# VOLTARA

The Clearing Engine in the World of Blockchain

VOLTARAPAY LIMITED • 2025

# Content

# Chapter 1 Blockchain Technology and Global Payment and Clearing

## 1.1 Overview of the Current Payment and Clearing System

Payment transactions form the cornerstone of socio-economic activities, with banking institutions primarily handling their functions under the supervision of the China Banking and Insurance Regulatory Commission (CBIRC). As information technology advances, payment scenarios shift toward mobile platforms, while offline transactions grow in small-value and high-frequency patterns. This has driven rapid expansion in payment settlement demands across diverse scenarios and terminals. The banking system increasingly struggles to meet these surging needs. Third-party payment platforms, by processing high-volume, small-value transactions, complement traditional financial institutions' low-frequency, high-value settlement operations, delivering more convenient and personalized payment services to customers.

The third-party payment market has grown from 16.9 trillion yuan in 2013 to 200 trillion yuan in 2023, with transaction volume increasing tenfold and a compound annual growth rate (CAGR) exceeding 80% over the past three years. The market is projected to reach 400 trillion yuan by 2026, and is expected to maintain robust growth in the coming three years.

After more than ten years of industry development, the rise of Internet payment and mobile payment has further promoted the development of the third-party payment industry with a transaction scale of more than 100 billion yuan. The rise of the third-party payment has greatly improved the traditional banking problems such as high transfer commission and slow arrival time to some extent.

Traditional third-party payment services encompass online payments, mobile payments, bank card acquiring, and cross-border e-commerce. As non-financial institutions, third-party providers establish payment settlement channels between banks, merchants, and users. They collaborate with banks to build data exchange networks while connecting merchants and consolidating user data. This creates transaction-focused platforms that deliver efficient and user-friendly settlement services.

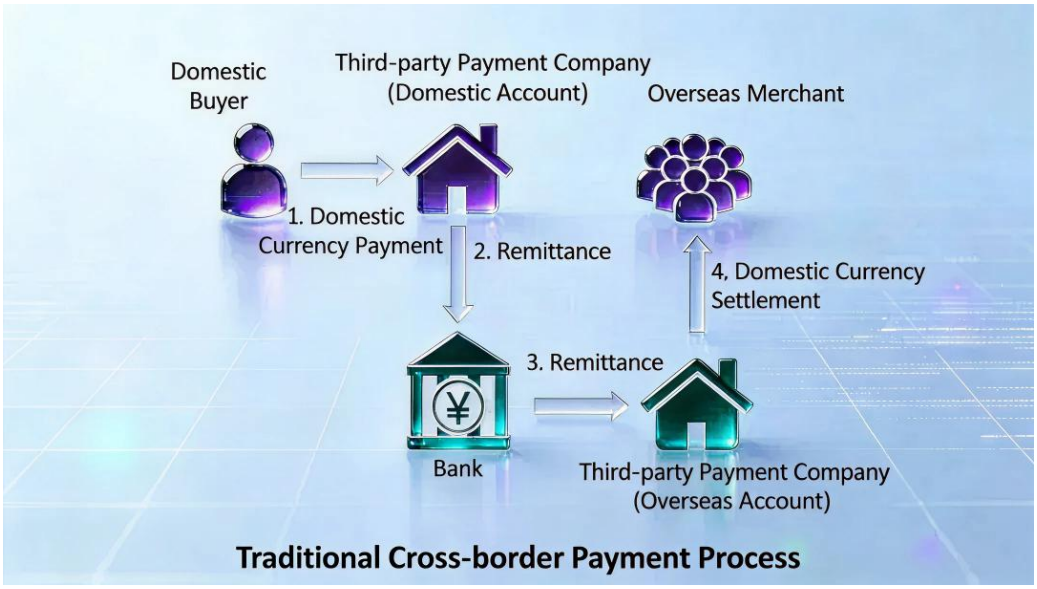
The third-party payment market has now emerged as the most mature sector in internet finance, serving as a foundational service across diverse scenarios. As a critical node in transactional processes, payment systems control both information and capital flows. For internet companies, this means controlling the gateway to user traffic—a core competitive advantage in the era of the Internet of Everything, where traffic drives user acquisition, data generation, and financial transactions. For blockchain enterprises, traffic acquisition unlocks new applications for cryptocurrencies. In the early stages of blockchain development, controlling payment terminals equates to securing the primary access point.

While third-party payment systems have made significant progress compared to the traditional bank clearing and settlement framework, they are still rooted in the banking-based settlement model. The conventional system continues to face numerous challenges that require urgent resolution. Taking cross-border payments as an example, we can clearly identify the core issues at play.

1) Low efficiency

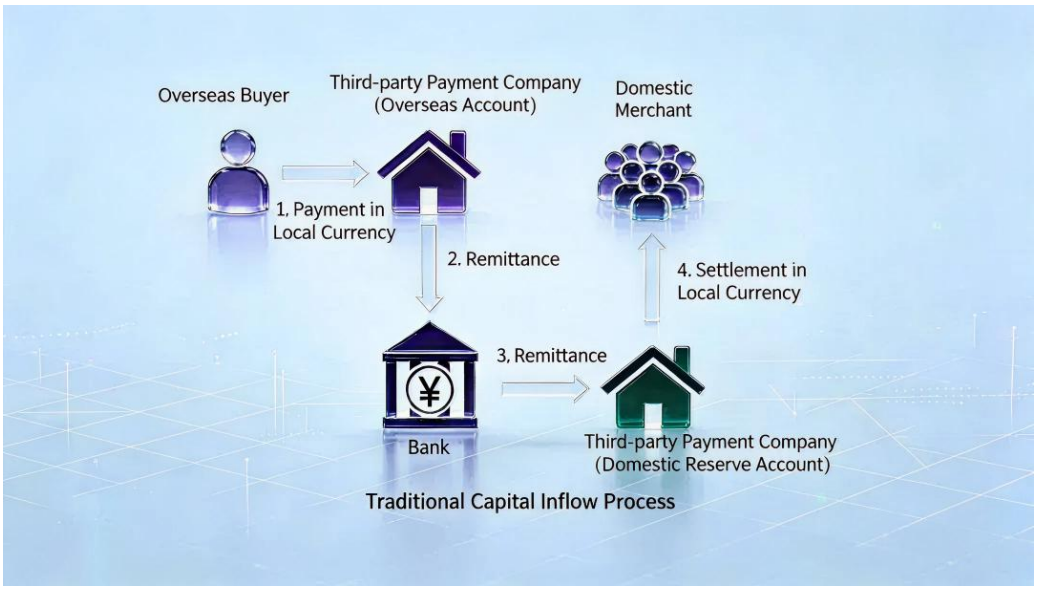
In traditional cross-border payment systems, banks process transactions in batches at the end

of each day, with a single transaction typically taking at least 24 hours to complete. Additionally, manual reconciliation between banks in these systems also consumes considerable time.




2) The cost is high.

Traditional cross-border payment models involve four main cost components: payment processing fees, acceptance charges, financial operational costs, and reconciliation expenses. According to the World Economic Forum's report "The Future of Global Financial Infrastructure", remitters typically incur remittance fees amounting to 7.68% of the transfer amount. The average cost for banks to process a cross-border payment through correspondent banks ranges between $25 and $35, which is over ten times the cost of completing a settlement via an Automatic Clearing House (ACH) system, as exemplified by Japan's practices.




3) Poor liquidity

In traditional cross-border payment systems, banks maintain liquidity by holding foreign currencies in their accounts, known as "cross-border accounts." As remittance banks cannot

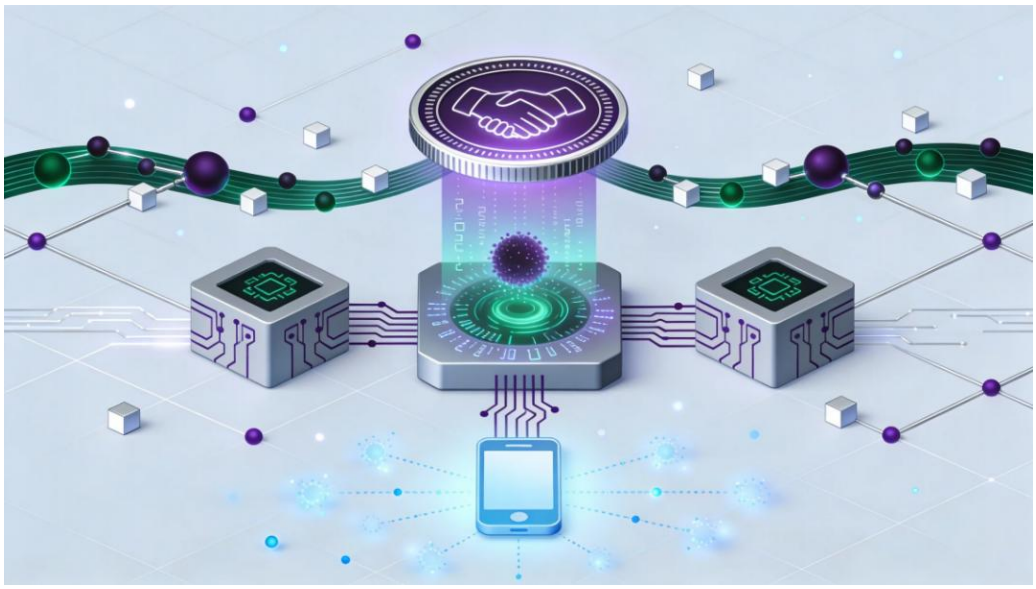
predict when correspondent banks will confirm transfer details, they must keep a certain amount of foreign currency in these accounts.

4) Force majeure factors

When a country's currency faces external force events like policy changes or war, it risks losing trust endorsement, causing the currency to depreciate and become non-liquid. Moreover, in traditional cross-border payment systems, not all banks can join SWIFT, and such participation may prove economically unviable.

The advent of blockchain technology has profoundly transformed the multi-trillion-dollar payment industry. As theoretical frameworks and practical applications for online payments, mobile transactions, and high-frequency, small-value M2M (machine-to-machine) payments increasingly converge toward decentralized networks, blockchain-based payment solutions have emerged as a key research focus. Furthermore, the rise of blockchain-backed cryptocurrencies has catalyzed transformative changes in payment paradigms.

## 1.2 Blockchain and Token Economy



Over four decades of evolution, the internet has introduced groundbreaking innovations including email, web-based companies, social media, mobile networks, big data, cloud computing, and the Internet of Things. These advancements have dramatically lowered the costs of information search, collaboration, and exchange while reducing barriers to entry across industries. This transformation has catalyzed the rise of new media, entertainment, and retail sectors, giving rise to innovative organizational frameworks and unprecedented digital business models. Yet for commercial and economic activities, mere information sharing proves insufficient for societal progress. Without third-party verification mechanisms, individuals cannot swiftly verify transactional identities or establish the trust essential for business interactions.

In 2008, Satoshi Nakamoto unveiled Bitcoin, a peer-to-peer cash system and its foundational protocol, in his white paper 'Bitcoin: A Peer-to-Peer Network for Electronic Cash.' After over a decade of evolution, the blockchain technology behind Bitcoin has gained widespread recognition, with continuous innovations building upon its foundation.

Blockchain technology's distinctive features and advantages create a groundbreaking

distributed infrastructure and computational paradigm. Its block-chain data structure validates and stores information, while distributed consensus algorithms across nodes generate and update data. Cryptographic safeguards ensure secure data transmission and access, and smart contracts composed of self-executing scripts program and manage data. Furthermore, blockchain establishes peer-to-peer trust within networks, enabling value transfer without intermediaries. This mechanism achieves transparency while protecting privacy, facilitates collective decision-making while safeguarding individual rights, thereby enhancing value exchange efficiency and reducing costs.

Blockchain fulfills its role in trust as the internet does in information. By enhancing transparency and protecting privacy, this technology bridges humanity's most fundamental need for trust, paving the way for a fairer, more efficient, and more interconnected global commerce system. With immense potential, blockchain is poised to revolutionize traditional trade, finance, government operations, and ultimately reshape human society.

With the advancement of blockchain technology, the token economy built upon its foundational framework is experiencing rapid growth. Blockchain has transformed the internet from a mere 'information hub' into a 'value platform,' endowing both the digital realm and the internet with two distinctive functional characteristics:

- The first is the technical blockchain credit layer, designed for value transfer in the digital world;

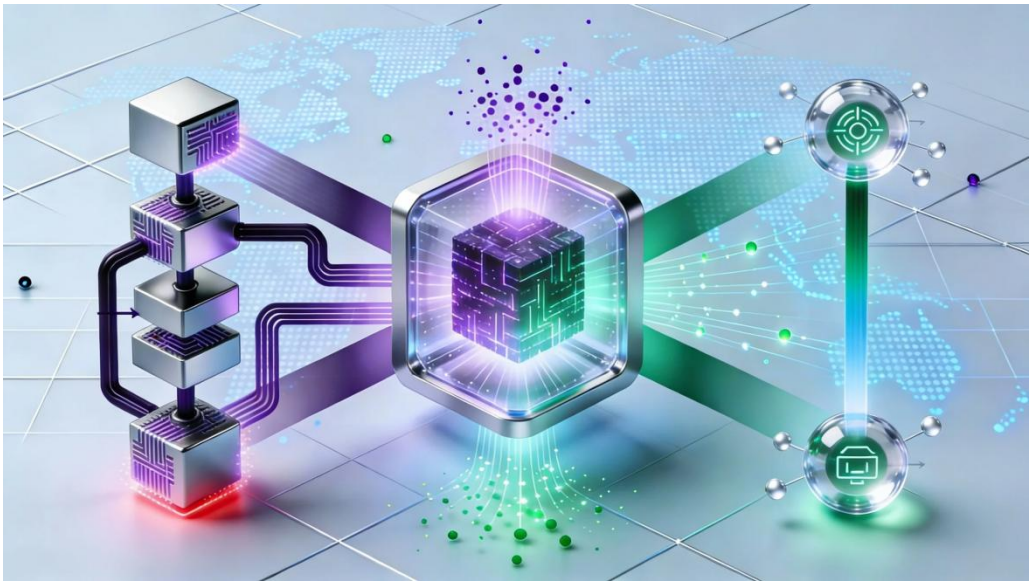
- The second is the economic token (Token), which serves as a 'value representation' in the digital world.

With the rapid advancement of blockchain technology, particularly in foundational public chains, industries across sectors have extensively explored and experimented with blockchain applications, with practical implementation possibilities becoming increasingly evident. Currently, major application platforms and top-tier international institutions are leveraging token incentives and governance mechanisms to mobilize diverse user groups and partners. Building upon blockchain's value representation and transfer capabilities, they are transforming internet platforms to establish a fair, just, and transparent decentralized value ecosystem.

However, current internet technology still cannot achieve peer-to-peer value transfer. Unlike information transmission, which can be replicated, value transfer requires ensuring the uniqueness of ownership. Therefore, value transfer currently still relies on central institutions to perform accounting functions. If the network itself could provide reliable accounting functions, it would eliminate the complete dependence on central institutions for value transfer, enabling peer-to-peer value transfer.

Powered by blockchain's Distributed Ledger Technology (DLT) and tokenized economic models, this system enables participants to establish technical trust, with the potential to become the infrastructure for a future value-free circulation network—essentially creating the Internet of Value.

## 1.3 The global payment and clearing landscape is changing



1) Defects of traditional payment system

The traditional payment system relies on clearing centers for interbank data exchange to facilitate value transfer. With the rise of internet finance, third-party payments (particularly mobile payments) have experienced explosive growth, yet they still depend on centralized solutions. These centralized systems use corporate or government credit as collateral, processing all value transfer computations in a central server cluster. Although computations are automated, trust must be placed in the central entity. In reality, credit solutions backed by centralized institutions inherently confine trust to specific organizations, regions, or nations.

In the traditional payment system, when Customer A of Bank A initiates a payment to Customer F of Bank C, it requires endorsement and clearing through intermediaries. If Bank A does not maintain a clearing account with the central bank, it must use Bank B as an agent bank. The payment between Bank B and Bank C is settled through the central bank's clearing account. Ultimately, Customer F receives the transferred funds. Cross-border payments involve even more complex procedures.

Currently, cross-border trade transactions require third-party intermediaries for clearing and payment processing. This involves multiple steps: opening a bank account, processing through the central bank, and transferring funds via overseas banks (either correspondent banks or overseas branches of the same bank). Each institution maintains its own isolated accounting system, necessitating agency relationships and credit lines. Every transaction must be recorded within the same bank, followed by clearing and reconciliation with counterparties, resulting in slow processing speeds and high costs. For numerous small and medium-sized enterprises (SMEs), particularly those in developing countries, the costs of cross-border payments are even more prohibitive.

2) Breaking through the limitations of Internet value transfer

In its early days, the internet primarily addressed information creation and transmission, yet struggled with value transfer—specifically, transferring specific value components (including monetary assets, securities, and financial derivatives) from one address to another in a universally recognized manner. Blockchain technology, however, creates a trust ecosystem for economic activities in environments of information asymmetry and uncertainty, overcoming the internet's limitations in value transfer. Bitcoin marked the first application of blockchain in finance. But if blockchain were used for fiat currencies instead of Bitcoin, commercial banks could form

alliances to establish private payment chains. Here, currency would be registered and transferred as digital assets on the blockchain, bypassing Bitcoin's 7 transactions per second limit, enabling rapid payment and settlement through blockchain technology.

3) The transformation of the payment system by blockchain technology

Unlike traditional payment systems, blockchain transactions enable direct data exchange between parties without intermediaries. Even if part of the network fails, the entire system remains operational, significantly reducing systemic risks inherent in centralized payment models. As shown in the diagram, blockchain technology eliminates the need for any centralized institution to facilitate payments. Banks and customers in the market can independently establish a private blockchain to complete transactions.

When Party A initiates a payment exceeding their account balance to Party B, the distributed ledger ensures all participants maintain copies of every transaction history. This prevents third-party verification during the fourth step in the diagram. Once authenticated, the transaction block becomes permanently embedded in the immutable data chain. The blockchain's transaction confirmation process—encompassing clearing, settlement, and auditing—plays a vital role in streamlining financial institutions' operational workflows.

Blockchain-based payment networks are poised to provide secure, efficient, and cost-effective solutions for global financial transactions. Trust remains a critical challenge in information exchange—particularly when no node can trust its counterpart. The core challenge lies in establishing a consensus mechanism to enable secure data exchange without fear of tampering. Without centralized verification, blockchain technology helps market participants overcome trust barriers. By employing algorithmic proof mechanisms, it ensures network security, allowing all nodes to autonomously and securely exchange data in a trustless (truVOLTA) environment.

Blockchain technology enables real-time peer-to-peer transactions while enhancing efficiency, thereby eliminating the need for central nodes or clearing institutions. This helps merchants save 80%-90% on transaction fees. The authenticity of transaction data, verified collectively by network nodes and immutable, removes the necessity of intermediaries and reduces costs. Beyond these advantages, blockchain also diversifies payment methods by lowering fixed fees. As online and offline payment scenarios continue to expand, this technology meets users' growing demand for flexible payment solutions.

## 1.4 VOLTARA goes with the flow

An analysis of internet technology's evolution reveals that blockchain technology, digital payments, and blockchain-based payment applications are all in their early stages, offering vast potential for exploration. To address this, we aim to establish a groundbreaking blockchain payment ecosystem as a viable alternative to internet-based value transfer protocols, while enhancing the industry's accessibility. This vision drives VOLTARAPAY LIMITED to develop VOLTARA (VTR) tokens—a global payment clearing system and barrier-free payment medium powered by blockchain technology.

VOLTARAPAY LIMITED maintains that blockchain and digital currencies require broader application scenarios to ensure sustainable development. With advancing research in blockchain technology—particularly in smart contract development—several solutions are now being integrated with real-world economic activities, fostering collaborative partnerships with enterprises. However, large-scale implementation remains limited, and user-centric services are

still scarce. Whether it's Bitcoin, Ethereum, or newly issued tokens on smart contract platforms, their value can only be enhanced through deeper engagement with the physical economy. This synergy will ultimately drive market prosperity for digital currencies while boosting efficiency in the real world.

To address the pain points and challenges in the payment sector, VOLTARA has implemented a series of technological and conceptual innovations, delivering comprehensive high-performance on-chain payment and financial settlement solutions. This positioning positions VOLTARA as a bridge between the blockchain ecosystem and real-world commerce. The company aims to expand the application and technical boundaries of blockchain and payment systems, enabling ordinary internet users to experience the value of blockchain technology while building a new ecosystem for developers and users powered by blockchain + payment technology.

VOLTARA's clearing infrastructure, built on a' blockchain + digital currency + diversified solutions' framework, primarily includes:

- Build the underlying clearing infrastructure for VOLTARA blockchain to support on-chain payments and financial settlements;

- Provide blockchain + financial settlement solutions, enabling third parties to develop tailored blockchain application models and token issuance mechanisms based on industry-specific needs.

- Build the VOLTARA ecosystem by integrating payment industry assets to provide industry-finance integration services.

Going forward, VOLTARA will continue to push the boundaries of high-performance on-chain payment and financial settlement applications and technologies. This will enable ordinary internet users to experience the value of blockchain technology while building a groundbreaking ecosystem for developers and users powered by blockchain + payment and clearing solutions. Through a series of technological and conceptual innovations, the company provides comprehensive clearing solutions for blockchain applications in real-world scenarios, positioning itself as a bridge between the blockchain ecosystem and the commercial world.

# Chapter 2 Overview of the VOLTARA Project

## 2.1 Introduction to VOLTARA

VOLTARA, codenamed VTR, is a blockchain project initiated by VOLTARAPAY LIMITED, specializing in high-performance on-chain payments and financial settlements. Its name combines 'Volt' (energy) and 'Altara' (peak), symbolizing the project's ambition to be a dynamic and leading force in the blockchain payment and settlement sector, embodying strong momentum and exceptional aspirations.

VOLTARA specializes in high-performance on-chain payment and financial settlement solutions. Its core design philosophy focuses on low transaction fees, high-speed transfers, and multi-party clearing, aiming to build a Web3 commercial payment layer. This infrastructure provides efficient, cost-effective, and reliable payment and settlement services for diverse business activities in the blockchain ecosystem. By serving as a robust "clearing engine," it addresses the growing demand for payment and settlement in blockchain-based commercial applications, ensuring the seamless operation of the blockchain business ecosystem.


VOLTARA was designed to build a multi-dimensional clearing and payment infrastructure. By leveraging blockchain technology, it provides a comprehensive solution built on VOLTARA, with rewards issued in the unified digital currency (VTR) created through blockchain.

- VTR token-based economic solution;
- High-performance on-chain payment and financial settlement solutions;
- A diversified ecosystem for digital currency payments and circulation;
- Global cross-financial scenario solutions powered by blockchain technology;
- Global barrier-free cross-chain payment solution.

At VOLTARA, the foundational technology integrating blockchain and payment clearing has been innovatively applied. By leveraging blockchain technology to enable peer-to-peer value transfer and building a decentralized clearing ecosystem across multiple industries through underlying communication protocols, this distributed computing and storage solution maximizes protection against attacks and failures. The decentralized network architecture efficiently handles high-concurrency data access, positioning it as a future-ready clearing solution. This framework unlocks three major development possibilities for VOLTARA's payment system:

- Peer-to-peer merchant payment solution: Users top up their accounts on the blockchain platform, then transfer funds to merchants via VOLTARA. Merchants exchange the currency using the platform's built-in OTC feature, with the customer's deposit ultimately credited to the merchant's account.
- Seamless payment solution: Enables cross-scenario and cross-chain transactions. Customers use fiat currency to purchase digital assets (e.g., VTR), transfer funds to VOLTARA wallets, and pay merchants through partner payment institutions. These institutions instantly convert the digital currency into local fiat currency at the merchant's location before processing the payment.

- Third-party API integration: Leveraging payment APIs, VOLTARA will provide payment services for global on-chain payment and financial settlement scenarios.

In the future, when VOLTARA participants contribute to the ecosystem across various solutions and scenarios, the system will provide corresponding fair rewards (VTR) based on the contribution mechanism. As the 'clearing engine' in the blockchain world, VOLTARAPAY LIMITED, supported by its global capital, business network, core talent, and strategic partnerships, will establish a diversified business matrix and token incentive ecosystem, laying a solid foundation for borderless and barrier-free value flow.

## 2.2 VOLTARAPAY LIMITED

VOLTARAPAY LIMITED is a global leader in digital payment services, dedicated to providing efficient, secure, and convenient digital payment and clearing solutions for businesses and users worldwide. With its advanced technology platform, extensive industry expertise, and global network, VOLTARAPAY LIMITED has established itself as a pioneer in the digital payment sector.

1) Scope of Business

- Payment and Clearing Solutions: VOLTARAPAY LIMITED delivers tailored one-stop payment and clearing solutions for diverse industries, spanning digital currencies, financial institutions, multinational banking, trade, hospitality, transportation, digital entertainment, and education. These solutions not only address payment needs in traditional sectors but also cater to the innovative demands of emerging digital businesses, empowering enterprises to effortlessly conduct cross-border trade and e-commerce activities globally.

- Diversified payment options: The company supports multiple payment methods, including digital wallets, international credit cards, overseas local wallets, and convenience store payments. This wide range of payment options ensures that the needs of users in different regions and demographics are met, enhancing payment convenience and accessibility.

- Cross-border financial services: The platform provides cross-border payment processing, global fund collection, and payment distribution solutions, enabling businesses to achieve swift and secure fund transfers in international transactions. Both corporate and individual users can effortlessly complete cross-border payments and collections through VOLTARAPAY LIMITED's services.

- Compliance & Security Certification: VOLTARAPAY LIMITED holds a Hong Kong MSO license, an US MSB financial license, and PCI-DSS Level-1 security certification. These credentials validate the company's legitimacy and security in the financial services sector. They guarantee the safety and privacy of client funds, enabling customers to use the service with confidence.

2) Global business layout

VOLTARAPAY LIMITED's core team comprises professionals from globally renowned financial institutions and tech giants, including Citibank, Royal Bank of Scotland, Bank of Canada, Google, and IBM. These experts combine academic excellence with hands-on experience in financial product innovation, digital platform development, and operational management. The leadership team averages over a decade of experience in banking, payments, finance, and risk

control. With deep expertise in global financial services, they excel at monitoring market trends, crafting effective business strategies, and ensuring the company's operational efficiency and stability.

VOLTARAPAY LIMITED has established branches in major global cities including San Francisco, Berlin, Toronto, Hong Kong, Tokyo, Singapore, Jakarta, and London. These strategically located offices cover key economic regions and markets worldwide, providing localized services and support to local clients. The company is also expanding its global footprint by establishing subsidiaries in France, the United Arab Emirates, Russia, and Australia. Through this strategic expansion into emerging markets, VOLTARAPAY LIMITED will better serve diverse regional needs and strengthen its influence in the global payment industry.

3) Support for VOLTARA

As the founding partner of VOLTARA, VOLTARAPAY LIMITED provides robust resources and expertise. By sharing its technological platform, customer base, and market channels, VOLTARA can rapidly expand in a high-quality ecosystem, accelerating its strategic deployment and application growth in the blockchain payment sector.

- Ecosystem Expansion: Supported by VOLTARAPAY LIMITED, VOLTARA will progressively broaden its application scenarios across diverse industries and regions. This strategic move will accelerate VOLTARA's evolution into a leading clearing engine in the blockchain ecosystem, delivering efficient and reliable payment infrastructure for global blockchain transactions while driving the advancement of the entire blockchain ecosystem.

- Global Business Synergy: VOLTARAPAY LIMITED and VOLTARA will collaborate globally to deliver integrated payment and blockchain solutions. This partnership will enhance service efficiency and quality, providing seamless and convenient payment experiences for businesses and users worldwide, thereby strengthening VOLTARAPAY LIMITED's leadership in the digital payment sector.

## 2.3 Design Principles

VOLTARA is designed around the core values driving the era of the value internet (blockchain-based encrypted payment and clearing), with principles including:

1) Principle of Value Communication

VOLTARA delivers value-driven outcomes by presenting a multidimensional framework that integrates blockchain payment applications with VTR token asset incentives. Within this model, all participants are embedded within the ecosystem rather than functioning as isolated entities. On-chain payments and financial settlements coexist within a unified domain, where diverse value dimensions emerge through strategic combinations.

2) The principle of autonomy

VOLTARA maintains that decentralization should minimize external interference while ensuring system stability. By distributing power across countless nodes, it unlocks individual productivity. If the internet liberated productivity, decentralization further amplifies it by enabling consensus among participants. Node autonomy is the fundamental principle of decentralization. VOLTARA embraces node autonomy and maximizes its value.

3) Principle of Sustainability

The dissemination of information generates value by unlocking the intrinsic value chain of crypto assets, enabling sustainable development. This process continuously sparks new demands, giving rise to innovative products and applications that drive iterative improvements, forming a virtuous cycle. The growth rate of information carriers isn't determined by their initial sophistication, but rather by the frequency of iterations. As demands evolve, more frequent iterations lead to higher system maturity, greater influence, increased value, and stronger sustainability within their inherent value chain.

4) The principle of high efficiency

Powered by blockchain technology, VOLTARA employs dynamic sharding to partition network nodes based on transaction request characteristics and node resource allocation. Each shard node exclusively processes transactions matching its designated criteria, significantly enhancing transaction processing speed and throughput (TPS). To ensure node reliability, the sharding mechanism operates dynamically, with member nodes being electively appointed rather than fixed. Theoretically, this dynamic sharding approach enables the clearing system to achieve a TPS capacity of one million transactions per second.

5) The principle of tokenization

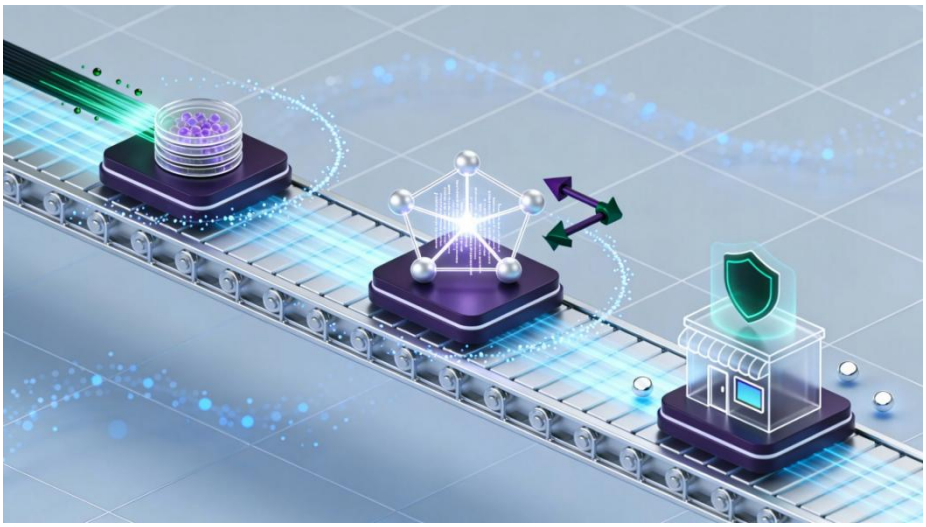
VOLTARA ensures fairness and trustworthiness across all stages, including node qualification elections, data packaging, user service requests, distributed data processing, and distributed computing collaboration. It also achieves truly decentralized token incentives for the network ecosystem through its mechanisms.

VOLTARA aspires to build a "clearing engine" within the blockchain ecosystem, positioning it as a future-proof protocol for internet value transfer. This initiative will elevate the blockchain industry's usability and practicality to new heights. By first penetrating on-chain payment and financial settlement scenarios, VOLTARA will secure market share and build a robust user base. Building on this foundation, the company aims to evolve into a leading infrastructure for payment and clearing in the blockchain world.

## 2.4 Core Design Logic

VOLTARA is positioned as a high-performance on-chain payment and financial settlement

solution, serving as the 'clearing engine' in the blockchain ecosystem. Its core design features low transaction fees, high-speed transfers, multi-party clearing, and a Web3 commercial payment layer.



1) Low-fee high-speed transfer

- Low transaction fees: VOLTARA addresses the high fees in traditional blockchain payments by implementing advanced consensus mechanisms and resource allocation strategies, significantly reducing per-transaction costs. This enables users to conduct transactions at minimal expense, whether for small payments or high-frequency trading, thereby lowering the barrier to entry and enhancing both the convenience and cost-effectiveness of payments.

- High-Speed Transfers: Speed is the lifeline of payment systems. VOLTARA achieves high-speed transfers by optimizing network architecture, enhancing block generation speed, and improving transaction verification efficiency. Specifically, it combines distributed ledger technology with optimized consensus algorithms to package and confirm transactions in seconds, ensuring rapid fund transfers that meet users' demand for instant transactions. This is particularly crucial for high-speed-demand scenarios like cross-border e-commerce, cryptocurrency trading, and instant payments.

2) Multilateral clearing

- Multilateral clearing mechanism: In complex financial transactions involving multiple parties, the traditional bilateral clearing model often falls short of meeting the demands for efficiency and convenience. VOLTARA has introduced a multilateral clearing mechanism that enables multiple trading entities to simultaneously reconcile and settle transactions within a unified clearing environment. This approach significantly streamlines the clearing process, reduces redundant operations and potential risks, and enhances overall clearing efficiency.

- Cross-chain Support and Compatibility: VOLTARA transcends single-chain ecosystems by enabling multi-chain transactions. Through cross-chain bridging technology, it facilitates asset transfers and transaction settlements across diverse blockchain networks. This allows seamless cross-platform transactions without chain barriers, providing robust support for multi-chain ecosystem development and enhancing interoperability throughout the blockchain finance market.

- Smart Contract-Driven Clearing Mechanism: VOLTARA utilizes smart contracts to define and execute clearing rules. The automated execution capability of smart contracts eliminates human intervention, ensuring fair, transparent, and efficient clearing processes. When a transaction meets the contract terms, the clearing is automatically completed in real time, significantly enhancing accuracy and speed. Additionally, the programmability of smart contracts allows clearing rules to be flexibly customized to meet diverse business needs, accommodating various complex financial transaction scenarios.

3) Web3 Commercial Payment Layer

- Decentralized Payment Network: VOLTARA has developed a decentralized payment network designed to provide foundational payment infrastructure for Web3 business operations. Unlike traditional centralized payment systems, this network delivers enhanced security, transparency, and censorship resistance. By leveraging distributed ledger technology, it ensures tamper-proof transaction records, creating a trustworthy payment ecosystem for both users and businesses.

- Privacy Protection and Data Security: In Web3 commerce, privacy and data security are paramount. VOLTARA employs cutting-edge encryption and privacy measures to safeguard users' information during payments and transactions. Furthermore, it embraces the decentralized ethos of Web3, empowering users to retain control over their data and dictate its usage and sharing.

- Business application expansion: VOLTARA transcends mere technological accumulation, being purpose-built for real-world commercial use cases. It fulfills diverse Web3 business needs including decentralized e-commerce, digital content consumption, and blockchain gaming. By seamlessly integrating with these applications, VOLTARA delivers innovative payment solutions that drive the thriving development of the Web3 business ecosystem.

VOLTARA's core design philosophy serves as the cornerstone for its high-performance on-chain payment and financial settlement capabilities. The low-fee high-speed transfer mechanism reduces transaction costs while enhancing payment efficiency. Its multi-party clearing system streamlines settlement processes, enabling cross-chain compatibility and smart contract-driven clearing rules. The Web3 commercial payment layer establishes a decentralized payment network that safeguards privacy and data security, while expanding commercial applications. These integrated designs collectively form the solid foundation for VOLTARA to become the "clearing engine" in the blockchain ecosystem, granting it a competitive edge in blockchain payment and settlement solutions.

## 2.5 Core Advantages

The VOLTARA clearing system offers distinct advantages:

- Secure and reliable: Advanced encryption and multi-factor authentication ensure user asset protection and transaction reliability.

- Smart and efficient: The intelligent clearing system and smart contract technology enable automated and efficient payment processing.

- User-friendly: Features a simple interface and intuitive workflow for quick onboarding.

- Global Coverage: Enables worldwide payment and clearing services, delivering integrated solutions for on-chain transactions and financial settlements.

- Regulatory Compliance: Strictly comply with laws and regulations to ensure full operational compliance and protect user rights.

In the application domain, VOLTARA provides tailored services and products for both institutional and individual users. For institutional clients, the platform offers a Commercial platform that enables one-click integration with VOLTARA and its application-based payment settlement solutions. For individual users, VOLTARA delivers a suite of cryptocurrency-specific features including mobile DAPP wallets, communication modules with RSA algorithm encryption, over-the-counter (OTC) guaranteed transactions, and lightning-fast transaction processing.


In incentive scenarios, when participants contribute to VOLTARA's development, the system will provide fair rewards (VTR tokens) based on the contribution mechanism. As a commercial-grade blockchain payment solution, VOLTARA also addresses the ecosystem development and transformation challenges faced by third-party commercial institutions.

VOLTARA seamlessly integrates the strengths of traditional clearing technology and blockchain, overcoming current technical limitations to achieve genuine integration of blockchain with commercial applications. Furthermore, VOLTARA is making substantial and sustained investments in blockchain-powered business innovation, applying this technology to enhance traditional industries' value and accelerate blockchain adoption across sectors. This approach aims to establish a future-proof blockchain clearing system that fosters mutual benefits and win-win outcomes.

# Chapter 3 VOLTARA Application Module

## 3.1 Wallet System

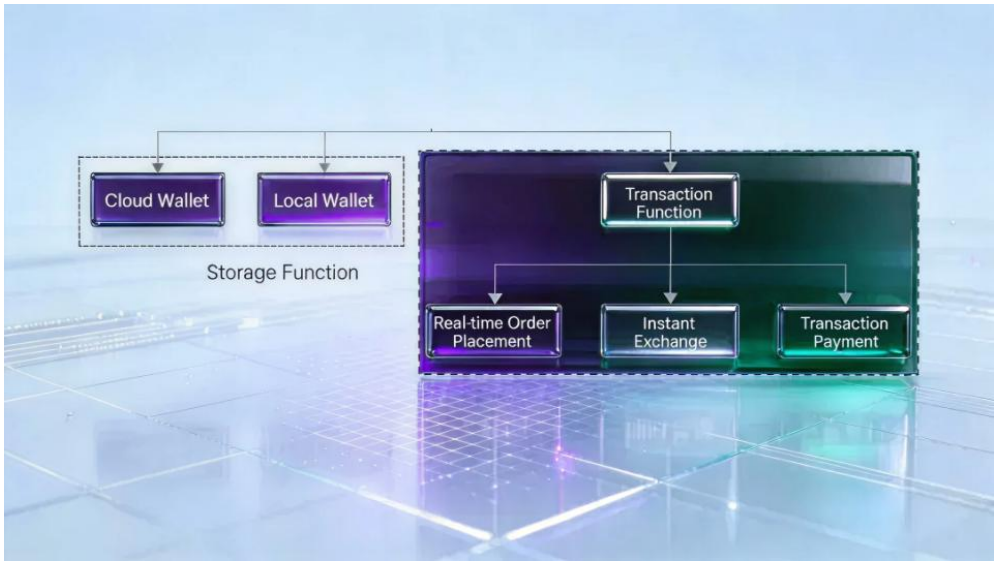
In the VOLTARA ecosystem, wallets will play a pivotal role. The VOLTARA wallet enables users to store, manage, and trade digital assets, granting them full control over their digital holdings while significantly reducing the barriers to cryptocurrency adoption and management. This innovation effectively facilitates the flexible utilization of digital assets. Looking ahead, transactions via the VOLTARA wallet are poised to become the primary payment method for global users.

The core value of VOLTARA Wallet lies in verifying and demonstrating the market authenticity and liquidity of digital assets, enabling users to effortlessly access authentic global cryptocurrency transactions. Our platform allows any cryptocurrency stored in VOLTARA Wallet to be scanned for instant payment, with the scan itself serving as a secure address. This includes functions like top-ups, withdrawals, and more. VOLTARA Wallet features the following key attributes:

- Enhanced security: path integrity, data protection, tamper-proof mechanisms, and elimination of single points of failure;
- Faster: Real-time transactions, no intermediaries, and faster cross-border settlements;
- Cheaper: low-cost transactions, low transaction fees, no middleman commissions.

1) Asset management

The VOLTARA wallet provides users with unified management of multi-blockchain assets, featuring a local wallet, cloud wallet, and transaction functions to achieve integrated asset management.




2) Multi-currency services

The VOLTARA wallet system enables unified management of multiple digital currencies. It supports mainstream assets like BTC, ETH, and Ethereum for storage and management, while also complying with smart contract platform standards and rapidly adding tokens issued across various platforms. This integrated approach streamlines digital asset management and reduces user operational costs. The system offers both cloud and local wallets, with the local wallet supporting private key encryption. The cloud wallet eliminates transaction fees and ensures real-time fund transfers, facilitating seamless transfers between wallets.

3) The concept of dual storage on-chain and off-chain

VOLTARA adheres to the core principles of blockchain technology, offering decentralized digital currency storage solutions. Users retain control over their wallet keys and private keys for all currency addresses, with the platform never accessing user assets. Additionally, VOLTARA

provides a convenient key backup solution: users only need to create a single backup, memorize 12 mnemonic words, and store them securely. Even if new cryptocurrency types are added later, the backup can be used to restore all asset categories.

4) Multiple security verification

In addition to allowing users to manage their own wallet keys and private keys, the system provides multi-signature technology guarantees and two-step authorization verification for digital asset management of varying scales. Furthermore, users verify transactions through mobile verification codes, fingerprint recognition, and facial recognition, ensuring comprehensive security for digital currency assets.

5) Multilingual support

The VOLTARA wallet will support multiple languages including Arabic, Chinese, English, Russian, Japanese, Korean, and German, catering to mainstream digital currency markets. It delivers comprehensive global services to establish a world-class wallet platform.

6) Dual Wallet App

To enhance user convenience, VOLTARA will provide both cloud wallet and local wallet options, allowing users to freely choose the wallet they prefer.

- Cloud Wallet: Instant transfers between cloud users with no fees. The private key is stored in the cloud, which also holds user addresses and transaction records. The wallet does not access user assets. Users can recover their cloud account using username, password, or facial recognition verification.

- Local Wallet: Users retain their private keys for enhanced asset security. They can create multiple sub-accounts (or sub-key accounts) using the master key to add multiple wallet addresses for each digital asset, enabling asset segregation.

## 3.2 Global Payment and Clearing Systems

VOLTARA positions itself as the 'clearing engine' in the blockchain ecosystem, building a global payment and clearing system powered by blockchain technology through the integration of Lightning Network applications and high-frequency payment solutions.

1) Transaction Channels and Lightning Payments

VOLTARA employs multi-signature technology to establish transaction channels, delivering lightning-fast transactions comparable to the Lightning Network. The core of VOLTARA's technology lies in its multi-signature mechanism for ultra-fast transactions, offering enhanced security over zero-confirmation and outperforming the Lightning Network in both simplicity and practicality.

2) High-frequency payment and clearing systems


- Personal Nodes: VOLTARA will create distributed account nodes for users, serving as their unique identifiers. Leveraging the platform's built-in payment system and Ethereum's scalability with cross-chain technology, VOLTARA users can access a global instant payment network.

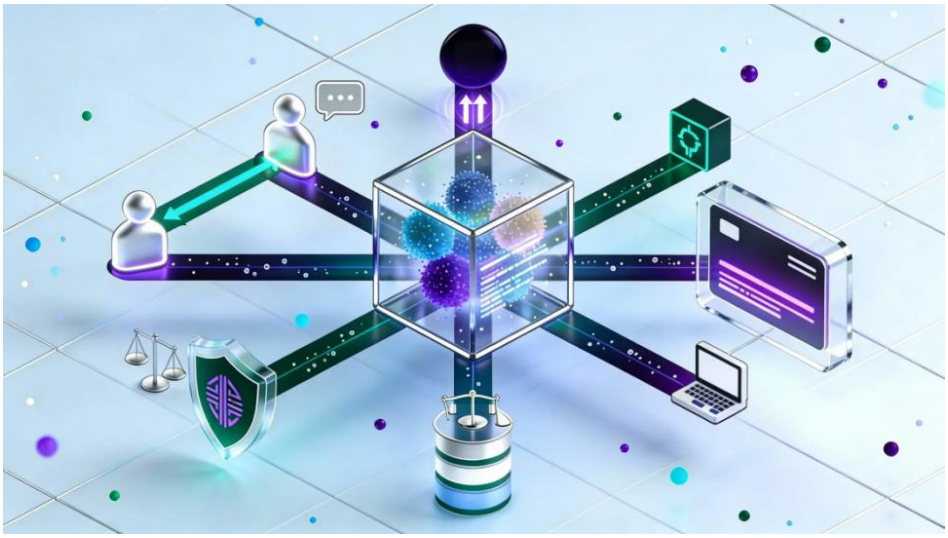
- Data Collection: The platform analyzes individual node users' data through data collection to build a trust system. All data is strictly private, based on personal user information. Meanwhile, during trust authentication, broadcasting, and transmission, data is anonymized and encrypted to fully protect personal privacy and data.

- Private Key DApp: VOLTARA users' financial transaction data flows through a private key DApp. All data is authenticated via blockchain technology and confirmed by smart contracts before returning to individual wallets, ensuring trust, fairness, and security. Additionally, VOLTARA has achieved global cross-chain integration, enabling users to access VOLTARA-based services including fast transactions, financial services, and financial application data. It also allows quick exchange of digital assets for long-term storage on other blockchains. This model makes financial data commercialization more equitable, with enhanced long-term storage and value appreciation benefits.

- Data Encryption: VOLTARA employs decentralized storage technology to encrypt user data, ensuring transaction security. The platform broadcasts anonymized privacy information, allowing users to pay and access financial services with complete peace of mind.

## 3.3 Multi-currency Management and Transaction System

VOLTARA provides users with unified management of multiple blockchain assets through its wallet and payment clearing system, establishing a comprehensive asset management framework. This system delivers one-stop services, decentralized operations, multi-layered security safeguards, and multilingual support.



- A wide variety of applications
- Strive for an easy and satisfying user experience
- Explore diverse digital asset applications
- Full control enables faster and better value circulation

The VOLTARA digital asset exchange network delivers risk-free cryptocurrency conversion services through smart contracts, cross-chain gateways, and cross-protocol technologies. When users exchange digital currencies via the VOLTARA network, the platform or third-party entities create exchange smart contracts that automatically monitor and execute transactions, effectively eliminating default risks for all parties involved. Going forward, VOLTARA will develop an innovative digital asset management ecosystem featuring multi-currency accounts, peer-to-peer (P2P) transactions, and P2C (peer-to-company) transaction capabilities.

1) Multi-currency accounts and exchange features

- VOLTARA provides users with mid-market exchange rates for fiat and digital currencies
- Transfer money to other users for free through the most popular social media tools
- Work with other licensed financial institutions
- Strive to provide more services to our users

2) Point-to-point trading functionality

Global value transfers should be as simple as sending a greeting in a chat app, no matter where you are. VOLTARA's fund transfer system is fully barrier-free. Through any supported channel, users simply need to:

Specify the transfer amount (e.g., 0.1 ETH)

- VOLTARA will then return a "hash value" as a unique 18-character hexadecimal string

- The first user to submit this "hash value" to VOLTARA will receive the transfer amount

Users can transfer money by specifying the recipient's nickname or phone number directly in the chat tool, and the transaction is completed instantly.

3) Point-to-Company Transaction Function

Every user who passes the KYC verification will receive a virtual debit card from VOLTARA. This card allows eligible users to make purchases at any payment-accepting location, both online and offline.

4) Safety and Compliance Commitments

We firmly believe that compliance and security are the cornerstone of mainstream cryptocurrency adoption. As VOLTARA's business and team expand, compliance and risk management professionals will rigorously implement policies and procedures to ensure full compliance with all regulatory requirements.

- VOLTARA operates on the principle of "defense in depth," where a security-first and compliance-driven mindset permeates every aspect of our business. Every team member plays a role in security, and we implement comprehensive cybersecurity measures.

- As the project progresses, VOLTARA will conduct comprehensive security assessments in real time, including external penetration testing, threat modeling, and risk control reviews.

- VOLTARA will engage leading third-party security experts to conduct comprehensive external security assessments, ensuring the integrity of its security controls. Anti-money laundering, counter-terrorism financing, proliferation of weapons of mass destruction, and regulatory compliance sanctions (collectively termed "AML/CFT") are also critical to VOLTARA.

## 3.4 Financial Settlement Services

1) Commercial financial transactions involving payments and receipts

VOLTARA delivers integrated financial services—including rapid settlement, capital circulation, credit facilities, and wealth management—across the entire financial settlement ecosystem, using VTR tokens as the medium. For instance, it provides financial institutions with optimal interest rate credit facilities and flexible credit lines based on collection, creditworthiness, and collateral. VOLTARA Financial Settlement is designed to meet diverse capital appreciation needs.


2) VTR POS service

VOLTARA will develop a VTR-based POS service to enable transactions between VTR tokens and major global credit cards, including Visa, MasterCard, American Express, JCB, Diners Club, and Discover.

In the future, VTR POS will enable global merchants to accept cryptocurrency payments by simply transferring crypto to the card wallet. In addition to rolling out physical cards in major global economic regions, VTR will also add stablecoins (such as USDT) support to its crypto debit cards, allowing users to pay with their tokens.

3) Global merchant payment services

VOLTARA can address the diverse payment collection needs of enterprises across various business models:

- Multi-currency support: Accepts major currencies including US dollar, British pound, and euro, along with smaller currencies like Indonesian rupiah and Thai baht.

- Multi-scenario: Supports B2B trade exports, mainstream cross-border platforms, and standalone websites.

- Enterprise account: Create an account with the same name as the enterprise, and support creating multiple accounts.

- Global local payment accounts: Available in Asia, Europe, the Americas, Oceania, Africa, and other regions.

In the future, VOLTARA's global partner bank network will extend worldwide, offering more competitive fee rates to effectively reduce corporate costs. With localized collection capabilities in multiple major countries and regions, it enables faster and more cost-effective global payments. The platform also supports 24/7 withdrawal operations, with real-time fund transfers available. Users can flexibly choose currencies, amounts, and account holders based on their needs. Additionally, its self-developed robust technical engine enhances the entire payment

process, ensuring secure and timely responses. By directly integrating with mainstream cross-border platforms and leveraging powerful data synchronization mechanisms, the system automatically retrieves and synchronizes order data in real time.

After receiving the payment, merchants or businesses can exchange the funds for VTR tokens in the wallet to access additional services and support.

## 3.5 Supporting Features

1) Registration and confirmation of asset rights

VOLTARA provides end-to-end services for asset registration and on-chain rights confirmation, with the process handled by gateways or gateway agents. All assets registered through gateways or agents must be trusted by their owners, and only trusted parties can trade the same asset. Registered assets are primarily categorized into two types: monetary assets and physical assets.

- Currency-type assets: These assets primarily enable gateway platforms to interface with other digital currencies and digital asset exchanges. For instance, a gateway may register BTC as an asset code, allowing any BTC-holding account to trust the gateway and deposit BTC into its account. The quantity of currency-type assets is unlimited—the gateway can register as many asset symbols as its actual monetary holdings permit.

- Physical asset type: This refers to digitized assets typically registered by enterprises or institutions and distributed through gateways. These assets usually have a fixed quota, and after registration, the registrant cannot issue additional units due to operational permission thresholds.

2) Blockchain browser

VOLTARA provides a blockchain browser that enables users to verify the quantity of any assets connected to VOLTARA. To ensure ledger validity, the browser supports cross-blockchain node queries, allowing real-time monitoring of block generation and transaction records. When entering an account, users can check all asset balances and transaction history.

3) Traditional industries are being integrated into the blockchain.

The VOLTARA asset tokenization system addresses the demand for issuing tokens of large fixed assets and offers extensive application scenarios. It provides enterprises with a platform and services to issue their own tokens, expanding their digital financial services while enhancing brand influence and competitiveness. Leveraging blockchain technology as its foundation, VOLTARA tokenizes fixed assets, enabling valuation, rights confirmation, collateralization, and transactions for core enterprises. This effectively resolves the circulation challenges of large fixed assets and boosts financial efficiency.

- Utilize third-party institutions to conduct asset registration, title confirmation, appraisal, authentication, valuation, and custody for valuable assets;

- Blockchain-based notarization ensures the validity of certificates by leveraging the technology's tamper-proof and transparent features.

- By leveraging blockchain token economics, the tokenization of physical assets (issuing tokens) enables the value fragmentation of fixed assets and facilitates their rapid circulation.

- Collaborate with multiple trusted institutions to generate a unique and valid asset code for copyright information, with rights verified on-chain.

- Employ technical measures to ensure the validity of tokenized asset circulation (issued tokens), protecting the rights of all transaction parties.

# Chapter 4 VOLTARA Token Economy Model

## 4.1 Token Economics

1) Token Positioning and Advantages

VTR, the core token of the VOLTARA project, is primarily designed for high-performance on-chain payments and financial settlements, while also serving as a key payment solution in the Web3 business sector. Its design thoroughly addresses the practical needs of blockchain payments, offering the following key advantages:

- Low fees: By optimizing underlying technologies and operational mechanisms, VTR charges minimal transaction fees, giving it a cost advantage for handling large-scale, high-frequency payments. Whether for small businesses 'daily collections or multinational corporations' fund settlements, it significantly reduces transaction costs and enhances transaction efficiency.

- High-speed transfers: Leveraging advanced blockchain technology and optimized network architecture, VTR enables rapid transaction confirmation and fund settlement. Even during blockchain network congestion, VTR maintains high transfer speeds, ensuring timely fund flow to meet users' stringent real-time requirements. This is particularly crucial for time-sensitive financial transactions and commercial activities, such as instant payments and immediate settlements.

- Multilateral Clearing: VTR supports multilateral clearing, enabling multiple parties to complete clearing and settlement for the same transaction in real time. This model reduces the complexity and time cost of clearing processes, enhances capital utilization efficiency, and mitigates clearing risks. In complex financial scenarios such as cross-chain transactions and multi-tier supply chain finance, the multilateral clearing feature facilitates efficient fund reconciliation and synchronized settlement among all parties, eliminating the cumbersome and delayed procedures inherent in traditional clearing processes.

2) Basic Information of the Token

- Token name: VOLTARA

- Token abbreviation: VTR

- Total issuance: 210 million

- Issuance protocol: ERC20 protocol standard

- Issuance phase: ICO stage

The total VTR issuance is meticulously calibrated to balance supply and demand, ensuring the token maintains sufficient liquidity in the market while preserving its scarcity. This controlled supply helps prevent excessive inflation, stabilizes the token's value, and safeguards both the project's long-term sustainability and users' enduring interests.

3) Token distribution plan


The VTR token allocation scheme was meticulously designed by comprehensively considering factors such as project development needs, investor rights, and market incentive mechanisms, as detailed below:

◎ Airdrop rewards (5%)

The VTR project allocates 5% of its total token supply for a token airdrop. As a standard promotional strategy in blockchain projects, this airdrop distributes free tokens to early adopters who actively engage with the project, effectively boosting its visibility and user base. These tokens incentivize early adopters to promote VOLTARA on social media, tech forums, and other platforms, attracting more potential users and fostering a positive ecosystem. The airdrop also demonstrates the project team's gratitude to early supporters, strengthening user loyalty. The airdropped tokens are gradually unlocked after the project launches to ensure stable circulation and market stability.

◎ Public and private funds (15%)

Public and private offerings are key components in token issuance, with VTR allocating 15% of its total supply to these activities.

-Private Placement: This phase primarily targets professional investment institutions, high-net-worth individuals, or strategic partners with access to resources for token sales. These private investors typically possess deeper project expertise and higher risk tolerance, willing to invest tokens at relatively reasonable prices during the early stages in exchange for token shares.

Their capital provides crucial startup funding, while they may also offer technical support, market channels, and strategic advice throughout the project's development. The unlocking and circulation of private tokens are typically arranged progressively based on the project's development stage and contractual terms, ensuring stable growth and investor protection.

-Public Offering: This phase targets a broader audience of retail investors through publicly accessible channels like token sales platforms or project websites. It attracts numerous interested users to invest, allowing them to purchase VTR tokens at the project-defined price using fiat or digital currencies. The public offering phase not only expands fundraising but also draws early adopters. With strong liquidity, these tokens quickly enter market trading post-launch, significantly enhancing the project's market valuation and liquidity.

- Operation team (5%)

The project's success hinges on a professional operations team, which is why VTR allocates 5% of its token distribution specifically to incentivize this team. The operations team handles core responsibilities including overall project management, technology development, marketing, and community building. These tokens serve as rewards for team members' hard work and long-term contributions, boosting their motivation and creativity while ensuring steady progress along the roadmap. The unlocking of team tokens is typically tied to performance targets and development phases, with specific conditions and timeframes. This approach aligns team members 'interests with the project's growth while preventing excessive token releases that could disrupt the market.

- Market circulation (60%)

A staggering 60% of VTR tokens are in active circulation, ensuring robust liquidity in the market. This ample supply supports large-scale transactions and attracts more users, businesses, and investors to engage with VTR's trading and application scenarios. Token liquidity serves as the cornerstone of its value realization and market recognition. Only when tokens can be freely traded and rapidly circulated can they fully demonstrate their monetary attributes and economic value. Through strategic liquidity management, the project team can guide market supply-demand dynamics, stabilize price fluctuations, and maintain token value stability. This approach fosters a favorable market environment for the project's long-term growth and ecosystem prosperity.

- Marketing and promotion (5%)

In the highly competitive blockchain market, the VTR project must enhance its visibility and influence through effective marketing campaigns. To this end, 5% of the token allocation is dedicated to marketing initiatives. These tokens fund both online and offline events—such as tech summits, industry seminars, and product launches—to attract industry experts, media, and user engagement. They also support advertising, brand collaborations, and market research to expand the project's reach in target markets. Additionally, they incentivize community members to create content and share recommendations, leveraging social influence to amplify the project's value. By strategically utilizing these marketing tokens, VTR can stand out in the market, attract more potential users and partners, and establish a solid foundation for business growth and ecosystem development.

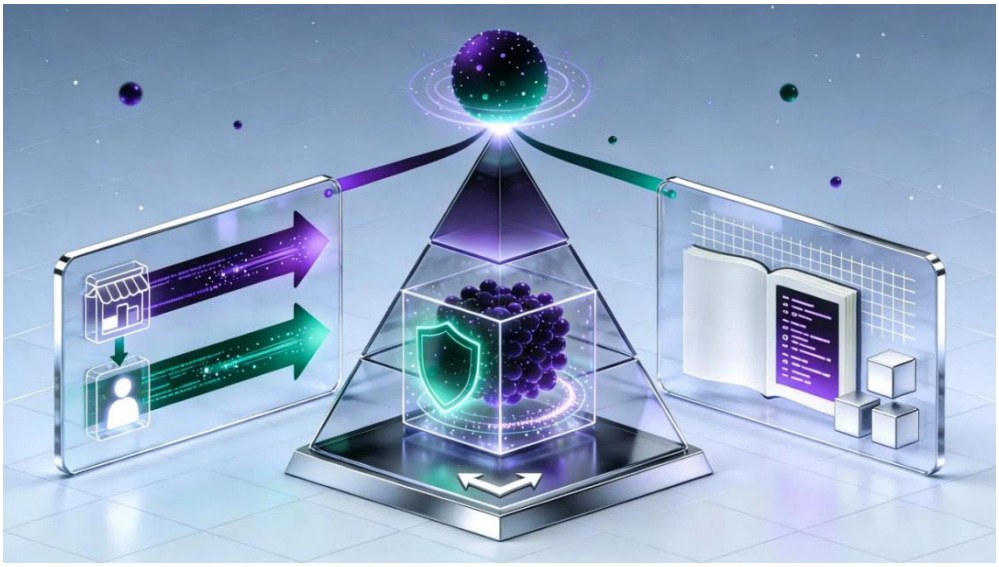
- Ecological network construction (10%)

The development of the VTR token's ecosystem network is crucial, with 10% of the token allocated specifically for this purpose. This ecosystem network construction includes supporting the development of various application scenarios within the VOLTARA ecosystem, attracting

third-party developers to participate in platform development, and collaborating with partners to build consortium or private chains. Through this token investment, developers are incentivized to create more practical DApps (decentralized applications) for the VTR ecosystem, enriching application scenarios and enhancing the token's utility. By partnering with financial institutions and other collaborators to develop private or consortium chains, the token's application scope is expanded to achieve cross-industry business synergy. An ecosystem fund is established to support innovative projects and startups within the ecosystem, fostering a complete industrial ecosystem. The successful development of the ecosystem network will enable the VTR token to serve as a core medium of value exchange, creating a virtuous cycle that drives the sustainable development of the entire VOLTARA ecosystem.

## 4.2 The underlying value of the tokens

As a high-value cryptocurrency, VTR will serve monetary functions. Typically, currency fulfills four core roles: store of value, medium of exchange, unit of account, and standard of deferred payment. To meet these requirements, VTR is specifically designed with the following features:



1) Value storage items

A store of value refers to assets that maintain their worth over time without significant depreciation. Virtual Trading Rooms (VTRs) function as payment mediums designed to ensure price stability and gradual appreciation even in highly volatile markets. For instance, VTRs incorporate advanced market stabilization mechanisms. The auto-adjustment feature of smart contracts, for example, can dynamically modify transaction fee rates based on real-time market data, thereby curbing speculative activities and mitigating price volatility. This mechanism operates similarly to traditional financial market stabilizers, serving as a buffer during market fluctuations to protect investors 'interests and further reinforce VTRs' role as a store of value.

2) Exchange medium

A medium of exchange refers to any entity that represents value standards and facilitates the sale, purchase, or exchange of goods and services. VTR is utilized in various global transactions. The VTR team actively expands its global collaboration network. For instance, leading financial institutions now accept VTR for payments, offering users more payment options while broadening VTR's application scenarios and user base.

Furthermore, VTR has undergone technical enhancements to ensure secure and reliable payment processes. Advanced security measures such as multi-signature technology and encrypted storage protect users' assets from hacking and theft. Users can confidently conduct various transactions with VTR without worrying about fund security. This efficient and secure payment experience sets VTR apart from other digital currencies, making it an ideal medium of exchange.

3) Accounting unit

In the VOLTARA payment system, the VTR (Virtual Transaction Record) serves as the accounting unit, providing standardized measurement for transactions and fund flows within the system. This enables users and merchants to clearly record the value of each transaction, facilitating effective financial management. For instance, when merchants sell products on the VOLTARA platform, they can use the VTR to set product prices, record sales amounts, and calculate profits. This standardized accounting method not only enhances transaction transparency but also streamlines business analysis and decision-making for merchants.

The VOLTARA payment system provides users with a comprehensive suite of financial tools to support the VTR's unit-of-account functionality. For instance, users can monitor their VTR balance and transaction history in real-time through the built-in wallet app, with all data recorded in VTR units. This intuitive accounting approach not only enables better management of digital assets but also reinforces users' recognition of VTR's value.

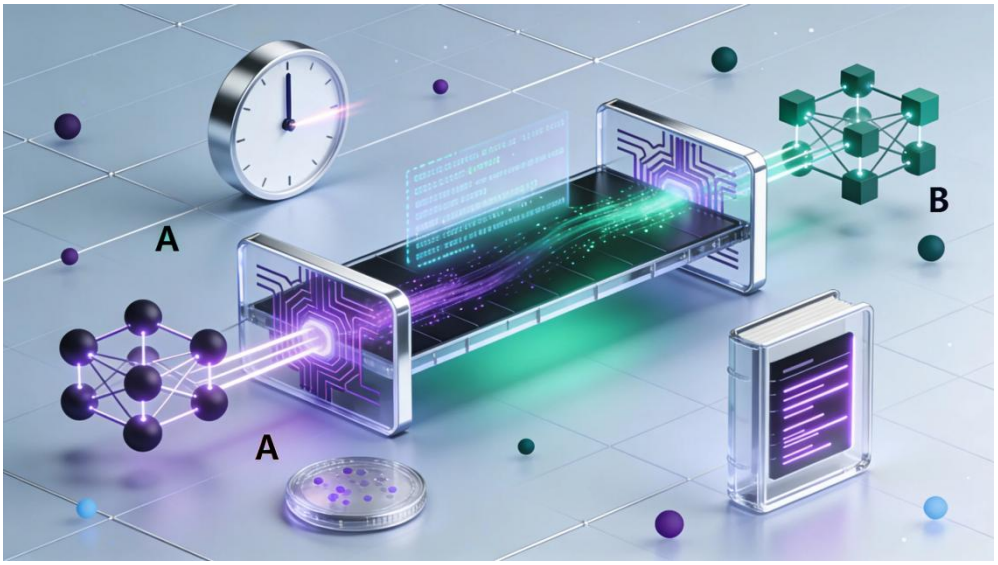
Beyond the VOLTARA payment system, VTR has partnered with several decentralized applications (dApps) where it serves as a standardized accounting unit. In the decentralized finance (DeFi) sector, VTR tracks financial transactions including loan amounts and interest earnings. For instance, in a VTR-based lending dApp, users can use VTR as collateral for loans, with both the loan amount and interest calculated and recorded in VTR units. This application not only expands VTR's usage scenarios but also unlocks broader potential for its role as a ledger unit.

As a highly valuable cryptocurrency, VTR demonstrates remarkable potential in serving as a store of value, medium of exchange, and unit of account. By effectively managing market supply and demand through advanced technologies and market stabilization mechanisms, VTR maintains relative stability in volatile markets, providing investors with a reliable wealth preservation solution. Its efficient and secure payment capabilities and global applicability make VTR an ideal medium of exchange for worldwide transactions. Furthermore, the extensive adoption of VTR in the VOLTARA payment system and collaborative dApps has solidified its role as a key unit of account.

## 4.3 Cross-chain clearing/settlement

Cross-chain technology is a pivotal innovation in blockchain development, designed to resolve interoperability challenges between disparate blockchain networks. During the early stages of blockchain evolution, these networks operated in silos, creating isolated information silos that severely hindered the transfer of assets and data across chains. The advent of cross-chain technology acts as a bridge connecting these silos, enabling seamless flow of assets and information between different blockchain ecosystems.

The cross-chain technology underlying VTR tokens connects and enables interaction between different blockchain networks through sophisticated algorithms and protocols. This technology allows seamless transfer of VTR tokens across various blockchains while ensuring transaction integrity and security. The core challenge of cross-chain technology lies in maintaining consistency and security during information transmission across different blockchain networks, requiring solutions such as hash locking, atomic swaps, relay chains, or sidechains.




Leveraging its cross-chain technology, VTR tokens enable efficient and cost-effective cross-chain clearing and settlement, offering an innovative solution to the aforementioned challenges.

- Instant transaction confirmation: VTR token's cross-chain clearing mechanism dramatically reduces confirmation time. Powered by optimized cross-chain protocols and efficient transaction processing algorithms, VTR tokens enable rapid cross-blockchain transfers for near-real-time settlement. This allows customers to complete cross-border payments in seconds, significantly boosting capital efficiency—ideal for time-sensitive scenarios.

- Reduced transaction costs: Cross-chain settlement of VTR tokens significantly lowers transaction costs. By bypassing intermediaries, VTR token cross-chain transactions enable direct asset transfers between different blockchain networks, substantially cutting transaction fees. Moreover, as VTR token transactions are executed through blockchain-based smart contracts, they achieve automated and transparent processing, further reducing operational costs.

- Enhanced transaction transparency: VTR tokens feature highly transparent cross-chain clearing transactions. The distributed ledger technology of blockchain permanently records every cross-chain transaction in the network, allowing all participants to monitor real-time transaction status and fund flows. This transparency not only strengthens client trust but also facilitates regulatory compliance reviews.

In the decentralized finance (DeFi) sector, VTR token's cross-chain settlement capability provides crucial support for the multi-chain DeFi ecosystem. Currently, the DeFi market comprises multiple blockchain platforms such as Ethereum, Polkadot, and Solana, each with distinct financial applications and assets. VTR token's cross-chain technology enables users and developers to freely transfer assets and funds across these platforms, facilitating cross-chain lending, liquidity mining, and transactions. For instance, users can borrow VTR tokens on Ethereum-based DeFi protocols and then transfer them to Polkadot via cross-chain technology to participate in liquidity pool mining activities, thereby earning higher returns. This integration of cross-chain DeFi ecosystems not only offers users more diversified financial products and services but also promotes resource complementarity and collaborative development among different blockchain platforms, driving the prosperity of the entire DeFi market.

Leveraging cutting-edge cross-chain technology, the VTR token delivers efficient and

cost-effective cross-chain clearing and settlement, providing robust support for global on-chain payments and financial transactions. As blockchain technology continues to evolve and the global digital economy accelerates, the cross-chain capabilities of VTR token will play an increasingly vital role, emerging as a key driver of global financial innovation and integration.

## 4.4 Promoting the free movement of value across borders

In the VOLTARA clearing network, we center around the VTR token to fully leverage the value transfer protocol's advantages in payments, enabling a global financial system for faster and lower-cost transactions, clearing, and remittances. Supporting multiple currencies, this system will make internet payments as simple and convenient as email.

Building upon this financial framework, VTR will be integrated into the third-party sector to create a bridge between the 'real world, blockchain world, and back to the real world,' establishing a global VTR circulation value-added ecosystem. Within this ecosystem, smart contracts will manage participant identities, delivering enhanced financial services, transactional payments, and clearing settlements to organizations and individuals within the system.

In financial applications, for instance, VTR tokens will be centered on finance, leveraging barrier-free payments, cross-border transaction settlements, and cross-currency (including digital and fiat currencies) transfers to drive innovation across industries. As VTR tokens gain wider adoption and public recognition, they will gradually permeate various sectors—from blockchain-based online finance and corporate stock option allocation to supply chain finance and DeFi—unlocking boundless value-added potential.


1) Establish a new hybrid digital currency system

VOLTARA has validated the feasibility of cross-border digital currency applications through factual evidence, demonstrating how blockchain technology enables information sharing and transparency. Issued by influential banks with national control over issuance scale and exchange rates, this establishes a diversified monetary system anchored in fiat currency supplemented by digital currencies. This has catalyzed the development of virtual financial transaction protocols, significantly boosting the prosperity of the real economy. Furthermore, credible financial institutions, enterprises, and commercial entities leveraging VOLTARA to launch their own digital currencies and create virtual transaction scenarios can provide users with enhanced

innovative services.

2) Create a new credit formation mechanism

The credit system has always been the cornerstone of financial development. Under traditional models, commercial entities relied on regulatory bodies to maintain creditworthiness and manage risk controls, with credit rating technologies classifying users based on their characteristics—such as credit assessment techniques for small loans. In the big data era, companies now employ multi-dimensional approaches to analyze customer behavior patterns and determine credit ratings. While big data enables batch credit approvals for consumer and micro-loan applications, enhancing operational efficiency and ensuring data reliability and timeliness, this merely digitizes traditional finance without fundamentally transforming the mechanisms of credit creation.

The VOLTARA global payment network system operates on a decentralized credit creation mechanism, featuring robust information reliability, low credit establishment costs, and transparent information disclosure.

3) Create a new scenario value chain

The rapid advancement of the internet and its profound impact on the market have rendered traditional sales models inadequate for modern economic operations. VOLTARA's flexible technical architecture enables the creation of independent scenario value chains tailored to diverse application scenarios, customer needs, client demographics, and value creation processes. These chains further enhance the integration between financial and real economies, as demonstrated in the following aspects:

- Boost customer retention and loyalty, making transactions more context-dependent;

- All customer transaction data in the app is recorded on the blockchain, ensuring enhanced security.

- Built on blockchain as the 'trust machine', the platform now meets customers' needs without relying on third-party intermediaries or centralized big data systems, fostering stronger trust between the platform and its users than ever before.

4) Establishing new payment and settlement methods

Although the efficiency of payment and settlement has been improved greatly in the current Internet era, it is still limited in multi-center and multi-link under the cross currency, cross-border and multi-economic contracts, which makes the efficiency of payment and settlement often appear inadequate.

The decentralized and peer-to-peer nature of VTR tokens reduces intermediary steps and transaction costs, significantly enhancing transaction efficiency. This creates a new payment and settlement mechanism that facilitates borderless value circulation.

# Chapter 5 VOLTARA Technology System

## 5.1 Technical Overview

The VOLTARA blockchain architecture, supported by core components, consists of three layers: the participant management layer, the blockchain layer, and the application layer. The payment system comprises two sub-layers: verification nodes and voting nodes.

1) Management of the participating parties

VOLTARA system participants join the blockchain network as super nodes, with different stakeholders able to join or leave as needed. These super nodes share information and jointly verify the authenticity of both the evidence carrier and its data. By establishing unified transaction standards, STO gateways, and smart contracts, the system effectively links and transfers identity functions and contractual elements across nodes during various events.

2) Blockchain Layer

Key technology: This section provides foundational support for all modules in the application service.

Blockchain technology, including network structure, data structure, consensus mechanism, signature verification, etc., is the basis of the system operation.

cross-correlation technique ：

- Data Storage Module: Content-based addressing replaces domain-based addressing. Instead of searching for specific addresses, users locate content stored in designated locations. This eliminates the need to verify the sender's identity, requiring only content hash validation. Such an approach enables faster, more secure, and more robust payment verification with enhanced durability. The module also implements data storage security measures to prevent forced data theft, while providing access audit functionality to track data changes and circulation.

- Identity module: It performs blockchain authentication and registration for users and devices to verify their validity, while managing user identifiers (i.e., private keys). The system also incorporates access security features, serving as a critical safeguard for overall security.

- Timestamp service: Provides a unified time service for the system.

- Data Encryption/Decryption Module: Provides data encryption/decryption services for the system. The module should support national cryptographic algorithms and be compatible with plug-and-play encryption/decryption methods.

- Client Module: The client provides users with management and query functions for accounts, blocks, nodes, and wallets, including creating accounts, sending transactions, generating random seeds, retrieving block information, and checking wallet status. All payment transactions are processed through the client, signed, and encrypted before being sent to the blockchain.

- P2P module: This module interconnects all nodes to broadcast transactions and block-related information across the network.

- Mempool module: A transaction cache pool that stores transactions from both RPC interfaces and P2P networks. Its primary purpose is to address the processing speed disparity between the consensus module and the RPC module.

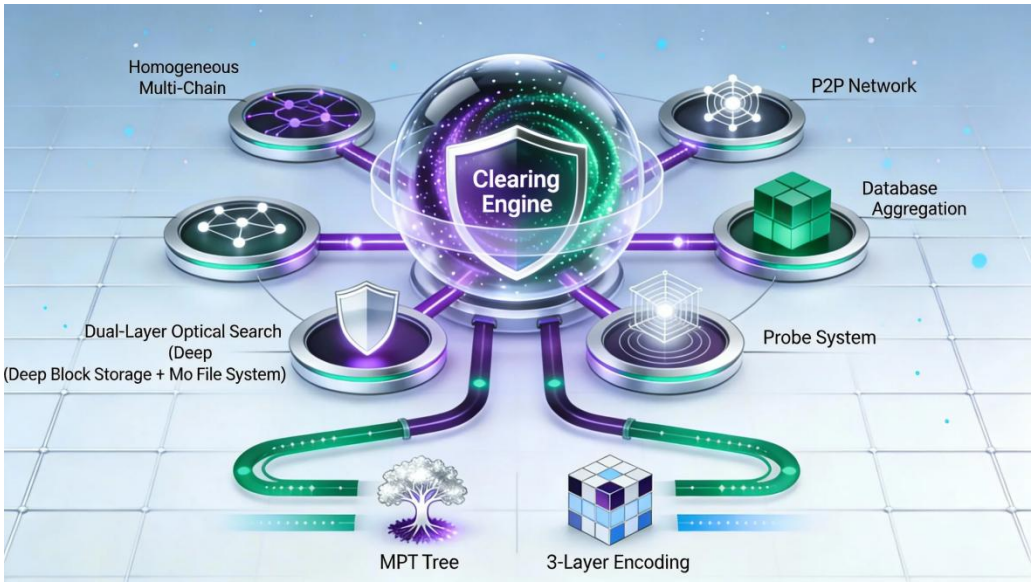
3) Application Layer

Application services are implemented and encapsulated based on the key technologies of VOLTARA system, each service consists of a set of related specifications, processes and supporting interfaces.

The VOLTARA system's blockchain layer application service can be invoked for secondary development to integrate with specific business scenarios.

## 5.2 Overall Technical Architecture

The VOLTARA system is a high-speed, secure, and scalable 'clearing engine' consisting of two layers: super nodes and storage access nodes. Powered by blockchain technology, it processes millions of transactions per second and provides DApps with infinitely scalable storage through a secure decentralized cloud database.




The VOLTARA architecture system consists of the following components:

- An isomorphic multi-chain system that delivers high transaction processing speed (TPS) and cross-chain payment capabilities;

- The P2P network system VOLTARA P2P provides addressing capabilities at the network layer;

- A multi-database cluster system with infinitely scalable secure encrypted data storage;

- The VOLTARA system's underlying infrastructure consists of a block storage system and a distributed file system.

- An attribute-based encryption authentication access system composed of multi-node consensus, which serves as the database access control gateway;

Data integrity verification organization composed of multiple verifiers;

- An adaptive probe system that provides memory data storage, performance monitoring, security monitoring, and Metrics data upload capabilities.

The VOLTARA system's core architecture features a chain-database separation mechanism and functional sub-chain design. Decentralized applications can store data on the blockchain or in database systems based on varying trust levels and public verification requirements. The system provides tiered data collaboration management across different types and levels. As a permissionless multi-database cluster environment, VOLTARA implements an access control mechanism using multi-authority attribute-based encryption, along with comprehensive ownership proofs for stored data.

The design principle of chain library separation prioritizes future system upgrades and updates. Since blockchain system updates may trigger forks that could cause irreversible impacts on the entire economic ecosystem, we centralize core data processing capabilities in the database system while implementing access control through functional sub-chains. These sub-chains serve dual purposes: ensuring future scalability and fulfilling the two core functions of decentralized storage systems—privacy protection and data ownership verification. We achieve both access control and encryption for cloud storage data through an efficient multi-authority attribute-based encryption scheme.

1) Account

VOLTARA employs a state-based architecture to store multiple accounts, each containing authentication credentials and unique data. When a transaction requests code execution within an account, the system executes the code, potentially altering the account's internal storage. This process may even generate additional data for transmission to other accounts, thereby triggering new transactions.

2) Merkel Patricia Tree

Bitcoin utilizes a data structure called Merkle trees. Similarly, IPFS employs a directed acyclic graph (DAG) based Merkle tree architecture to store data. Simply put, when uploading large files (beyond 1-2MB or even larger), IPFS divides the file into segments. Each segment is named with a unique hash value. These segments are stored in a tree-like structure, where the branches connecting leaves represent hash value computations between adjacent segments. The entire tree structure extends from individual leaves through branching nodes to the root.

This mechanism ensures that any modification to a leaf node's data directly updates the corresponding hash value of the root. The approach mirrors Bitcoin's data storage architecture, designed to enable the network to verify data integrity in real-time. Instead of comparing entire files, it only requires checking whether the root hash remains unchanged. When consistency is maintained, divergent nodes can collectively attest to the data's integrity.

The Merkle Patricia Tree (MPT), proposed by Alan Reiner and implemented in the Ripple protocol, serves as the core data structure of the VOLTARA system. It stores all account states along with transaction and receipt data within each block. MPT is an abbreviation combining Merkle trees and Patricia trees, and the structure created by merging these two tree types possesses the following characteristics:

- Each unique key-value pair is uniquely mapped to a root hash value. In MPT, it's impossible to deceive members with just one key-value pair (unless the attacker has ~2^128

computing power).

- The time complexity of adding, deleting, or modifying key-value pairs is logarithmic.

MPT provides VOLTARA with an efficient, easily updatable fingerprint that represents the entire state tree.

3 ) RLP encoding

RLP is designed as a highly simplified serialization format, specifically for storing nested byte arrays. Unlike conventional solutions such as protobuf or BSON, RLP does not define specific data types like Boolean, float, double, or integer. Instead, it stores structures as nested arrays, leaving the protocol to interpret their meaning. RLP also lacks explicit support for map collections, though semi-official recommendations suggest using nested arrays of the form [[kl, vl], [k2, v2],...] to represent key-value pairs (e.g., kl, k2...) sorted in standard string order.

Protocols such as protobuf and BSON, which perform the same functions as RLP, have been widely used. However, we prefer RLP for the following reasons:

It is easy to implement;

- Absolute guarantee of byte consistency.

## 5.3 Consensus Mechanism

As a cornerstone of blockchain technology, consensus algorithms must prioritize speed and irreversibility. To foster a healthy ecosystem, fairness is equally vital. If major players can easily dominate the consensus decision-making process, developers and users would suffer unjustified losses. An ecosystem failing to protect builders 'interests cannot cultivate lasting value, which contradicts VOLTARA's design principles. Therefore, while ensuring speed and irreversibility, we strive to balance fairness and safeguard the interests of system builders. VOLTARA's consensus mechanism employs the POD consensus algorithm.

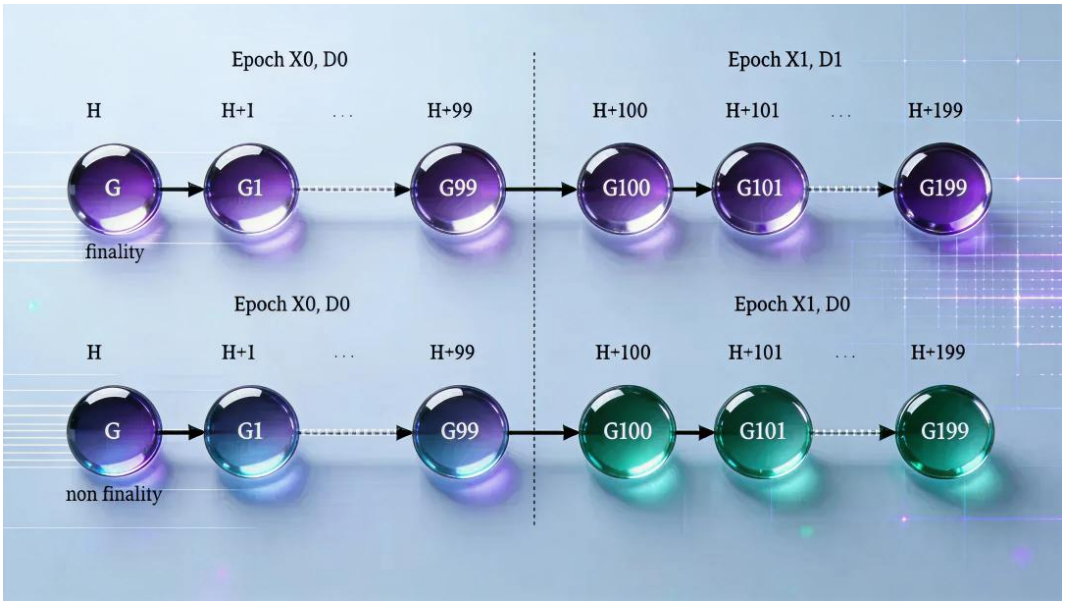
1) New block generation

Similar to the PoI consensus algorithm that prioritizes high-importance accounts, PoD selects accounts with greater contributions to the ecosystem. The key difference is that PoD grants all selected accounts equal probability rights to participate in generating new blocks, thereby preventing monopolistic outcomes caused by skewed probabilities.

When selecting accounts with higher contribution levels, we employed VOLTARA's native universal value scale evaluation. The algorithm design prioritizes accounts' liquidity and propagation capabilities (we believe accounts meeting these criteria contribute more significantly to ecosystem development). In Proof of Delegated (PoD) mechanisms, accounts voluntarily deposit a certain amount of VTR tokens as collateral to qualify as validators for new blocks and participate in ledger recording. After determining the validator set, the PoD algorithm uses pseudo-random numbers to select proposers for new blocks. The validator set remains dynamic: eligible accounts can join or leave, and its composition changes periodically with fluctuations in VOLTARA's incubation staking. To ensure continuous updates, we implemented a dynamic validator set adjustment mechanism in PoD.

2) The verifier set is updated.

The evolution of validator sets mirrors dynastic transitions. We categorize validator sets by epochs, with each epoch maintaining consistent sets. To prevent abrupt transitions, we define blocks as epochs, where dynastic changes occur only at epoch boundaries. During epoch transitions, the system examines the first block of the previous epoch. If this block achieves finality, the current epoch transitions to the next epoch (D1); otherwise, it remains unchanged (D0), as illustrated below.



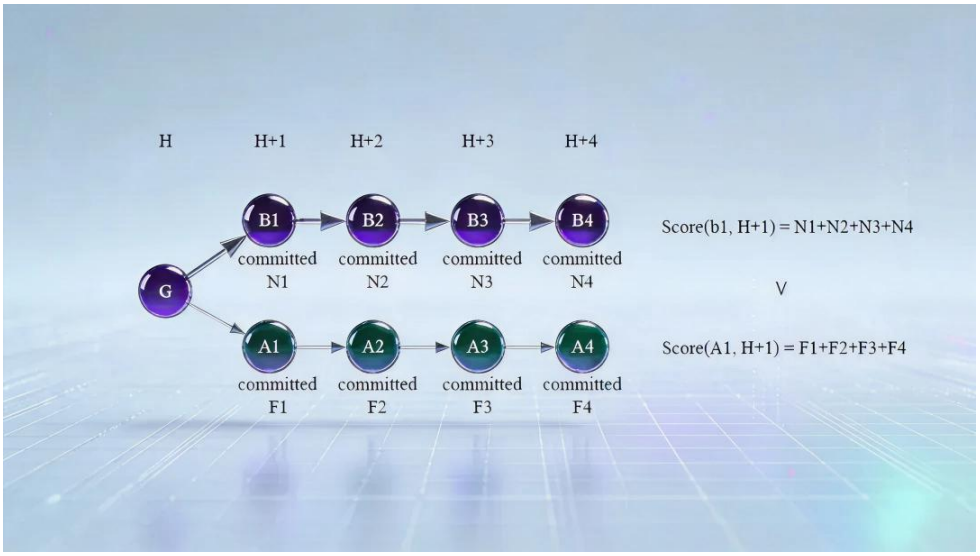

Due to network latency, nodes may observe inconsistent finality status of block G during epoch transitions. Following Casper's dynamic validator set strategy, each epoch's consensus process must be jointly executed by current and previous epochs 'validator sets. Consequently, in any given epoch, eligible accounts can only apply to join or exit the validator set of the D+2 epoch. Only when transitioning to the D+2 epoch can they participate in the new block's consensus process.

3) Forking choice

The PoD algorithm selects the authoritative chain by choosing the block with the highest score at each height, always selecting the highest-scoring block to join the chain. The score of block b at height h is as follows:

$$Score(b,h) = \sum_{(b',h') \in children(b)} Score(b',h') + \sum committed\ deposit\ in\ b$$

The total deposit amount corresponding to the commit votes received by this block and all its descendants.




4) Voting Rules

To prevent malicious attacks from disrupting consensus processes, which could halt their completion and hinder ecosystem development, PoD adopts Casper's minimum penalty rule to regulate validators' consensus activities.

The consensus process employs two vote structures: Prepare and Commit. The Prepare vote is denoted as (H; v; vs), where H represents the current block hash, v indicates the block height, and vs denotes the height of a parent block of v. The Commit vote is represented as (H; v), with H being the current block hash and v the block height.

The PoD algorithm establishes four fundamental rules for the entire voting process:

- The two-phase consensus process for a single block follows a strict sequence: validators can only cast their Commit (H; v) vote in the second phase after the total weight of Prepare (H; v; vs) votes in the first phase reaches two-thirds.

- Multiple blocks may proceed without requiring the completion of one block's consensus before initiating the next block's consensus, allowing interwoven consensus. However, this process must maintain a clear hierarchy: only after the first phase is fully completed (with 2/3 of Prepare votes from Hanc, vs, vs ') can subsequent blocks cast Prepare votes (H; v; vs') based on vs, ensuring the consensus process progresses smoothly.

- To prevent malicious cross-block voting by nodes exploiting interleaved consensus, once a Prepare vote (H; w; u) is cast based on height u, no Commit vote (H; v) can be cast for any block with height between u and w, ensuring efficient and orderly consensus.

- To prevent nodes from simultaneously placing bets on multiple branches with the same deposit, which would cause nothing-at-stake issues, validators must not submit different Prepare (H1; v; vs2) votes after submitting one (H1; v; vs1). Violators who are reported and verified will have their deposits forfeited. Reporters will receive 4% of the penalty as a reward, and the remaining penalty amount will be destroyed.

## 5.4 Security Encryption Algorithms

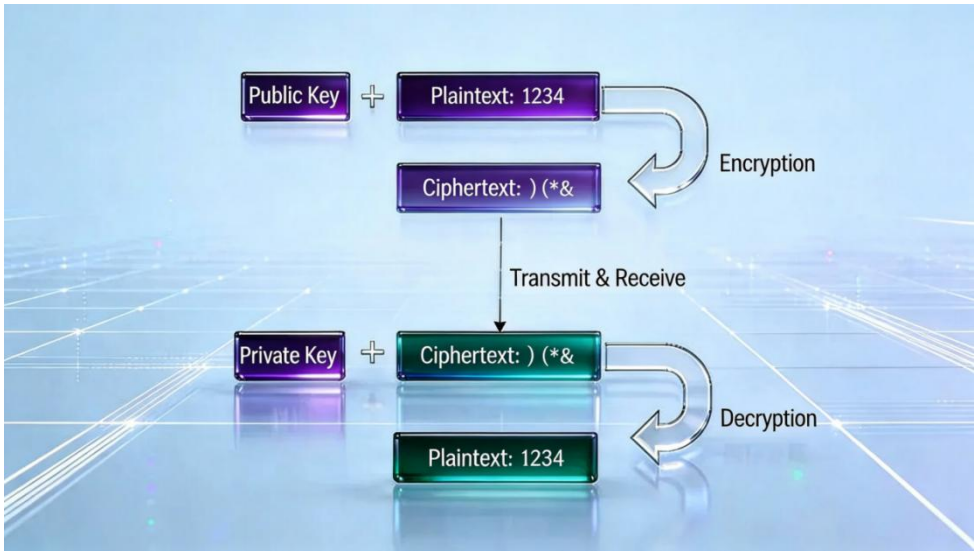
VOLTARA employs internationally certified encryption protocols to safeguard all data. Payment records and transaction details are accessible exclusively to the parties involved and authorized personnel.

1) Private key

Private is a 256-bit random number kept by the user and not open to the public. The private key is usually randomly generated by the system and serves as the sole proof of the user's account access rights and ownership of assets in the account. Its valid bit length is sufficiently large to prevent cracking, ensuring no security risks.

2) Public key

Public keys are publicly accessible, with each private key having a corresponding public key. ECC public keys can be generated from private keys through one-way deterministic algorithms. Commonly used schemes include secp256r1 (the international standard) and secp256k1 (the Bitcoin standard). The VOLTARA control chain and initial data chain both adopt secp256r1 as their key scheme.

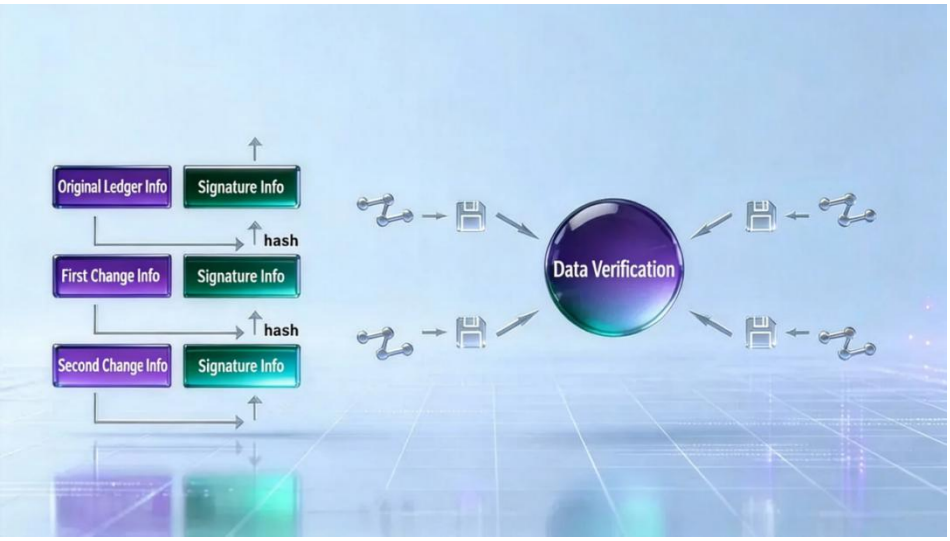



3) Encryption

VOLTARA employs asymmetric encryption with digital signatures to ensure tamper-proof transmission of business requests, while its consensus mechanism guarantees data consistency across all nodes. For stored data records, the system validates them through built-in self-checking mechanisms and near-real-time multi-node coordination, ensuring these records remain tamper-proof.

The self-validation feature of nodes in VOLTARA's blockchain architecture ensures data integrity. Any tampering attempt would disrupt the chain's structure, yet the system can swiftly detect and recover data from other nodes. Each accounting node maintains a private key, with each block containing its corresponding digital signature. Any modification to block data can be verified through this signature.

Timely multi-node data verification is designed to prevent malicious users from tampering with all ledger data when a node's private key is compromised. VOLTARA's data comparison mechanism promptly detects any alterations to a node's ledger records.




## 5.5 P2P Protocol

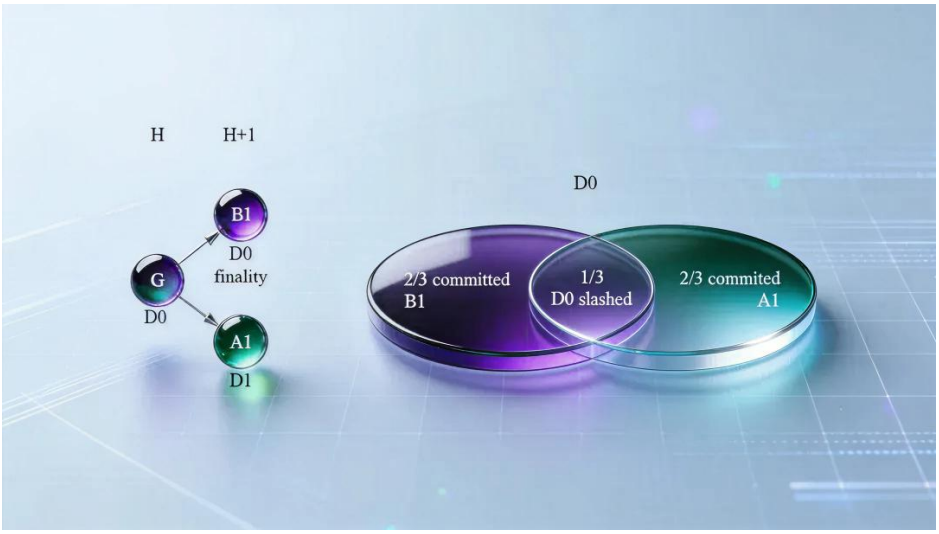
In VOLTARA, all nodes (clients) communicate via P2P protocol for message broadcasting. For data blocks, the system employs a standard cryptocurrency P2P protocol featuring the "Phantom" protocol. Control blocks, however, use standard P2P protocols and do not support the "Phantom" protocol. Clients typically operate in a daemonized state, where their tasks include:

- Calls the network daemon to maintain connections and send messages periodically;
- Get the current block information and related block information;
- Obtain industrial manufacturing parameters and analyze them according to the standard model to determine whether to submit updated parameters.

## 5.6 Malicious Attack Prevention and Punishment Mechanism

Each block in Proof of Stake (PoD) has a consensus validity period. When a block's height exceeds the latest height by more than 100, all blocks at that height become invalid during consensus processes, causing any new consensus activities on those blocks to be ignored. While long-range attacks are virtually impossible in PoD, short-range attacks remain feasible within the validity period. A short-range attacker attempting to forge Chain A to replace Chain B as the authoritative chain before the block at height H+1 expires must ensure Block A1's score surpasses Block B1's. Given the severe penalties for multiple submissions, attackers inevitably need to bribe validators to execute such attacks. To demonstrate the security of the PoD consensus algorithm, we analyze the costs attackers must bear when invalidating blocks in varying quantities.

If the attacker attempts to invalidate B1, the minimum cost scenario is illustrated below, essentially constituting a double-spending attack. Should the attacker fortuitously become the block proposer at height H+1, they would need to bribe at least one-third of the validators in epoch D0 to cast votes for A1's finality, with the minimum cost being one-third of the total stake.

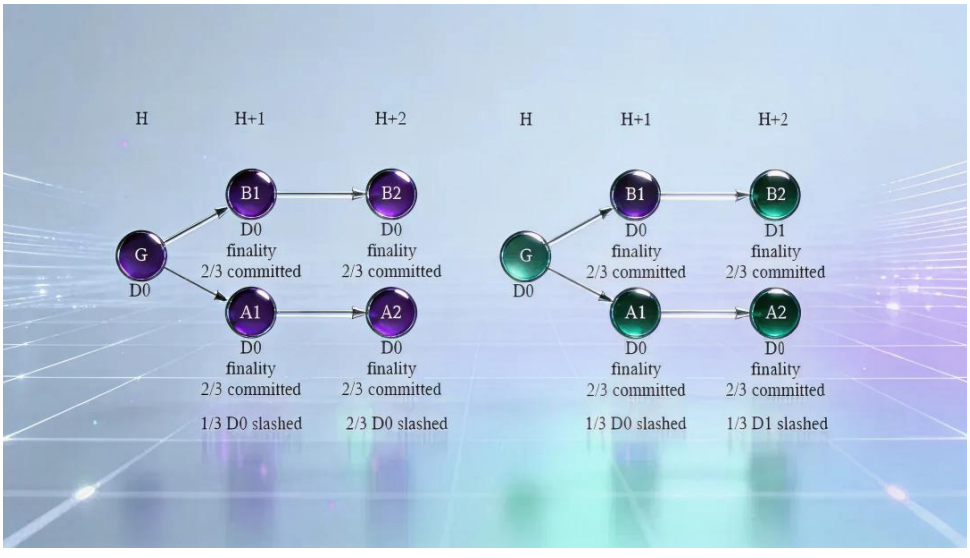



If the attacker attempts to invalidate B1-B2, assuming both B1 and B2 have reached finality with all transactions in the block finalized, we consider two scenarios to nullify these transactions.

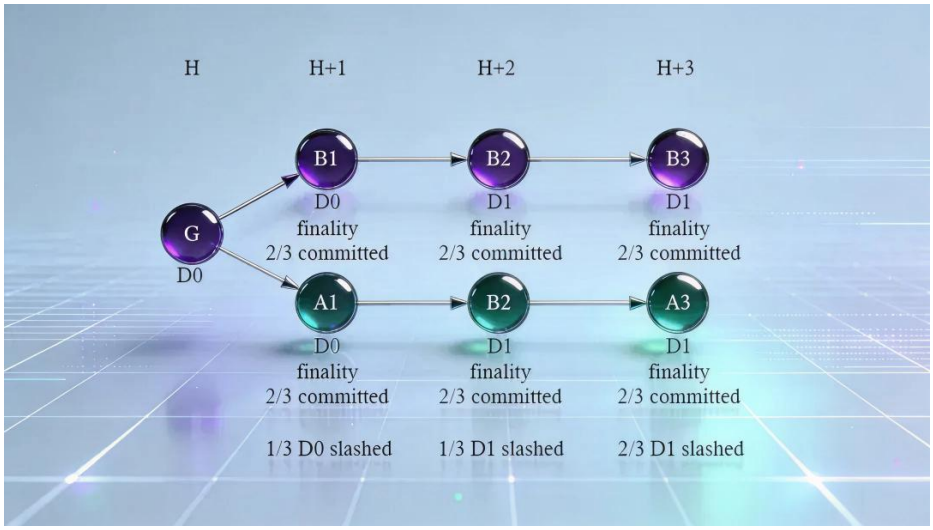
The first scenario is illustrated below: When epochs H+1 and H+2 occur in the same epoch with identical dynasties, the attacker must first bribe one-third of the validators in D0 to trigger finality for A1. This action will result in penalties for the affected validators, leading to the depletion of their deposits.

In A2's validation process, the total deposit is merely two-thirds of A1's. To achieve a committ ticket equivalent to B2's value, the attacker must bribe all remaining honest validators, which would require losing at least three-thirds of the total deposit. Even under these circumstances, there's no guarantee that A1's score will surpass B1's, making the attack highly risky.

The second scenario, as illustrated below, occurs when epochs H+1 and H+2 are in different periods with distinct dynasties. In this case, the attacker must bribe one-third of D0 to trigger A1's finality and another one-third of D1 to trigger A2's finality. Completing such an attack requires at least two-thirds of the total stake. Therefore, launching a short-range attack to invalidate two finality blocks demands a stake equivalent to at least two-thirds of the total stake.



To disable B1-B3, as illustrated below, the attacker must first bribe one-third of D0 to finalize A1, then bribe one-third of D1 to finalize A2, and finally bribe all remaining two-thirds of D1 to finalize A3. This would require losing at least four-thirds of the total deposit. Preparing for such an attack is extremely difficult, and even if successfully executed, there's no guarantee that A1's score will surpass B1's, potentially leading to failure.




## 5.7 System Risk Control

Both blockchain and cryptocurrency circulation/payment are still in their infancy. To ensure secure project development, VOLTARA provides a comprehensive risk control solution.

1) System risk control

- Database read-write separation mechanism: In the initial phase, system risk control typically employs mechanisms such as database master-slave replication, read-write separation, and sharding to ensure synchronization and isolation between the payment system's database and the risk control system's data. The system's risk control generally only grants read access to required customer/account data and transaction payment data, thereby ensuring the security and reliability of account data.

- Cache/In-memory Database Mechanism: An efficient caching system is a proven method to enhance performance. This mechanism typically stores frequently accessed data in caching systems like Redis, including risk control rules, case libraries, intermediate result sets, black/white lists, preprocessing results, transaction parameters, billing templates, clearing and settlement rules, and profit-sharing rules. For high-frequency trading, in-memory databases (often paired with SSDs) are preferred for performance optimization.

- RPC/SOA architecture: Reduces coupling between transactional systems and risk control mechanisms. In early-stage systems with limited services, message brokers like RabbitMQ/ActiveMQ or RPC are typically employed for inter-system calls. As the number of services grows and governance challenges emerge, SOA middleware such as Dubbo becomes the preferred solution for service invocation.

- Composite Event Processing (CEP): Real-time or near-real-time payment risk control. Compared to rule-based processing, CEP delivers superior performance and scalability.

2) Product Risk Control

The first phase of product risk control primarily focuses on pre-market due diligence, which involves validating the rationality of historical data and parameters in the database. This process utilizes historical payment data or standardized derivatives and their market values to conduct walkthrough testing on the VOLTARA model, thereby assessing its design soundness.

The second phase of product risk control focuses on ensuring stable product operations. By establishing standardized access criteria for payment and financial products, sequential approval mechanisms are implemented through smart contracts. Once approved, all products are listed and distributed via blockchain-based decentralized data, forming a comprehensive wealth management product repository. At this stage, investors enjoy free product selection, with each offering being free from human bias. All listed products are supported by rigorously verified data through intelligent review processes, which are permanently immutable and non-erasable.

# Chapter 6 Compliance Development

## 6.1 KYC/AML

VOLTARA rigorously implements KYC/AML procedures to verify user identities and ensure transaction legitimacy. During registration, users must submit identification documents, with the system conducting dual verification through automated tools and manual audits to effectively identify high-risk users. Additionally, the platform regularly updates its risk database, monitors abnormal transaction activities in real time, and promptly implements measures to prevent illegal activities such as money laundering, thereby safeguarding the security and compliance of the transaction environment.

1) Customer Identification (KYC)

◎ identity verification ：

• Identification documents: Users must provide valid identification documents (e.g., passport, ID card, driver's license) during registration. VOLTARA verifies the authenticity of these

documents through multiple methods, including database comparison and manual review.

- Proof of address: Users must also provide proof of their residential address. These documents must include the user's name and address to verify the accuracy of their information.

- Video verification: VOLTARA may require video verification for high-risk users or those making large transactions. The system verifies the user's appearance against their ID documents via video call.

Proving the source of the funds:

- Funding source declaration: Users must declare that their funds are legally sourced. For large transactions or high-risk users, VOLTARA may require additional proof of funding sources, such as bank statements or pay slips.

- Transaction record verification: VOLTARA will verify users' transaction records to ensure fund flows align with the declared sources.

◎ risk assessment ：

- Risk Score: VOLTARA evaluates risks based on user identity, transaction patterns, and funding sources. The scoring system considers multiple factors, including the user's location, transaction frequency, and transaction amounts.

- High-risk user identification: For users with higher risk scores, VOLTARA conducts more rigorous due diligence, which may include additional authentication steps, source of funds verification, and transaction monitoring.

2) Anti-Money Laundering (AML) Measures

◎ Transaction Monitoring:

- Real-time monitoring: VOLTARA employs an advanced transaction monitoring system to track users' trading activities in real time. The system detects abnormal patterns, including large transactions, frequent transfers, and transactions with high-risk regions.

- Behavioral Analysis: Leveraging AI and machine learning, VOLTARA's monitoring system analyzes user behavior patterns. This helps detect potential money laundering activities, including layering techniques (quickly transferring funds to multiple addresses) and the use of coin mixing tools.

Suspicious activity report:

- Reporting Mechanism: Upon detecting suspicious activity, VOLTARA will immediately generate a Suspicious Activity Report (SAR). These reports contain detailed records of the suspicious transactions and are submitted to the relevant regulatory authorities.

- Internal review: VOLTARA's compliance team conducts internal reviews of suspicious activities prior to report submission, ensuring the accuracy and completeness of the reports.

◎ Customer Due Diligence (CDD):

- Continuous monitoring: VOLTARA's due diligence on clients extends beyond account opening, with ongoing surveillance of their transactional activities. This helps promptly identify any suspicious behavior that may indicate money laundering or fraud.

- Regular reviews: VOLTARA conducts periodic account reviews to update clients' risk assessments and trading preferences, ensuring accurate and compliant client information.

VOLTARA's KYC/AML process ensures platform security and regulatory compliance through rigorous identity verification, risk assessment, transaction monitoring, and suspicious activity reporting. This framework not only complies with international regulations but also provides users with a secure and transparent trading environment. By implementing continuous compliance measures and staff training, VOLTARA actively combats money laundering and terrorist financing, thereby safeguarding the integrity of the digital asset trading industry.

## 6.2 Compliance Licenses

VOLTARA prioritizes regulatory compliance and has secured multiple critical financial licenses, including MSB, MTL, BitLicense, and others. These licenses not only demonstrate VOLTARA's commitment to compliance but also provide users with a secure and reliable trading environment.

- MSB (Money Services Business) License: Issued and regulated by the Financial Crimes Enforcement Network (FinCEN), a U.S. Treasury Department agency. This license serves as a critical compliance credential for blockchain project exchanges, primarily governing money services operations including foreign exchange, international remittances, currency transfers (cryptocurrencies/virtual currencies), ICO offerings, prepaid project services, and traveler's check issuance. MSB license holders must comply with AML (Anti-Money Laundering) and KYC (Know Your Customer) requirements, which helps VOLTARA establish a strong global compliance profile to attract more users and institutional investors.

- MTL (Money Transmitter License): Issued by state financial regulators in the U.S. This license is a mandatory requirement for entities providing money transfer and related financial services, ensuring market stability and consumer protection. Services include bill payments and currency transfers. With an MTL license, VOLTARA can legally conduct fiat and digital currency transactions across multiple U.S. states, thereby expanding its market presence and enhancing competitiveness.

- BitLicense: Issued by the New York State Department of Financial Services (NYDFS). This specialized license for cryptocurrency operations authorizes licensed entities to conduct transactions, storage, and transfers of digital assets within New York State. The rigorous application process requires applicants to demonstrate robust technical safeguards, anti-money laundering protocols, and consumer protection mechanisms. Obtaining this license attests to VOLTARA's compliance and technical security standards, thereby enhancing user trust in the platform.

In addition to the U.S. license, VOLTARA has secured licenses in other countries and regions, including the EU's electronic money services license and Singapore's major payment institution license. These licenses enable VOLTARA to operate legally worldwide and expand its international business. The acquisition of multiple licenses not only demonstrates VOLTARA's regulatory compliance but also highlights its professional capabilities and credibility in the digital asset trading sector, which have gained international recognition.

## 6.3 Third-party Audit

VOLTARA has partnered with CertiK, a globally renowned blockchain security audit firm, to implement third-party independent audits. As a pioneer in blockchain security, CertiK employs cutting-edge formal verification, AI auditing, and human audits by security experts to scan and monitor blockchain protocols and smart contracts, ensuring their security. CertiK not only holds SOC Type 2 Level I certification but also meets stringent data security and privacy protection standards.

- Security Controls: CertiK conducts comprehensive audits of VOLTARA's security measures to ensure the safety of the platform's trading systems, user data, and asset storage.

- Processes and Policies: The audit covered VOLTARA's internal processes and policies to ensure compliance with industry best practices and regulatory requirements.

- Vulnerability Detection: Leveraging cutting-edge technology, CertiK identifies and patches potential code vulnerabilities, safeguarding users against security threats.

Through its partnership with CertiK, VOLTARA provides users with comprehensive financial security. CertiK's third-party independent audits ensure VOLTARA's security and transparency.

## 6.4 Market Promotion Strategies

VOLTARA will continue to enhance user experience through personalized services to boost user retention. By leveraging data analytics, the company will pinpoint user needs and deliver tailored products and services to strengthen user loyalty. Additionally, it will regularly host online and offline events to foster community engagement and participation, ensuring sustained user growth and retention. VOLTARA will also introduce interactive features like a points system and leaderboards to make user interactions more enjoyable.

VOLTARA will continuously refine its interface design, simplify workflows, and enhance transaction efficiency. Through ongoing technological innovation and user feedback, the platform will progressively expand its features to meet diverse user needs while ensuring stable and efficient performance. By regularly launching innovative initiatives, VOLTARA aims to boost user engagement, foster a thriving ecosystem, and achieve sustained user growth with deep user retention.

VOLTARA establishes a user feedback mechanism to promptly address and resolve user issues, thereby enhancing satisfaction and trust. Regular satisfaction surveys are conducted to optimize service processes and protect user rights. By collecting suggestions through multiple channels, the platform continuously improves its features to build a trustworthy ecosystem. VOLTARA will launch a loyalty program to reward long-term active users, strengthening user retention. Through regular platform development reports and transparent operations, the company enhances user trust. Leveraging big data analytics, personalized content is delivered to improve

user experience and ensure sustained engagement.

VOLTARA will continue refining its user incentive program by rolling out enhanced benefits, including dedicated customer support and priority access to new features, to further strengthen user loyalty. Through its community co-creation initiative, the platform encourages user participation in decision-making processes to foster a sense of belonging. Regular user meetups will be organized to build closer connections, creating a welcoming community environment that ensures long-term user retention.

# Chapter 7 Risk Warning and Disclaimer

## 7.1 Risk Warning

- Market volatility risk: The cryptocurrency market is highly volatile, so investors should exercise caution when making investments.

- Policy risks: Changes in policies and regulations may affect project operations. Investors should monitor relevant regulatory updates.

VOLTARA is committed to delivering efficient and user-friendly virtual currency escrow services for businesses, while providing investors with stable returns and opportunities to participate in project governance.

## 7.2 Disclaimer

This document is intended solely for informational purposes. The content is for reference only and does not constitute any investment advice, solicitation, or offer to sell shares or securities in VOLTARA or its affiliates. Such offers must be made through confidential memorandums and comply with applicable securities laws and other relevant regulations.

The content of this document shall not be construed as an invitation to participate in the

Token public offering. Any actions related to this white paper, including requesting a copy or sharing it with others, shall not be deemed participation in the Token public offering. Participation in the Token public offering indicates that the participant has reached the legal age, possesses full civil capacity, and that the contract with VOLTARA is legally valid. All participants voluntarily entered into the contract and had a clear and necessary understanding of VOLTARA prior to signing.

The VOLTARA team will continue to make reasonable efforts to ensure the accuracy and authenticity of the information in this white paper. During development, the platform may undergo updates, including but not limited to changes to mechanisms, tokens and their operational principles, and token distribution. Certain sections of the document may be revised in future white papers as the project progresses. The team will announce updates through official website notices or new white papers. Participants are advised to obtain the latest white paper promptly and adjust their decisions accordingly.

VOLTARA complies with all regulations and industry self-discipline statements that promote healthy industry development. By participating, participants expressly accept and agree to comply with such inspections. Participants must also disclose all information required for completing these inspections in full and accurately. VOLTARA explicitly communicates potential risks to participants. By engaging in a Token Public Offering, participants confirm their understanding and acceptance of all terms and conditions outlined in the details, and accept the risks and consequences at their own discretion.