Lockton Platform Implementation Status and Delivered Components as of December 2025

Multi-Blockchain Platform for Regulated Digital Asset Management

Lockton Solutions LLC FZ | Dubai, UAE
https://lockton.io
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1. Introduction

The digital asset market is evolving rapidly, yet existing solutions remain fragmented: some focus narrowly on key security with rigid custody architectures, while others offer flexible wallet configurations but rely on centralized KYC providers. None deliver comprehensive flexibility across all components of a modern digital finance system.

Lockton is a multi-blockchain ecosystem designed to bridge this gap. It combines the depth of traditional banking functionality with the transparency, security, and programmability of blockchain technology. The ecosystem consists of two distinct but deeply integrated blockchain networks:

Lockton Custodial Platform

A permissioned blockchain built on a customized Stellar-based ledger with Federated Byzantine Agreement (FBA) consensus. Serves as the primary entry point for users, treasury, administration center, and central bank for the entire ecosystem.

Lchain Network

A separate permissioned blockchain platform based on qBFT consensus with full EVM compatibility. Designed for deploying and operating smart contracts, dApps, and custom business logic by corporate clients.

Lockton acts as the single entry point for users, the KYC provider, treasury, central bank, and administrator for the Lchain network. This architecture ensures regulatory compliance, liquidity management, and seamless interoperability between the two networks.

The platform enables issuance, transfer, and exchange of digital assets with high levels of privacy, security, and auditability in accordance with jurisdictional requirements. Lockton provides the tools for full management of the custodial system, including flexible wallet configuration, multisignature and threshold signature schemes, backup mechanisms, identity provider integration, role-based access control, and integration with payment gateways and DeFi protocols.

2. About the Company

Lockton (https://lockton.io/) is an international group of companies (UAE, Ukraine, Uzbekistan) engaged in research and development in the field of blockchain technologies. Headquartered in Dubai (Lockton Solutions LLC FZ), the business group actively works on creating and integrating regulated blockchain solutions, as well as consulting on implementing best practices in the Web3 industry.

2.1 Lockton Finance Crypto Depository (Uzbekistan)

The first licensed crypto depository in the Eurasian region (License #CD0001, obtained in June 2023). The platform for national corporate and individual clients was launched in December 2023. Since May 2024, the depository platform has become available to international clients.

As of September 2025, the average annual turnover of the project is 40 million USD, with approximately 50 active corporate clients.

In addition to the online platform, a client service office also operates in the Tashkent City business cluster.

2.2 Lockton CryptoBank Project (Ukraine)

The Lockton team developed a banking solution for working with virtual assets in partnership with Distributed Lab* in Ukraine. The project reached 80% readiness before being paused in September 2022 due to events in Ukraine. The project remains relevant and may be resumed.

2.3 Lchain Technology Provider

In 2025, the Lockton team, in partnership with Distributed Lab, launched the first version of the Lchain platform — an innovative blockchain platform for controlled circulation of digital assets. The platform creates a secure and transparent environment that meets modern regulatory requirements and integrates with the traditional financial system.

2.4 Consulting and Intellectual Property (UAE)

Lockton Solutions LLC FZ provides a range of consulting services in AML/CFT compliance, licensing, and implementation of best practices for Web3 industry companies. The company manages its portfolio of intellectual property, offering technology solutions based on licensing agreements.

2.5 Key Partnerships

- Partnership with Kapitalbank (Uzbekistan) as bank-partner
- Direct partnership with Tether as USDT issuer — first in the CIS
- Official regional broker of OKX exchange
- Professional VASP account on Kraken exchange
- Integration with AMLBot, LSEG World-Check, State Personalization Center

*Distributed Lab is a structural division of Blockstream.
https://blockstream.com/press-releases/2025-11-18-blockstream-boosts-engineering-addition-distributed-labs-expertise/

3. Platform Architecture

The Lockton ecosystem is built on a highly modular microservices architecture. The platform can be divided into two fundamental layers: the DLT-based logic (node) responsible for key functions — token management, rights management, and transaction processing; and auxiliary modules that interconnect the DLT with external systems, store user data, and handle integrations.

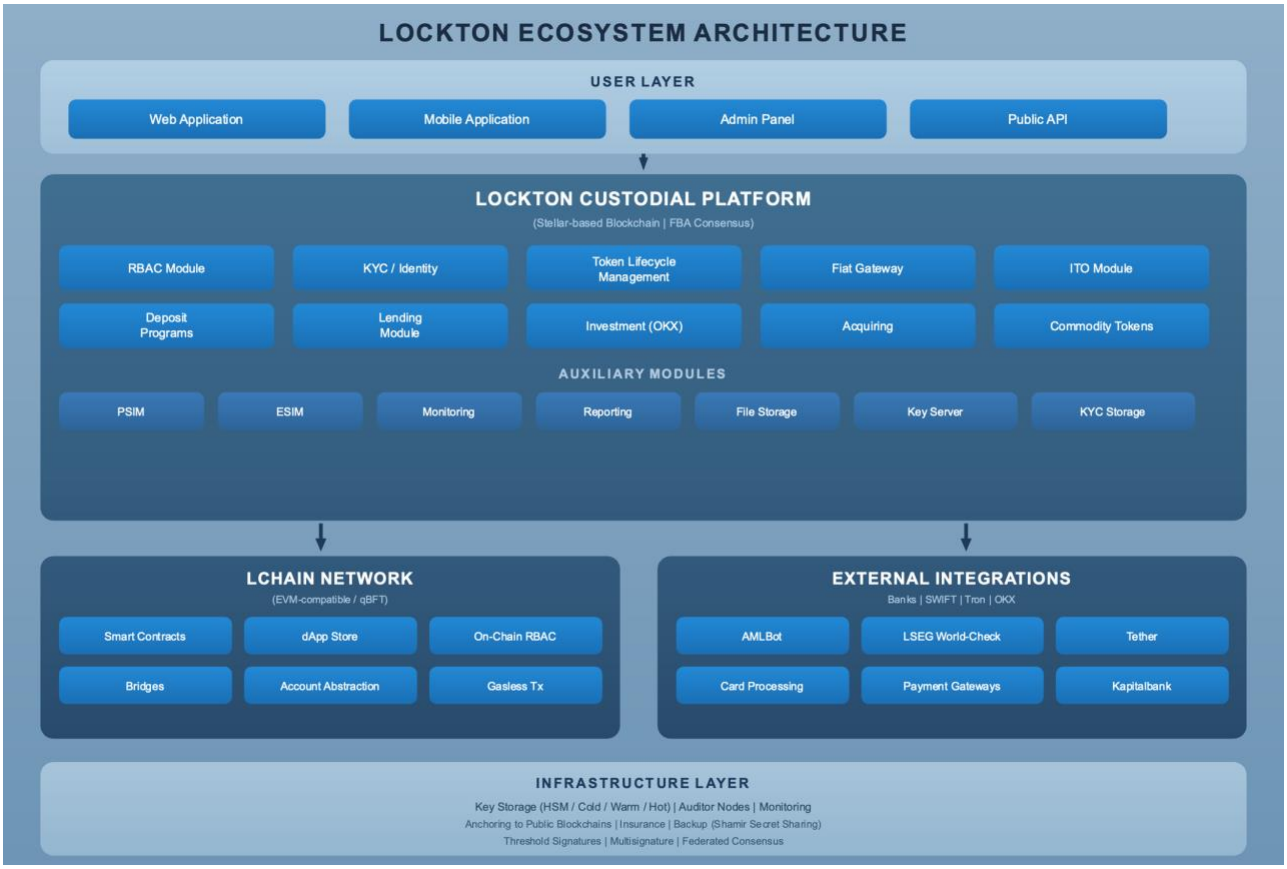

Figure 1: Lockton Ecosystem High-Level Architecture

3.1 Node

The Node is the key component of the platform. It processes transactions, manages history, and provides an API to access blockchain data. It consists of two modules:

- Core — a replicated state machine that maintains a local copy of the cryptographic ledger and processes transactions against it in consensus with a set of peers. It implements the federated consensus protocol and is responsible for token accounting and roles management.
- REST API server — acts as an interface between the core and applications. It allows submitting transactions, checking account statuses, and viewing transaction history.

3.2 Auxiliary Modules

Auxiliary modules connect the blockchain with the real world: banks, payment gateways, exchanges, CRM/ERP/SCM systems, identity verification services, event notifiers.

Additional modules include: issue tracking, real-time monitoring, report generation, file storage (IPFS), and a keyserver for generating and storing key pairs.

3.3 Multi-Layer Security Architecture

All transactions are executed within the proprietary managed blockchain. The multi-level architecture ensures that sensitive data (personal data, issuance volumes, identified company balances) is not visible to the general public but can be provided to relevant government authorities. Public companies and government bodies can become validators. Public oversight is carried out through full auditor nodes that do not influence consensus.

4. Lockton Custodial Platform

The Lockton Custodial Platform is a permissioned platform built on blockchain technology that allows tracking the complete history of operations and guarantees their immutability. It uses a customized blockchain based on Stellar, with Federated Byzantine Agreement (FBA) as the consensus mechanism.

4.1 Native Token: LCH

The main (native) token of the platform is LCH. Its value is formed from one hundredth of the nominal value of the US T-Bond as a pricing index: 1 LCH = 1 USD. LCH is the only in Uzbekistan registered accounting token for transferring value equivalents. It can be exchanged for any fiat currency and any crypto asset.

4.2 Commodity Token: CTN

CTN is a commodity token, a digital equivalent of goods. Its value equals the value of the tokenized asset. It serves as an instrument for transferring value in exchange for goods or services. In the lending module, it functions as a tokenized collateral.

4.3 Core Platform Modules

Module	Description
Role-Based Access Control	Precise permission configuration aligned with Lockton business processes
Registration / Login	Blockchain key pair generation with secure encrypted storage on the platform side
KYC Service	Proprietary KYC service ensuring secure and verified user identification
Fiat Gateway	Bridging traditional and crypto finances via bank transfer and acquiring
Flexible Fee Configuration	Adaptable pricing structures with absolute and percentage-based fees

Deposit Programs	Passive income generation with configurable APY, lock periods, and tiered limits
Commodity Module	Issuance and trading of commodity tokens for B2B and B2C participants
Token Registry	Tracking of digital assets issued within the legal framework
ITO Constructor	Initial token offering module for investment attraction and token distribution
Investment Module	Integration with exchange or online broker for spot trading
Lending Module	Digital secured financing for SMEs and individuals
Acquiring Module	Hybrid crypto/fiat payment gateway for merchants

5. Lchain Blockchain Network

Lchain is a separate permissioned blockchain platform based on the fast qBFT consensus with the capability to launch and operate EVM-compatible projects and applications. It is designed for companies to develop their own business logic in accordance with regional regulations.

Lchain is fundamentally distinct from the Lockton custodial platform: while Lockton operates on a Stellar-based blockchain with FBA consensus for financial operations, Lchain provides a Turing-complete execution environment for arbitrary smart contracts.

5.1 On-Chain RBAC

Lchain provides fully customizable on-chain role-based access control. Roles include: Private User (resident), Legal Entity (resident), Non-Resident Individual, Non-Resident Legal Entity, and Passerby (a lightweight KYC role without custodian account, for applications where the owner pays gas on behalf of users).

5.2 Permitted Smart Contract Deployment

As a permissioned network, Lchain requires all smart contract code to pass review before deployment. After verification, the bytecode hash is added to a dedicated registry smart contract. The RPC node checks each deployment transaction against this registry.

5.3 Native Token Management

Lchain supports tokenomics implemented as a smart contract out of the box. The owner sets the chain's tokenomics rules (coinbase for validators, emission for developers). In the current configuration, the native token for Lchainis LCH— the access token issued by the Lockton platform in response to user deposits.

5.4 Gasless Transactions for Users

Users deploying applications on Lchain can integrate "free execution" logic into their smart contracts. This means end users don't pay for executing certain smart contract methods in native tokens -the smart contract owner pays instead.

Lchain receives signed user transactions only after the smart contract owner approves their execution (e.g., after processing payment through the owner's fiat payment gateway).

5.5 dApp Store

Lchain provides the ability to deploy ready-to-use dApps from a store. Each dApp may cost a certain amount of native tokens or be free. Administrators can add/remove dApps.

5.6 Account Abstraction

Account abstraction allows implementing arbitrarily complex management logic: account recovery, 2FA with Google Authenticator, multi-signature configuration.

5.7 Bridges

Lchain supports two types of bridges: burn-and-mint (tokens in the source chain are burned and minted in the target chain) and lock-and-unlock (locked in the source and unlocked in the target). Mixed types are also supported.

6. Lockton ↔ Lchain Integration Model

The Lockton custodial platform serves as the entry point, treasury, central bank, KYC provider, and administrator for the Lchain network. This model creates a structure similar to a central bank at the network's foundation.

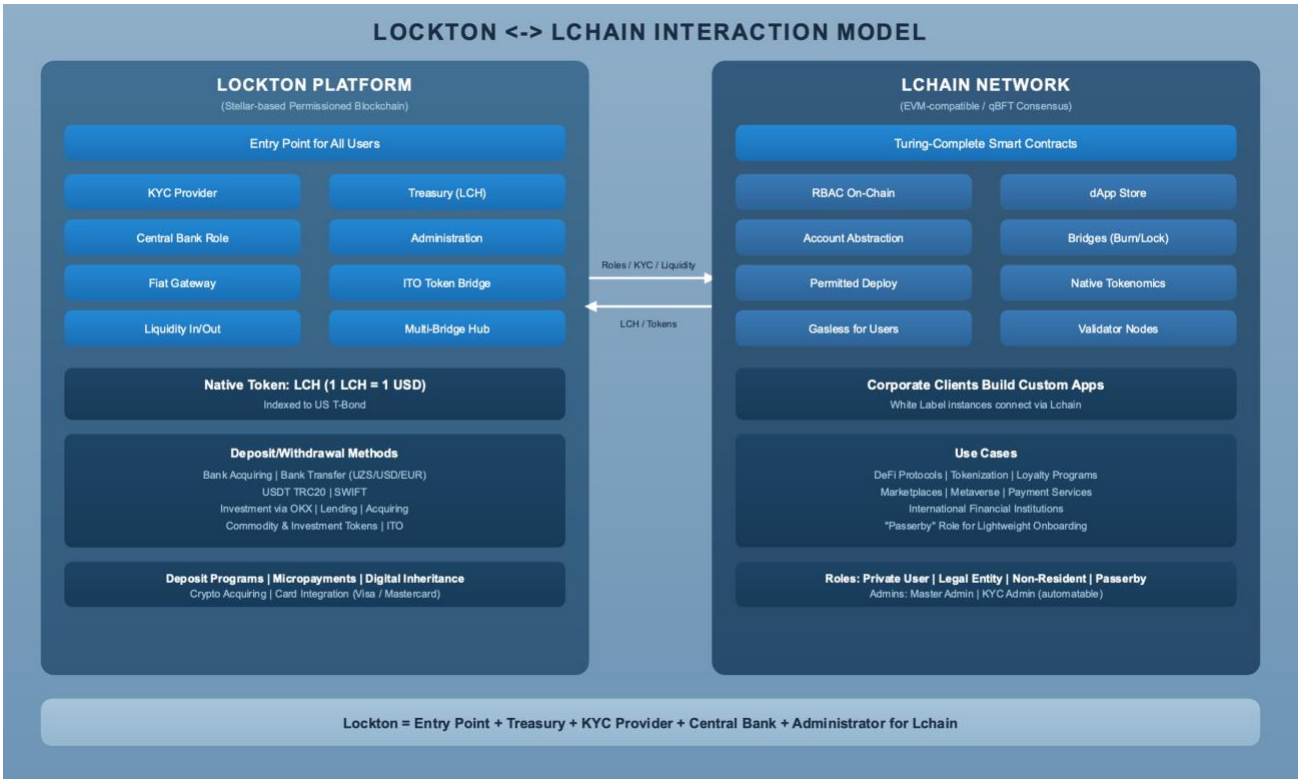

Figure 2: Lockton ↔ Lchain Interaction Model

6.1 Lockton's Roles in Lchain

- KYC Provider — registered Lockton users receive accounts in Lchain according to their role
- Treasury — manages the emission of the native token (LCH) for Lchain
- Central Bank — the configuration with integrated Lockton creates a central bank-like structure
- Administration — manages network roles, permissions, and deployment approvals
- Liquidity In/Out — including banking instruments
- ITO Token Bridge — deployment of ITO smart contracts and token transfers between chains
- Multi-Bridge Hub — creation of multiple bridges with other networks

6.2 International Financial Circuit

On-premise White Label instances of Lockton Finance launched in other countries can be connected to Lchain, uniting companies and financial institutions with a single transaction system. Each instance maintains its own local regulatory compliance.

7. Key Management and Security (Lockton)

Security is the foundational principle of the platform. The system is designed so that user secret data never touches the servers. The password never leaves the user's device, is never stored by the server, and cannot be stolen.

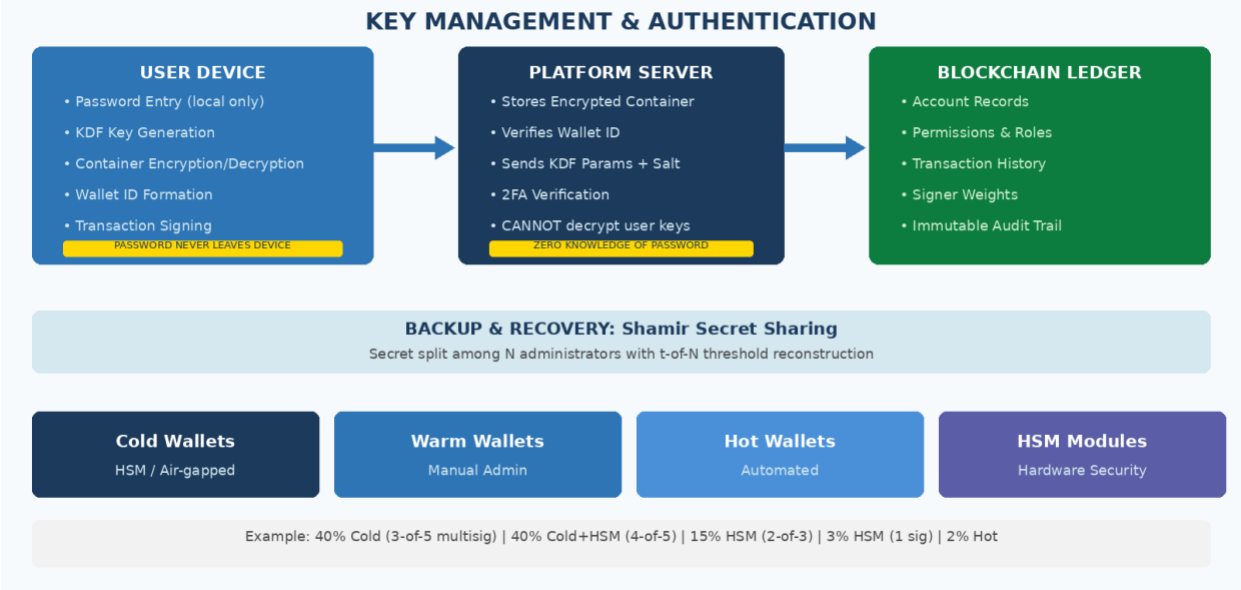

Figure 3: Key Management and Authentication Architecture

7.1 Key Pairs and Accounts

All accounts are identified by a public key. The weight of a key determines its level of access for initiating operations and defines the threshold for their execution.

7.2 Encrypted Container Protocol

The protocol generates the encryption key from the user's secret using a KDF function. Only parties with the password can decrypt the container. The server sends the encrypted wallet to the user, who decrypts it locally. The server cannot decrypt the container even if compromised.

7.3 Wallet Types and Fund Distribution(not done)

The system supports multiple wallet types with dynamic rebalancing:

- Cold Wallets — access only by responsible parties, fragmented across geographically distributed slots. Theft of less than 25% of slots allows 100% data recovery.
- Warm Wallets — manually managed by administrators and arbitrators, used to replenish hot wallets.
- Hot Wallets — software-based wallets for automated quick withdrawals of small amounts.
- HSM Modules — hardware security modules for high-security key operations.

7.4 Backup (Shamir Secret Sharing)

A new secret is formed, keys for multisignature are encrypted with it. The secret is distributed among administrators using the Adi-Shamir scheme with a configurable threshold (e.g., 2-of-3). Encrypted keys are stored in multiple geographically separated storages.

7.5 Master Key Protection

The master key is divided into 3 parts, each stored on a secure device without direct internet access. All 3 parts must be combined to perform operations.

8. Account Management and Authentication (Lockton)

8.1 User Registration

Registration looks familiar: enter email and password, confirm via email, receive a seed phrase. However, the underlying mechanism is fundamentally different: the password is processed only on the user's device. The client generates a salt, derives the key via KDF, encrypts the container, forms the Wallet ID, and sends only encrypted data to the server.

8.2 Two-Factor Authentication

Each account must use 2FA. Residents use SMS codes, non-residents use Google Authenticator. 2FA is required during registration, login, and withdrawal.

8.3 Password Recovery

Since the server never knows the user's password, the recovery process is fundamentally different from traditional systems.

The user enters the recovery seed phrase (shown only once during registration) and a new password. Old keys are deleted, a new key pair is generated, and the wallet is re-encrypted using the new password. After that, a new recovery seed phrase is created.

8.4 GDPR-Compliant Account Deletion

Account deletion removes all sensitive data and the encrypted key pair. Transactions remain for ledger immutability, but it becomes impossible to determine the owner of the deleted account.

9. Role-Based Access Control (RBAC) (Lockton)

The RBAC model governs access to all system services. For each role, a set of permissions, limits, and policies is defined. Each participant is assigned a role after registration and verification.

9.1 User Roles

Role	Description
Resident Individual	Individual residing in the platform's country of residence. Must pass KYC for resident individuals.
Resident Legal Entity	Legal entity registered and operating in the country of residence. Must pass KYC for resident legal entities.
Non-Resident Individual	Individual not residing in the country of residence. Must pass KYC for non-resident individuals.
Non-Resident Legal Entity	Legal entity operating outside the country of residence. Must pass KYC for non-resident legal entities.

9.2 Administrator Roles

Admin Role	Permissions
Chief Administrator	Full access to all platform functionality
Deposit Programs Admin	Access to user list and deposit program management
Financial Administrator	Access to deposit/withdrawal requests, ITO, user list, token registry
Deposit Assurance Specialist	Access to deposit requests and user list
KYC Administrator	Access to KYC requests and user list

9.3 Transaction Verification

When a transaction is published, the system verifies all operations through two modules: RBAC Account (verifies account rules) and RBAC Signer (verifies signer permissions and sufficiency of the total key weight).

9.4 Signers

Signers are structural account objects for distributing permissions among multiple keys. Each signer has a role, public key, and weight. The identifier ensures that signers with the same identity do not additively combine weights — only the maximum weight signer is selected.

10. Token system in Lockton

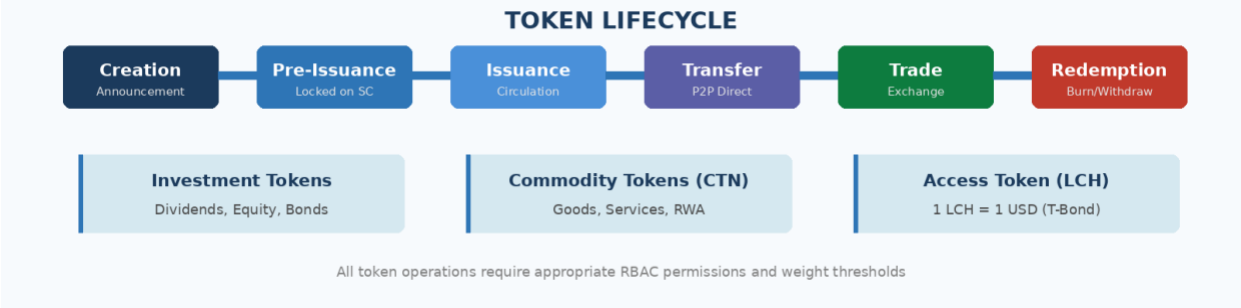

Figure 4: Token Lifecycle

10.1 Token Types

The platform supports three primary token categories:

- LCH (Access Token) -— the platform's native settlement token, pegged to the US dollar through an indexing mechanism based on US Treasury Bonds (1 LCH = 1 USD). Used for all value transfers, fee payments, and as the bridge currency within the ecosystem.
- CTN (Commodity Token) — a registered digital equivalent of goods. Used for tokenization of real-world assets. Serves as collateral in the lending module.
- Investment Tokens — issued via the ITO constructor, representing equity, debtobligations, dividends, or other financial instruments.

10.2 Token Lifecycle

Creation: announcement of token details. Pre-Issuance: tokens are locked on the contract. Issuance: entry into circulation. Transfer: direct P2P transfers with full finality. Trade: internal exchange. Redemption: taking out of circulation.

10.3 ITO Constructor

The ITO module allows deep customization of investment tokens, including:

- collateral types (physical assets, LCH tokens);
- distribution types (open/closed sale, distribution without sale);
- dividend models (on-demand, percentage-based, none);
- withdrawal to external blockchain networks;
- initial lock-up of portions of tokens during issuance.

Buyer and seller tools provide full transparency and management capabilities at all stages.

11. Deposit and Withdrawal (Lockton)

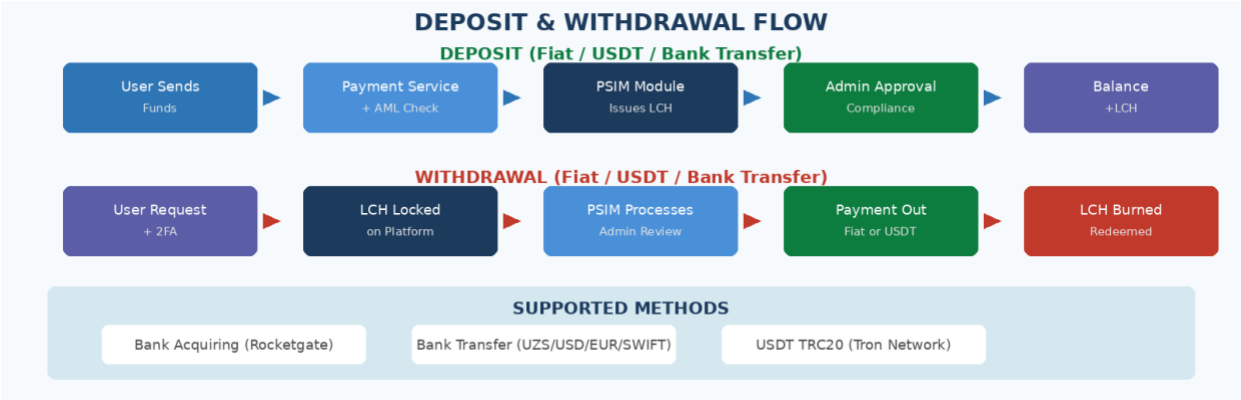

Figure 5: Deposit and Withdrawal Flow

11.1 Deposit Methods

- Bank Acquiring (Rocketgate) — for resident individuals, deposit in national currency exchanged to LCH.
- Bank Transfer — for resident legal entities and non-residents. Local currency, USD and EUR (SWIFT).
- USDT via Tron — available to all users. Unique deposit address. AML verification before approval.

Each deposit is approved by an administrator, but can be automated. All operations are accompanied by invoices and memorial orders.

11.2 Withdrawal Methods

Withdrawal methods mirror deposit methods. Each withdrawal requires 2FA and administrator approval. The process: LCH locking → PSIM processing → payment service execution → LCH redemption.

11.3 Fee Configuration

Flexible fee settings: absolute values in LCH and percentage-based. Individual fees for specific accounts override general settings.

12. Lending Module (Lockton)

The lending module is a digital secured financing service for SMEs and individuals. It covers the full cycle: onboarding, scoring, collateral registration, credit token issuance, fund disbursement, servicing, and repayment.

The foundation is the issuance of a credit token against notarially secured collateral: deposits, accounts receivable, real estate, digital assets, and other RWA. After initial tokenization, subsequent financingissignificantly faster.

The credit token is legally linked to the collateral, reducing foreclosure timelines and default risk. Automated foreclosure is possible when warnings are ignored, the collateral reaches a critical threshold, or the term is exceeded.

13. Investment Module (Lockton)

The investment module provides the ability to invest in derivatives through integration with an exchange or online broker. The user transfers LCH to a spot wallet; the system sends USDT or USD to a corporate sub-account of the exchange/broker. All pairs with USDT/USD are available, displayed to users as asset/LCH pairs. The module replicates the full functionality of the exchange: real-time price charts, order history, portfolio management.

14. Crypto Acquiring (Lockton)

The acquiring module is a payment acceptance service for trade and service enterprises. It enables settlements in fiat currencies, USDT, and internal platform instruments.

The seller receives a digital account on the platform, the buyer pays for the purchase in the usual way, and the system automatically tokenizes goods, processes issuance, transfer, and burning of accounting and commodity tokens with subsequent crediting to the seller.

This hybrid payment gateway connects the crypto and fiat circuits while preserving a familiar user payment experience. This architecture is compatible with the largest number of regulated jurisdictions.

15. Consensus Protocols

15.1 Federated Byzantine Agreement (Lockton Platform)

The Lockton platform uses FBA, which provides consensus in a permissioned environment. FBA offers low computational costs, low transaction processing times, high throughput, and full transaction finality.

Byzantine Fault Tolerance (BFT) ensures the system continues operating even if some nodes fail, requiring at least 2/3 reliable nodes to maintain consensus.

15.2 qBFT Consensus (Lchain)

Lchain operates on qBFT, optimized for EVM. Fast block finality, high throughput, and deterministic transaction ordering.

16. Threshold Signatures

Unlike multisignature, a threshold signature produces a single signature. Compromising one server yields nothing; the signature is indistinguishable from a regular one; the fee is minimal regardless of the number of guarantors.

Support for multiple threshold ECDSA protocols: up to 60 participants, identification of malicious players, zero-knowledge proofs, from 90ms (LAN) for 10 participants.

17. Exchange Models

17.1 Order-Based Exchange (optional)

The **Lockton** platform supports an internal exchangebased onorders, using a mechanism similar to the Stellar Development Foundation's exchange protocol.

Orders behave as limit orders: marketable orders fill immediately at existing prices, while non-marketable orders are saved on the orderbook. Passive orders enable zero-spread markets.

The Path Payments function allows conversion through multiple intermediate assets (up to six hops), with the network automatically finding optimal paths across orderbooks and liquidity pools.

17.2 Liquidity Pool-Based Exchange (AMM) (optional)

Lchain supports a second exchange model that uses Automated Market Makers (AMMs) based on the constant product formula (x * y = k).
Liquidity providers contribute assets to pools and earn passive income from commissions. The system enables near-instant swaps at consistent market rates, while arbitrageurs help keep prices aligned with market levels.

18. Public API (Lockton)

The public API of the Lockton platform is designed for secure integration of external information systems, banking applications, payment services, corporate ERP/CRM solutions, trading platforms, and partner fintechproducts with the platform's functionality.
Through the API, external participants can access user registration and authorization processes, KYC/KYB procedures, account and wallet management, creation and confirmation of deposit and withdrawal requests, token issuance and circulation, as well as transaction data, balances, operation statuses, fees, and limits.
The API architecture is built on a modular principle, allowing counterparties to connect only the functions they need and adapt the integration to a specific business model or jurisdictional requirement.

The public API is implemented with high standards of security, auditability, and access control. Each external connection is authorized using secure access keys, digital signatures, time-limited tokens, and role-based control mechanisms. The API supports full request logging, permission validation of

the calling party, integration with external compliance, monitoring, and notification systems. As a result, the public API serves not only as a technical interface for data exchange, but also as a complete infrastructural layer for building regulated financial and crypto-financial services on top of the Lockton platform.

19. KYC / Identity Service (Lockton)

The Identity Service – GDPR is a compliant module storing KYC data with digital signature verification. It stores client-side-encrypted keys. KYC is a two-party process: the user submits data, the administrator verifies it.

Integration with local databases, AMLBot, LSEG World-Check for risk assessment of each operation. Different user groups and roles can be managed by different providers.

20. Digital Inheritance (Pass2Heaven) (not done)

The Pass2Heaven protocol enables secure transfer of assets in case of the owner's death. Stealth addresses, ECDH, Shamir, AES-256 (up to 8 algorithms), Schnorr signatures, IPFS, blockchain timestamping.

The fact of transfer is indistinguishable from regular data storage. No communication between sender and recipient is required. The recipient is hidden through stealth addresses.

21. Micropayments (optional)

A messenger-style service for instant transfers between users. Immediate deduction/crediting with blockchain records. QR codes for merchants.

22. Target Audience

- Regulators — state and international bodies responsible for financial market control
- VASP/CASP Providers — virtual and crypto-asset service providers
- Financial Organizations — banks, fintech projects, investment funds
- Corporate Clients — companies for tokenization, payment infrastructure, and crypto/fiat services
- Retail Users — individuals for storage, exchange, and investment
- International Projects — DeFi, utility, and entertainment projects
- Exchanges — custodial storage for risk diversification
- SMEs — financing through tokenized collateral

23. Competitive Analysis

The platform was developed after analysis of GK8, Solaris, Metaco, Tangany, Curv, Gemini Custody, Anchorage, Vo1t, HexTrust, and Falcon. Lockton's advantages:

- Flexibility in wallet selection, fund distribution, and backup methods.(optional)
- Comprehensive RBAC with automation and customizable limits.

- Open KYC/AML integration with any provider via API.
- Two integrated blockchain networks (Lockton + Lchain) for custodial storage and smart contracts.
- Full banking functionality: deposits, lending, acquiring, ITO, investments.
- Regulatory advantage: 0% taxation in Uzbekistan until 2029.

24. Conclusion

Lockton represents a new paradigm in regulated digital asset management. The dual-network architecture (Lockton + Lchain) provides unmatched flexibility, security, and regulatory compliance.

The custodial platform manages identity, custody, and liquidity; Lchain is the programmable environment for innovation. Together they create an ecosystem for regulators, financial institutions, corporate and retail clients.

With its deployment in Uzbekistan, strategic partnerships, and a modular architecture for international expansion through White Label and Lchain, Lockton is positioned as the leading solution for onchain finance.

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