevant accounts. This is clearly the case if the Deposit Token is contractually structured as a payment instruction with automatic off-chain settlement.

If the Deposit Token is contractually structured as payment instruction without automatic off-chain settlement, no deposits are created with the paying agent unless and until the payment instruction communicated with the Deposit Token is accepted by the paying agent. Therefore, the Deposit Token would arguably not be covered by deposit insurance. Of course, deposit insurance applies to the deposits held by the payor with the issuing bank.

6 Insolvency and Deposit Insurance

Deposits are unsecured claims of the client against the bank. In an insolvency of the bank, they are privileged up to an amount of CHF 100'000 per client (Art. 37a of the Swiss Banking Act [BA]). Privileged deposits are also covered by deposit insurance (Art. 37h seq. BA).

This legal framework is not affected by the Deposit Token. Since the Deposit Token is a digital representation of a payment instruction under the PoC, the transfer of a Deposit Token does not make the receiver a creditor. The Deposit Token as such would in our view not qualify as a deposit. The relevant action is most likely the creation of a claim of the payee against the paying agent that is reflected in the relevant accounts (see Chapter 5 "Qualification as Deposits").

7 Finality

Finality (or settlement finality) addresses liquidity, credit and counterparty risks which may result from the insolvency of participants in payment systems (or other types of financial market infrastructures). These risks are resulting from the fact that under insolvency rules dispositions or transactions relating to assets of the debtor may be void or voidable if made after the commencement of an insolvency.

Finality rules provide that such a transaction "shall be legally enforceable and binding on third parties" even if finalized after the commencement of insolvency proceedings. Finality always requires that the transaction is irrevocable under applicable private law.

Under general insolvency law, a transaction is final and therefore cannot be challenged in an insolvency of the transferor if it was completed before the commencement of insolvency proceedings and has become irrevocable. The exact point of time at which a transaction is deemed to be completed is determined by the private law governing the transaction, i.e. assignment law in the case of an assignment, property law in the case of a transfer of movables or immovables or payment instruction law in the case of cashless payments.

A precondition of settlement finality is irrevocability, which for payment instructions is governed by article 470 CO. Article 470(2bis) CO provides that in the case of cashless payments a payment instruction becomes irrevocable as soon as the transfer amount is debited to the payor's account unless the regulations of a payment system provide otherwise. As the Deposit Token scheme permits cashless payments, we would therefore argue that the article applies in any case in the context of the Deposit Token scheme and will have to be further looked at in the event of a productive setup.

Finality is not a major issue in the case of the PoC transaction design with automatic off-chain settlement since there is only a very limited time lag between the issuance of the Deposit Token, its redemption and settlement between the banks via SIC. It is more relevant in the case of a payment instruction without

automatic off-chain settlement. While the transfer of the payment instruction represented by the Deposit Token may be final according to general insolvency rules, the holder of the Deposit Token will still be subject to the insolvency risk of the redeeming bank. As between participating banks, finality is in any case achieved only when settlement is made though SIC.

If the Deposit Token were to be issued in the form of a ledger-based security (Registerwertrecht, article 973d seq. CO), article 973f(2) CO would apply which provides that dispositions of ledger-based securities which are irrevocable are considered final in the insolvency proceedings if introduced prior to the commencement of such proceedings and registered within 24 hours.

8 Compliance

Transaction monitoring
Financial intermediaries must monitor business relationships and transactions and thus ensure that increased risks are identified (Art. 20(1) AMLO-FINMA). For that purpose, banks and securities firms must operate an IT-based system for transaction monitoring that helps to identify transactions with increased risks (Art. 20(2) AMLO-FINMA). The transactions identified by the IT-based monitoring system must be evaluated within a reasonable period. If necessary, additional clarifications must be carried out in accordance with Art. 15 (Art. 20(3) AMLO-FINMA). Transactions with increased risk, which must be monitored, are defined in Art. 14 AMLO-FINMA. Art. 14(2) AMLO-FINMA lists criteria which indicate transactions with increased risk (transaction types, volumes and frequencies, country of origin and destination). Art. 14(3) AMLO-FINMA provides examples of transactions that are in any case considered to imply increased risk; they include cash transactions exceeding CHF 100,000 or payments from or to a country that is considered by the Financial Action Task Force (FATF) to be “high risk” or non-cooperative and for which the FATF calls for enhanced due diligence. From a technical and operational perspective, transaction monitoring is primarily based on the interfaces to the payment systems (i.e., SIC, euroSIC, SEPA, etc.) and on the SWIFT systems. An expansion to the platforms for the storage and transfer of Deposit Tokens is likely to be complex and was therefore not an option under the PoC.

Transactions with counterparties abroad are not possible since it is assumed that the Deposit Token can be held only by existing Swiss-domiciled clients of participating Swiss-domiciled banks meeting certain criteria agreed in a framework agreement to be entered among participating banks. The transfer of Deposit Tokens is therefore not per se a transaction with increased risks as defined by Art. 14(3) AMLO-FINMA. The risk profile can be further minimized by defining suitable framework conditions for each use case. For example, if the use of the Deposit Token for the clearing and settlement of securities issuance will involve exclusively institutional investors it will present low risks from a transaction monitoring perspective. Other potential use cases like using it for micropayments in an IoT context are also unlikely to pose any relevant risks.

Travel Rule

According to Art. 10(1) AMLO-FINMA, the client's financial intermediary must provide the name, account number and address of the client as well as the name and account number of the beneficiary person in payment orders (so-called travel rule). The information about the client and the beneficiary must be accurate and complete. For payment orders within Switzerland, however, it is sufficient that the financial intermediary provides the account number or a transaction-related reference number as long as it can provide the remaining information about the client to the financial intermediary of the beneficiary and the relevant Swiss authorities upon request within three working days (Art. 10(2) AMLO-FINMA).

Since the Deposit Token is intended to be used exclusively for payments within Switzerland, the requirements for only specifying the reference or account number are met. However, Swiss banks usually do not rely on this exception, i.e. are requesting the comprehensive data set also for pure domestic transactions, also to ensure sanctions compliance which is not risk-based. The Travel Rule was not an issue in the PoC since compliance issues are covered by the parallel SIC payment, but in future applications this will have to be addressed. The information will therefore have to be transmitted in parallel to the on-chain transaction, e.g., using SWIFT or similar systems like Open VASP.

Sanctions

Participating banks have to ensure compliance with sanction regimes when Deposit Tokens are issued and transferred. Financial sanctions include the freezing of assets of sanctioned persons, the prohibition to accept deposits from, or to grant credit to sanctioned persons, the prohibition to issue or trade with transferable securities, and corresponding notification obligations to the SECO. Unlike transaction monitoring under anti-money laundering law, a risk-based approach is generally not permissible, i.e. financial sanctions must be enforced without room for error. It is assumed that an obligation to apply also sanctions not legally implemented in Switzerland would be part of the framework agreement to be entered among participating banks. The enforcement of financial sanctions is implemented through the transaction monitoring systems. This requires that the name of the paying person and the beneficiary are transmitted. Given the potential impact of sanctions violations, it is likely that every bank will insist on carrying out sanctions screening independently. The risk of sanctions violations will in any case be limited in the present context and will be purely theoretical for specific use cases (e.g., DvP or micro payments). It is limited in other use cases (e.g., P2P) because only Swiss-resident clients are eligible for participation and participating banks must apply sanctions to their existing client in any case. It can therefore, for all practical purposes, reasonably be excluded that a Deposit Token could be transferred to a sanctioned person provided, however, that the participating banks reach agreement about the scope of sanctions to be complied with. DLT offers the possibility of blacklist sanctioned wallets in smart contracts. This would preclude, by technical means, the transfer of a Deposit Token to a sanctioned wallet. The challenge with this approach is to identify sanctioned wallets since at this point of time only OFAC publishes specific wallet addresses. However, crypto forensic services are providing comprehensive data on wallet addresses that are likely to be controlled by sanctioned persons, entities or state actors.

About the Swiss Bankers Association (SBA)

The Swiss Bankers Association (SBA) is the Swiss financial sector's leading industry organisation and represents the interests of some 270 member institutions. Founded in 1912, it ensures optimal framework conditions for a competitive and innovative Swiss banking industry. It promotes dialogue with politicians and authorities, drives vital topics such as sustainable finance and digital currencies, and supports education and professional development in the industry. As a knowledge center, it is dedicated to the sustainable development of the banking industry.

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