

SOCIAL MASTER

BRANCH

Decentralized Blockchain that Connects
Dual-Cryptocurrencies into the Real World

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1. SUMMARY

Bitcoin, introduced by Satoshi Nakamoto in 2008, presented a paradigm shift with the vision of "peer-to-peer electronic cash without intermediaries," although its usability and technical limitations were limited. It aimed to solve problems such as financial centralization, high fees, and slow transaction processing time, while also opening up opportunities to embrace marginalized populations in finance. Bitcoin goes beyond just currency and represents blockchain innovation and a shift in the digital economy.

In 2013, Vitalik Buterin published the Ethereum white paper proposing a platform to expand the blockchain utility. Frontier, the Ethereum main net, was officially released in 2015, allowing companies to innovate existing models through blockchain technology. This introduced scalability and flexibility beyond Bitcoin, and expanded the potential of blockchain by utilizing smart contracts and DApps. This laid the foundation for Web 3.0 and a new digital economy ecosystem.

However, subsequent blockchains such as Ripple, Solana, Polygon, Avalanche, and Cardano have not fully replaced traditional finance despite advances. Modern blockchains outperform previous blockchains in innovation, but challenges remain: The volatility of digital assets and high barriers to smart contract adoption reinforce the recognition of blockchains as a niche for technicians and speculative assets

SMB Coin, which we are trying to implement, goes beyond just 'faster than existing blockchain' and 'better than existing cryptocurrency', and wants to create and provide real-world services with blockchain technology itself.

The purpose is to make sure that users use it as if they are just using a general service without having to know whether this is a service with blockchain technology.

To implement this in practice, SMB Coin intends to first conduct a cryptocurrency check card interworking business that can be used through SMB platform Vander, and build competitive logistics and distribution services through various affiliate partner malls to

achieve blockchain of the global cryptocurrency ecosystem of decentralization, transparency, security, and automation through an innovative prosumer model. In addition, through the expansion of the blockchain ecosystem, we intend to expand to Web3 technology and strengthen the SMB platform with highly usable services.

SMB Coin will develop a structure to store existing track projections at a high speed to build a chain technology that works together and implement the business to enable the most practical and practical crypto credit economy model based on the application of multiple layer technologies.

(Considering the various UI/UXs in the real world for this, users will expand their Eco platform through a more comfortable and secure experience than the services of previous systems without being aware that it is a blockchain.)

1. INTRODUCTION

1.1. SMB Coin의 Vision and Goal

By establishing an innovative payment platform that seamlessly connects the real economy with digital assets, SMB Coin aims to provide users with a convenient and secure financial experience like never before. We want to create an environment where anyone can easily and intuitively utilize digital assets in their daily lives without having to have expertise in complex cryptocurrency technologies. SMB Coin's vision is to overcome the chronic problems of existing payment systems, such as high fees, slow processing speed, and limited access, and to build a new financial ecosystem that maximizes transparency, security, and efficiency. Ultimately, SMB Coin aims to lead the popularization of digital assets and grow into a global payment solution that provides real benefits for both individuals and businesses.

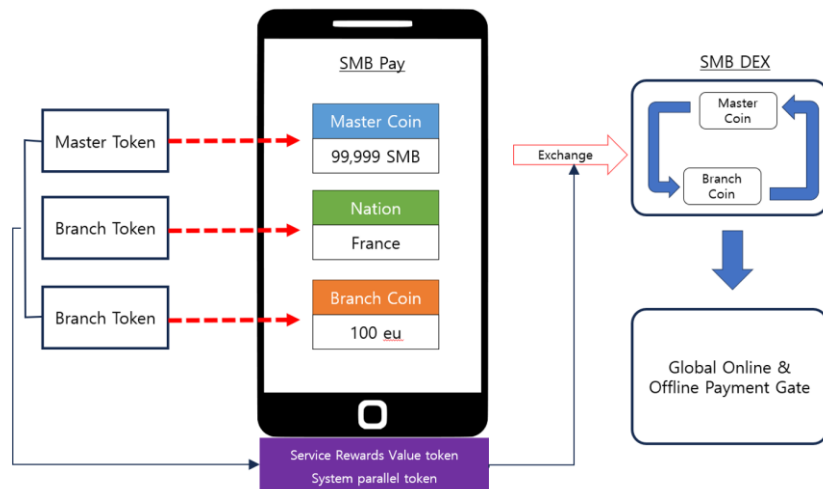
1.2. The Importance of Real World Payment Services

The digital asset market continues to grow dramatically, suggesting the possibility of a new financial system. However, in order for cryptocurrencies to realize their true value and be widely adopted, their role as a practical payment method beyond just an investment method is essential. Until now, many blockchain-based payment solutions have been struggling to be popularly commercialized due to technical complexity, unstable price volatility, and difficulty in integrating with existing payment infrastructure. SMB Coin is deeply aware of these realistic problems, and based on its user-centered design and stable technology, it wants to play a key role in ensuring that cryptocurrency payments become an integral part of daily life. Real-time payment support, low commission, and easy integration with existing payment systems are key factors that make SMB Coin competitive in the real-world payment market and provide practical convenience to users.

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1.3. Debit Card-based service expansion

SMB Coin strategically promotes Debit Card-based service expansion to enable users to effectively utilize their digital assets from the initial stage of service. It allows users to conveniently pay for various digital assets held within the SMB Coin platform by linking them with physical cards, just like their existing credit or debit card experience. The Debit Card will play an important role in driving the growth of the SMB Coin ecosystem by lowering entry barriers for cryptocurrency use and providing immediate and practical utility to users. In addition, the Debit Card service will induce users to use digital assets naturally in their daily consumption activities, which will increase the liquidity of assets within the SMB Coin ecosystem and promote active economic activities. We will maximize the stability and ease of use of the Debit Card service through smooth integration and cooperation with the existing financial infrastructure.



[Fig. 1] Easy User Experience

1.4. White Paper Composition

This paper details the core contents of the SMB Coin project. Chapter 2 describes the overall structure and technological approach for scalability of the SMB Coin ecosystem, and Chapter 3 presents a multi-service layer structure and AI-based performance optimization plan for enhancing data processing and security. Chapter 4 addresses the structure of issuing tokens based on a pagging model for system stability and user compensation, and Chapter 5 outlines the SMB Coin's token economy. Chapter 6 analyzes the technical architecture of the project in depth, and Chapter 7 presents the development roadmap and future plans. Chapter 8 introduces the core team members who will lead the project, and Chapter 9 discusses potential risks and countermeasures. Finally, Chapter 10 presents the expected effects and future prospects of the SMB Coin project and concludes. The appendix provides technical terminology and references to help readers understand. Through this paper, I would like to clearly present the potential and vision for SMB Coin to make innovative changes in the real world payment market.

2. SMB Coin Ecosystem

The SMB Coin ecosystem is a collection of organically connected elements for users to conveniently and securely utilize their digital assets in real life. The core goal is to

dramatically increase the accessibility of cryptocurrency payments through a user-friendly interface, provide practical utilities through innovative technology solutions and strategic partnerships, and lay the foundation for sustainable growth

2.1. Service Overview: Scalable Real-Time Payment Platform

The SMB Coin platform comes in the form of web and mobile applications, which are designed to allow users to access services related to digital assets without time and space constraints. The intuitive user interface ("~pay" form) allows users to easily use various functions such as cryptocurrency transfer, payment, balance checking, and Debit Card management. Specifically, SMB Coin focuses its technological capabilities on users to enjoy a fast and convenient experience similar to traditional payment methods, with real-time payment processing as its core competitive edge

Technology-based:

- **High-Performance Blockchain Network:** Adopting a blockchain network based on high throughput (TPS) and low fees supports a real-time payment environment. As needed, we aim for a modular architecture that can flexibly integrate Layer 2 solutions such as Sidchain and Rollup to eliminate network congestion and further improve scalability.
- **Standardized API Interworking:** Provides a standardized application programming interface (API) for seamless interworking with various online and offline merchants and service providers. This facilitates integration with existing payment systems and enables rapid expansion of SMB Coin payment options. In addition, by supporting interworking with various decentralized applications, we expand the scope of utilization of the SMB Coin ecosystem
- **User-centric UI/UX Design:** We prioritize intuitive and convenient User Interface (UI) and User Experience (UX) design for easy understanding and use by general users without crypto expertise. We will continue to reflect user testing and feedback to maximize user convenience.

2.2. Debit Card Interworking Service (consider scalability)

One of the core functions of the SMB Coin ecosystem, the Debit Card interlocking service is an important factor in maximizing the real world utilization of digital assets. Users can register their various digital assets on the SMB Coin platform and receive Debit Cards in physical or virtual form to make payments as convenient as fiat currency at online and offline affiliates worldwide

Technology-based (Debit Card Interworking and Scalability):

- **Secure Asset Management and Transformation System:** Apply top-notch security technologies such as cold storage and multi-signature to safely store and manage users' digital assets. When making Debit Card payments, we build a system that processes payments by converting digital assets into fiat currency in real time within the platform and work with a trusted oracle system to provide reliable exchange rate information.
- **Interworking with Existing Payment Networks:** Through strategic partnerships with global payment networks such as Visa and Mastercard, SMB Coin Debit Cards can be used in numerous merchants worldwide. This greatly improves user convenience and enables rapid expansion of the SMB Coin ecosystem.
- **Scalability-Considered Payment Processing Infrastructure:** In preparation for the surge in Debit Card payment transactions, Layer 2 scalability solutions such as Sidechain or Rollup described above are applied to the Debit Card payment processing layer to maintain high throughput and low fees. AI-based traffic analysis ensures flexible response to changes in payment throughput and reliable service deliver.
- **Strengthen regulatory compliance and security:** Thoroughly implement KYC (Know Your Customer) and anti-money laundering (AML) processes to ensure compliance with financial authorities' regulations and user protection. It also complies with relevant security standards, including PCI Card Industry Data Security Standard (PCI DSS: Payment Card Industry Data Security Standard), for secure management of card information and user data.

2.3. Participants and roles

The SMB Coin ecosystem creates and grows value through the interaction of various participants.

- **Users:** Key players using the SMB Coin platform and Debit Card to use various financial services such as digital asset settlement, management, and remittance.
- **Franchise:** By introducing the SMB Coin payment system, you can gain a new customer base and enjoy benefits such as reduced payment fees. SMB Coin provides merchants with a simple integrated API and management tools to increase the ease of introduction of the payment system.
- **Platform Operator:** Responsible for development, maintenance, operation, security, and ecosystem expansion of the SMB Coin platform. Responsible for securing the reliability of the platform through stable system operation and user support, and enhancing the user experience through continuous technology development and innovation.
- **Partners:** Debit Card issuers, payment network operators, financial institutions, blockchain technology companies, and others are strategic partners in the growth and development of the SMB Coin ecosystem. Partnerships strengthen technical capabilities, expand service coverage, and create new business models.
- **Developer Community (Future Plan):** A group of external developers who develop new services, applications, and integrated solutions by utilizing the SMB Coin platform's API and Software Development Kit (SDK). It contributes to increasing the openness of the platform and creating an innovative service ecosystem.

2.4. Analysis and Improvement of Representative Scalability Projects

2.4.1. Optimistic Rollup (Arbitrum, Optimism)

- Advantages:
 - High compatibility of Ethereum Virtual Machine (EVM) facilitates migration of existing Ethereum-based DApps.

- Relatively easy to implement and can be quickly developed and deployed.
- Provides high throughput improvement.
- Disadvantages:
 - Fraud Proof period may cause delays in asset withdrawals.
 - Possibility of attack by malicious validator exists.

2.4.2. ZK-Rollup

(Example. zkSync, StarkNet)

- Advantages:
 - Proof of Validity provides immediate completeness, so there is no delay in withdrawing assets.
 - Low dependence on data availability issues provides high security.
 - Higher compression rates can result in greater gas cost savings than Optimistic Rollup.
- Disadvantages:
 - EVM compatibility is lower than Optimistic Rollup, which makes it difficult to develop and may experience difficulties in migrating existing DApps.
 - Proof generation can require a lot of computing resources.
 -

2.4.3. Sidechain (ex: Polygon PoS, SKALE)

- Advantages:
 - Operations independent of the main chain provide high throughput, and performance can be optimized through its own consensus algorithm.
 - Easy customization to specific services.
- Disadvantages:
 - Low security dependencies with the main chain require enhanced security mechanisms of their own.

- Risk of security vulnerability in bridge technology for asset movement exists.

특징	Arbitrum (Optimistic Rollup)	ZK Rollup & Sidechain	SMB coin	Solana (Layer 1)	Sui (layer 1)
Scalability	Layer 2, Optimistic Rollup	Layer 2 (validation based), Sidechain (independent chain)	High Scalability	Layer 1, self-consensual algorithms and parallel processing	Layer 1, object-centric model, and parallel processing
Security	Ethereum Mainnet Level (Period of Fraud Proof Required)	Ethereum Mainnet Level (Proof of Validation), Sidechain (Self-Security)	Self-consensual algorithms, validators, security)	Self-consensual algorithms (PoH, PoS), centralization controversy exists	Self-consensual Algorithms (PoS), Authorized Verifiers, High Security
EVM Compatibility	High (further improvement with Nitro stack)	ZK Rollup is different, Sidechain is independent	EVM Compatibility selective consideration	restrictive	Restrictive
Gas Fee	cheap against Ethereum	Very Cheaper Against Ethereum (ZK), Sidechain (Self-Set)	Low Transaction Fees)	relatively inexpensive (High TPS Based)	Potentially very cheap (parallel processing and object models)
Transaction speed	Faster than Ethereum (Fraud Proof Waiting Time Exists)	Very fast (ZK), Sidechain (self-performance)	Fast Transaction Speed	Very Fast (High TPS)	Very fast (parallel processing and immediate completeness)
Decentralization	relatively high (Ethereum-based)	High (Ethereum-based), Sidechain (self-governance)	Relatively low (Adoption of Limited Verifier)	Relatively low (limited number of validators, concerns about PoH centralization)	relatively high (Authorized Verifier Model)
Tech Complexity	medium	High (ZK), Medium (Sidechain)	High (Deleted Proof of Reputation, which is based on network connectivity trust)	High (New consensus algorithm and parallel processing)	High (object models and new consensus algorithms)
Ecosystem Maturity	High (Easy to utilize the Ethereum ecosystem)	Growing (ZK), Independent (Sidechain)	Growing up (Debit card-based service expansion)	High (Active DApp Ecosystem)	Growing (new technology)

[[Fig. 2] Global Scalability Project Comparison

2.5. Advancing SMB Coin's Scalability Solution

SMB Coin considers the advantages and disadvantages of the scalability solutions mentioned above to explore the following improvements.

- **ZK-Rollup Priority Review:** For fast completeness and high security, which are the core requirements of real-time payment services, the introduction of ZK-Rollup technology is a priority. EVM compatibility issues are addressed by keeping an eye on the latest technology trends such as zkEVM.
- **Leveraging Sidechains for Specific Services:** Building an independent Sidechains for specific services that require high throughput and customization (e.g., large merchant payment processing) can increase efficiency, focusing on securing strong security mechanisms and secure asset bridge technology.
- **Hybrid Model Consideration:** A hybrid model that flexibly combines Optimistic Rollup, ZK-Rollup, and Sidechain based on the characteristics and requirements of the service for optimal performance and security.
- **Modular blockchain architecture:** It is designed to make it easier to replace or upgrade specific layers by adopting a modular blockchain architecture to flexibly respond to changes in future scalability solutions.
- **Continuous R&D:** Layer 2 scalability technology is advancing rapidly, so we continue to study the latest technology trends and strive to introduce the best solutions for the SMB Coin ecosystem.

SMB Coin aims to provide users with a fast, safe, and affordable real-time payment environment by utilizing the advantages and disadvantages of various scalability solutions of the prior art. We will pursue continuous R&D and innovation to secure a technological edge and enhance the user experience.

These technologies are called SMB's Neo Hybrid Technologies (NYT), and we want to improve our services through continuous technology development.

3. SMB BLOCKCHAIN APPLICATION TECHNOLOGIES

SMB Coin aims to build a wide range of user-friendly services by dramatically improving transaction processing speed and service scalability issues, which have been raised as limitations of blockchain technology.

To this end, SMB Coin presents a new type of hardware model that nodes participating in block generation should have, and their connection implements an improved user experience that is incomparable to services that have limitations of existing blockchain systems.

SMB Coin provides user convenience by creating a fast consensus process by connecting between optimal hardware equipment, dramatically improving block creation speed, and ensuring the highest transaction processing speed and sufficient scalability for services.

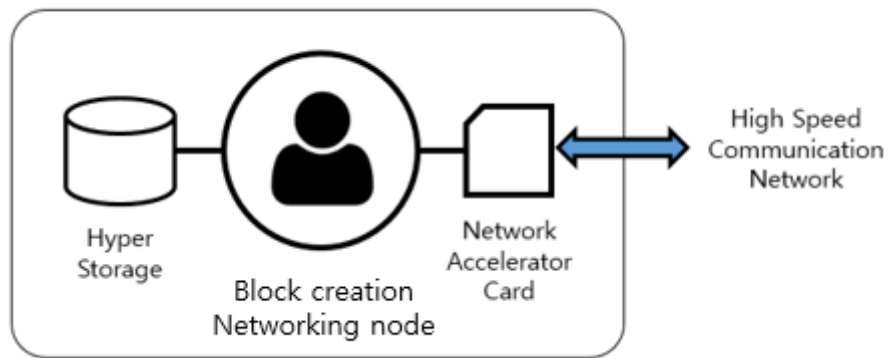
3-1. Block Creation Participation Node

Block creation participation nodes, which are the core nodes of SMB Coin, collect transactions that occur on the SMB network and create them as blocks, so that they have the following hardware conditions.

Block creation participating nodes enable high-speed communication between nodes, and storage capacity for collected transactions also ensures transaction processing speed, thereby minimizing processing time delays caused by storage speed.

These hardware configurations satisfy three conditions.

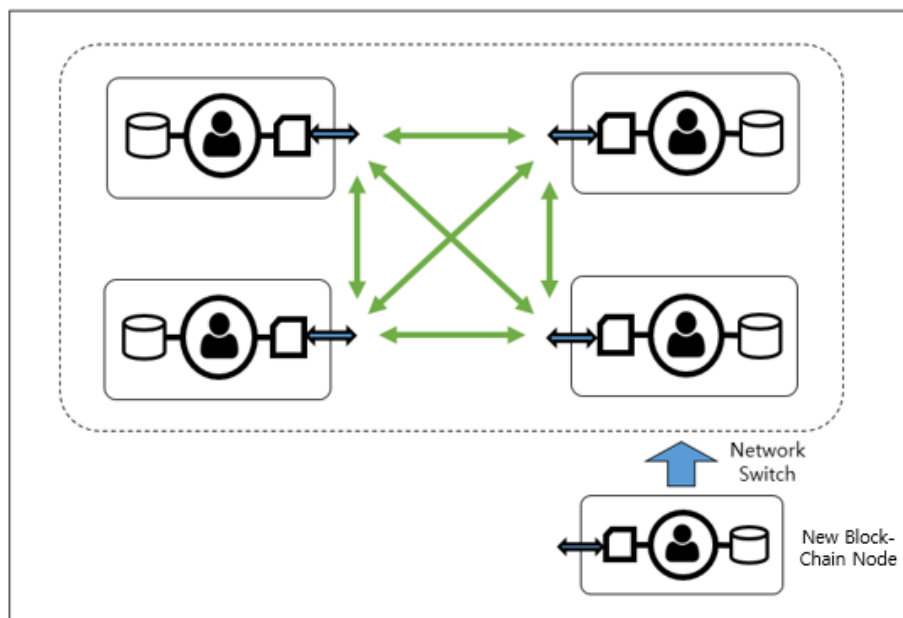
- Network Accelerator Card: A network card that performs decoding/encoding that enables high-speed communication between participating nodes in block generation
- Hyper Storage: repository for real-time storage of collected transactions
- High Speed Communication Network: High Speed Communication Network Connecting Block Generation Participating Nodes



[Fig. 3] Block Creation Networking Node Hardware Configuration Chart

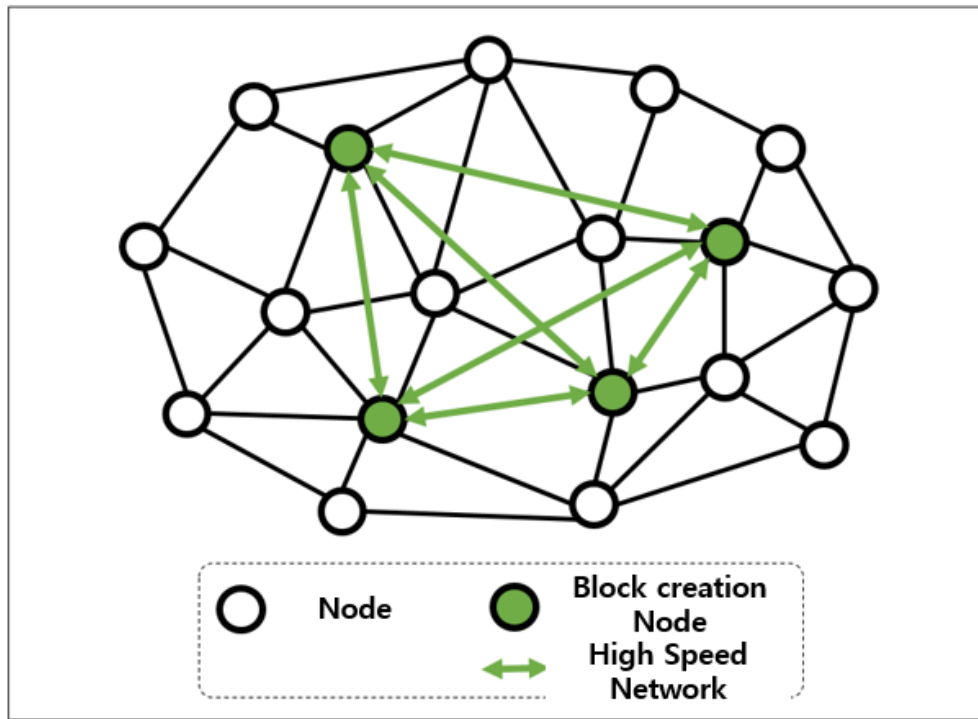
Block creation participation nodes are connected to a high-speed network, allowing real-time exchange of data between each other.

These connected block generation participating nodes form a block generation association based on high network speed, where new blocks are created.



[Fig. 4] Association of Block Creation Networking Nodes

Anyone who meets the specified hardware requirements can be a participating node in block creation, and participation of each node is controlled by the Network Switch



[Fig. 5] Association of Block Creation Networking Nodes

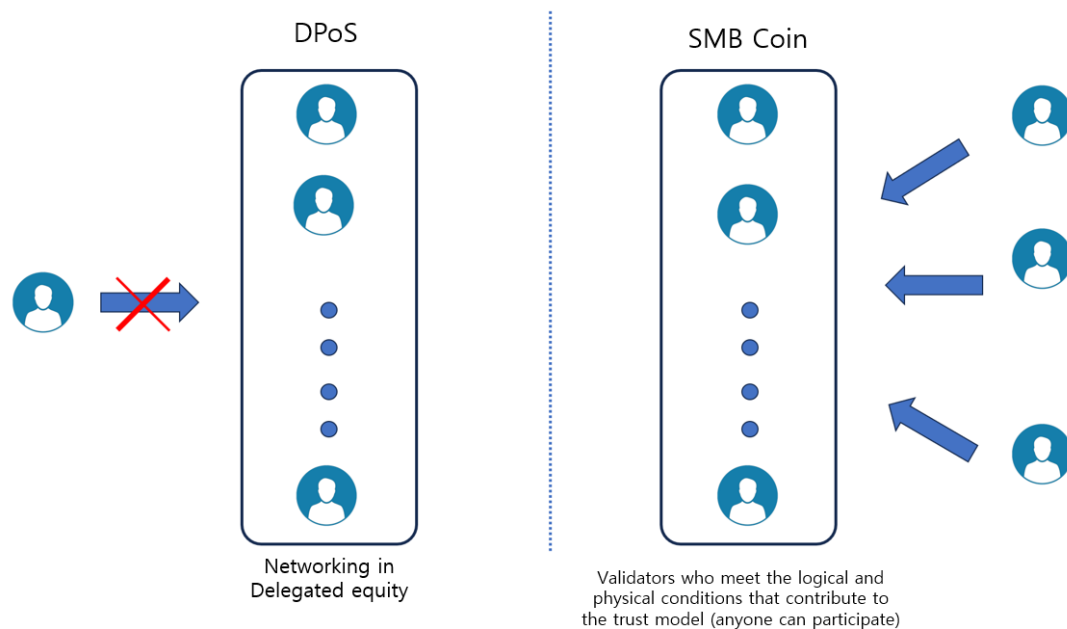
The blockchain system that SMB Coin intends to implement introduces a new concept of blockchain technology that fundamentally improves processing speed by combining optimal hardware equipment with existing software-based blockchain.

Through this, SMB Coin wants to implement the fastest transaction processing speed among the current blockchain technologies.

(SMB Coin aims to accommodate more than 1 million TPS of traffic based on global simultaneous parallel processing, which exceeds the DPOS processing speed of Solana and ADA.)

In addition, the DPOS blockchain has concerns about centralization because only a certain number of (delegated) block generation nodes participate in block generation, but in the

case of SMB Coin, anyone can participate in block generation as long as the hardware conditions are met, which ensures higher reliability and safety through the participation of more nodes.



[Fig. 6] Comparing DPOS Method to SMB Coin

3.2 Characteristics of SMB Blockchain Technology

SMB Coin wants to move to the blockchain technology of the future by implementing all 3S, the fundamental implementation goal that the current blockchain wants to achieve.

- Security (Security): In addition to the security of the existing blockchain against forgery/alteration, the user himself secures the reliability and security of the transaction as the transaction is completed with the immediate user response that other blockchains cannot implement.

- Speed: Implement the highest level of transaction processing speed that exceeds the transaction processing speed of existing blockchain technology. (Current target of up to 1 million TPS)

- Scalability: The overwhelming transaction processing speed ensures sufficient scalability of the existing blockchain, which is no longer possible to add services at a certain time with greater transaction throughput than at the beginning of the service.

SMB Coin's blockchain ensures the following environments, increasing the reliability of the blockchain.

1. Trusted Execution Environment (TEE)

TEE is a hardware-based isolation environment that securely processes, stores, and protects data from external attacks. Features provided by major hardware platforms (e.g., Intel SGX, ARM TrustZone, etc.) ensure that sensitive data and code runs securely.

Run Smart Contracts

The execution of smart contracts is handled by the TEE to ensure the integrity of the results and to prevent external nodes from intervening or manipulating the execution of contracts.

When conducting transaction verification, block verification is executed within the TEE to block malicious activity of nodes, increase reliability during the data verification process, and protect data privacy.

Sensitive data is processed by the TEE and validated without being disclosed to the entire network.

This increases reliability, minimizes operability with hardware-based verification, prevents sensitive data exposure and increases scalability with data security, reducing the burden of network verification.

2. Hardware Security Module (HSM)

HSM is a dedicated hardware device that securely generates, stores, manages, and performs encryption operations. This ensures that encryption keys are managed to secure

the private keys of blockchain nodes or user wallets, and that even if the keys are physically stolen, they cannot be accessed directly within HSM. In particular, the acceleration of signature operations uses HSM to increase speed and efficiency during transaction signing and verification, and strengthens consensus algorithm security. It performs data encryption in node-to-node communication and ensures the integrity of the consensus process.

This enables strong key security to reduce the centralization risk of key management, maintain high performance, accelerate hardware-level encryption, and increase reliability to improve durability against physical and software attacks.

3. Trusted Platform Module (TPM)

TPM is a hardware chip that supports encryption and trust-based computing, ensuring the integrity of data and devices. This performs node identity authentication and uses TPM to validate blockchain nodes. It prevents malicious nodes from participating in the network and ensures data integrity.

Ensure that data transmitted between nodes is not manipulated, continuously measure and authenticate the status of nodes through TPM, and use TPM-based keys to sign and verify transactions for optimal reliability.

This adds powerful security elements, enables data and identity protection at the hardware level, and allows light and efficient operations due to low overhead.

4. Hardware-Based Oracle (Trusted Hardware Oracle)

Oracle, which uses reliable hardware to securely deliver external data to smart contracts on the blockchain, ensures data reliability and prevents manipulation while external data is transferred to the blockchain. This enables off-chain data operations, allowing hardware oracles to perform complex operations and then deliver the results to the blockchain, reducing the computational burden within the blockchain.

This increases data accuracy to safely deliver external data to the blockchain, and increases smart contract efficiency to process complex calculations off-chain.

3.3. CONSENSUS

Based on optimal hardware performance and the latest network technology, SMB Coin wants to achieve the highest level of transaction processing speed beyond the limits of existing blockchain systems.

For faster transaction processing speed, SMB Coin is based on hardware trust-based proofs that are not present in existing consensus algorithms and uses Deleted Proof of Reputation (DPOR), which is a consensus algorithm based on network connectivity trust. This is a way to focus the algorithm method proposed by Finalchain on the basis of hardware authentication, and Layer 2 expansion is advantageous in the trust network of the proof of equity.

Block generation in the SMB coin consensus algorithm takes place at nodes that have proven optimal hardware performance, which is called a block generation participation node.

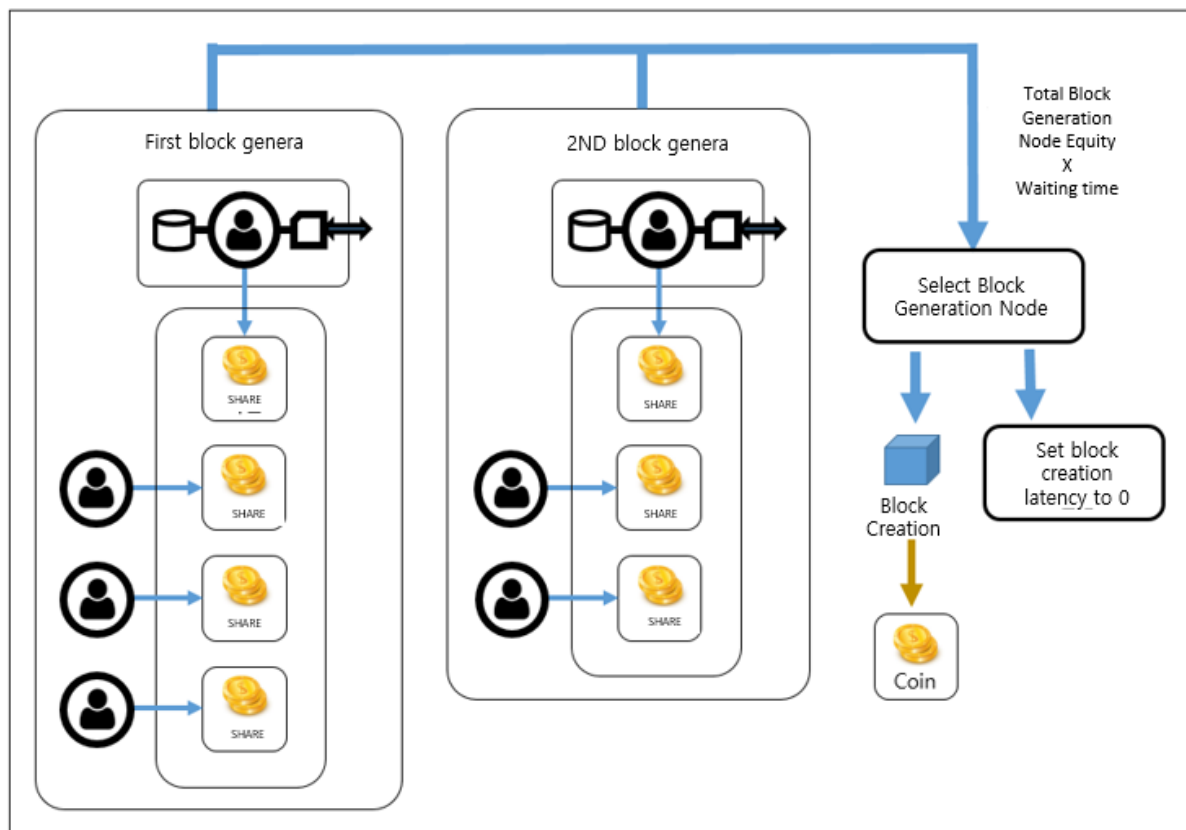
Block creation participation nodes have that much authority because they play an important role in creating blocks, but if you create blocks incorrectly, you must secure more than a certain amount of equity because you are also responsible for them.

This collateral stake is also used to determine the order of block generation permissions, but it is also used to apply penalties for incorrect block generation.

Consensus algorithms based on such hardware proofs have the problem of centralization of power or wealth centralization because only nodes with hardware participate in block generation.

Because of this issue, POPS allows ordinary nodes to use their equity to participate in the block creation process.

Regular nodes participate in the block creation process by selecting one of the block creation participation nodes that can generate blocks and participating in their stake together, increasing the block creation authority of the selected block creation participation node so that the node has more block creation opportunities.



[Fig. 7] Proof of Reputation Stake in DPOH and Create Blocks

In POPS, block generation permissions are determined in the following way, excluding the hardware proofs that all block generation nodes have the same, instead determined by the sum of the shares of each block generation participating node.

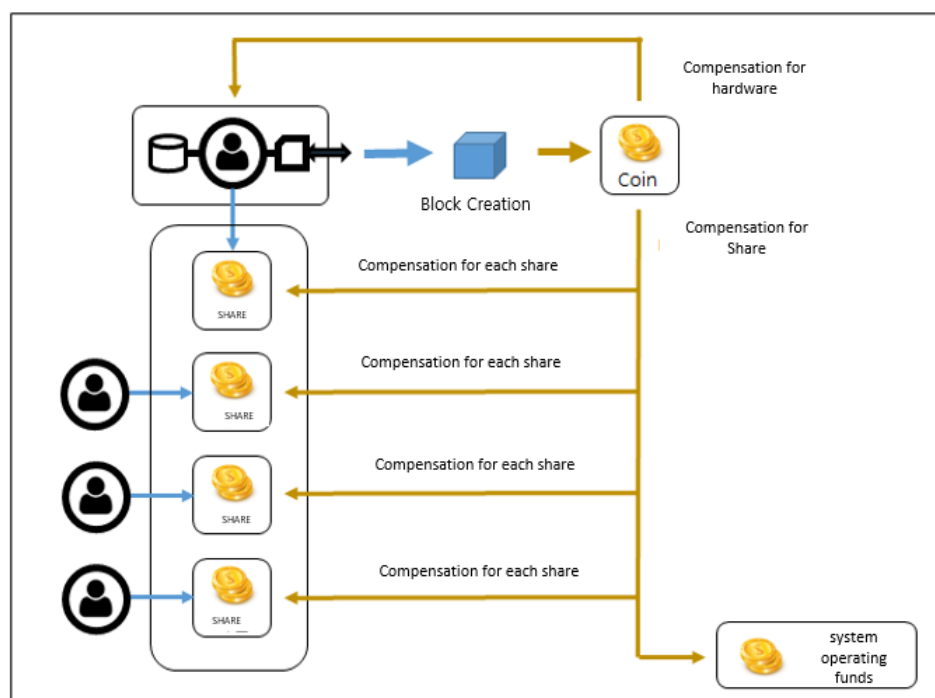
Block creation permission = (Trusted node proof operation level) * ((Stake of block creation node) + (Total of general participant shares)) * (Block creation waiting time)

The block creation authority is determined by the sum of the shares of the block creation participating node and the time it waits for block creation. Once the block creation node

participates in the block creation, the block creation waiting time is set to '0', so it moves to the last waiting order immediately after block creation.

After that, as the waiting time increases, the block creation authority increases by the sum of the shares it has, and when it finally has the highest block creation authority, it creates the block again. Therefore, the more block creation participation nodes with a larger total of shares, the higher the block creation frequency.

Compensation for block generation can be divided into hardware compensation, equity compensation, and system operation funds. Since block generators are block generation nodes with optimal hardware equipment, they prioritize compensation for hardware, then reward each node for equity participation, and use the remaining compensation to fund system operation.



[Fig. 8] Compensation for block creation

The system operation funds will be used to maintain the blockchain system and to revitalize the SMB Coin ecosystem, such as conducting SMB Coin businesses and compensating for content.

The common node's equity participation scheme allows ordinary nodes to indirectly participate in block creation that cannot be directly participated by contributing to increasing the block creation authority of the block creation node they choose with the equity they have.

When regular nodes participate in equity, unconditionally participating in block-generating nodes may seem beneficial in obtaining rewards due to increased block-generating opportunities, but the amount of rewards received at a time is constant, resulting in a lower percentage of compensation, which ultimately balances the percentage of equity participation in most block-generating nodes.

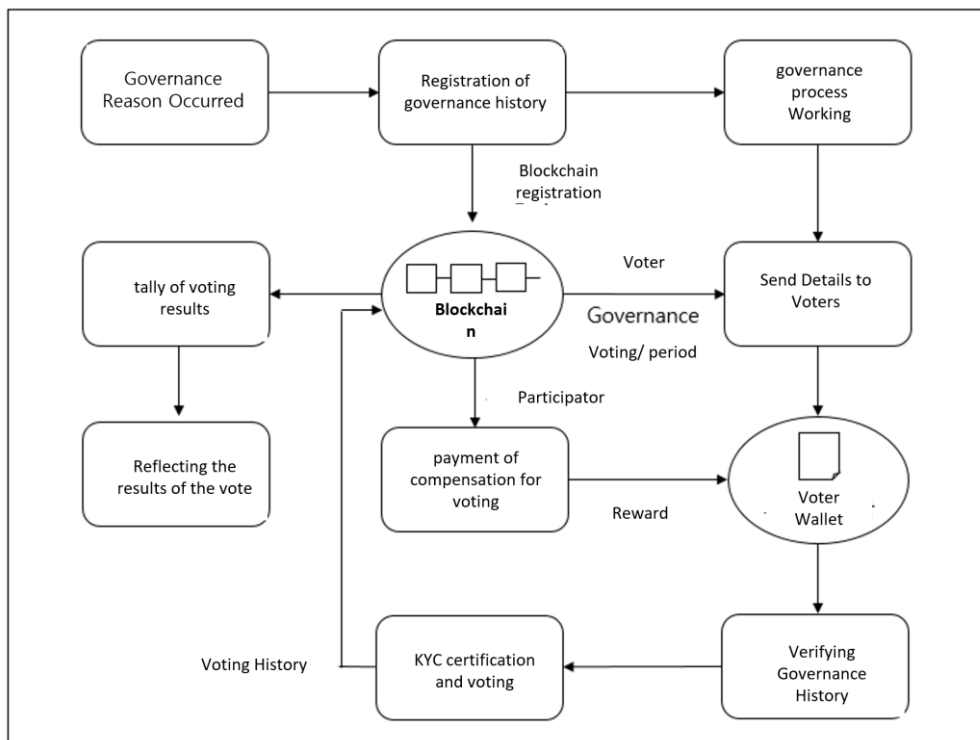
3.4. GOVERNANCE

In the case of a decentralized blockchain system, it is very difficult to change or update the system later when the system is opened, and if this goes wrong, the separation of the blockchain by hard fork, such as Bitcoin and Ethereum, can occur.

This separation occurs because the opinions of blockchain members are not gathered as one, and SMB Coin intends to operate SMB Coin as a more transparent and democratic blockchain system by collecting the opinions of blockchain participants through Governance and reflecting them in the system.

Policies or opinions on blockchain first occur during system operation, and the system operation team notifies blockchain participants through Governance and collects opinions.

Members of SMB Coin can also express their opinions on the blockchain system, and if there are more than two-thirds of the block-generating nodes' re-audits on this agenda, the agenda is notified to all members as Governance, and the opinions are collected through voting.



[Fig. 9] Governance Overview

The running governance details and voting results are recorded on the blockchain, and the exposure to voting results (who and where they voted) is determined by "what is the voting history?"

Because Governance is based on fairness, all nodes must be equally given the opportunity to vote, but if the same person controls multiple nodes, it can be a duplicate vote, so in some cases, only KYC certified voters are recognized as valid votes, providing an opportunity to check not only the transparency and fairness of voting, but also the health of SMB Coin participants (illegal money, money laundering).

Governance participation is critical to determining the future of SMB Coin, so to encourage more participation, pay more for governance participation, especially when conducting governance by KYC certification.

To this end, in addition to the compensation from the existing block generation, the compensation from the performance of Governance is separately defined and paid.

4. SMB LAYER SERVICES BLOCKCHAIN

4. Service Layer Structure and Data Processing

(Hybrid Layer and AI-based Performance Optimization)

The SMB Coin platform adopts a multi-service layer architecture for efficient data processing, high-performance transaction processing, and enhanced security. Specifically, it focuses on meeting the core requirements of real-time payment services by introducing hybrid scalability layers and AI-driven performance optimization technology, and securely managing and utilizing user data collected.

4.1. Multi-Service Layer Architecture Overview

The SMB Coin platform's data processing and service delivery are accomplished through the following hierarchical structure. Each layer has specific functions and responsibilities and works organically to increase the efficiency and stability of the entire system.

4.1.1. Access and transaction request layer (Presentation Layer):

- o Frontline layer that receives transaction requests and data access requests from user interfaces (mobile apps, web platforms) and external systems (Debit Card payment networks, merchant POS systems, etc.).
- o Verifies the basic format and validity of the requests received, and performs user authentication and authorization verification.
- o Routes verified requests to a hybrid scalability layer.

4.2.2. Hybrid Scalability Layer:

- o Dynamic management and utilization of Layer 2 scalability solutions such as Sidchain and Rollup through AI-driven intelligent traffic management systems to maximize real-time transaction processing performance.

- o Real-time analysis of transaction types, network load, service characteristics, and more to select the best scalability solution and process transactions.

- o Transfer processed transaction data to the data processing and de-identification layer.

4.1.3. Processing & Anonymization Layer:

- o Analyze transaction data received from the hybrid scalability layer and process it into the form necessary for service operation and improvement.

- o Taking privacy as a top priority, we apply an automated de-identification process for all personally identifiable information (PII) collected, which can include various techniques such as data masking, pseudonymization, generalization, and deletion.

- o De-identified data is transferred to the data analysis and utilization layer, and identification data is transferred securely to the full encryption layer.

4.1.4. Full Encryption Layer - review of isomorphic encryption:

- o Encrypt sensitive data that requires a high level of security, such as personal identification, before storing it. Apply a strong encryption algorithm (for example, AES-256) to keep the data confidential.

- o Isomorphic encryption review (optional): Consider applying isomorphic encryption technology to certain types of sensitive data. This enables data analysis and computation even when encrypted, maximizing data utilization while maintaining security. For example, statistical analysis can be performed without exposing personal information based on encrypted payment data.

4.1.5. Storage & Immersible Ledger Layer:

- o De-identified data is securely stored in an optimized database for efficient analysis and service operations.

- o Fully encrypted identification data is stored and managed in a separate security database. Access is strictly controlled, and audit logging ensures transparency.

- o To ensure the integrity and auditability of the identification data, cryptographic proofs such as hash values or zero-knowledge proofs of the encrypted identification data are recorded on the blockchain. This prevents forgery of the data and provides the basis

for verifying its authenticity when necessary.

4.2. Hybrid scalability layer: Sidechain and Rollup intelligent integration

The hybrid scalability layer serves as a key performance engine for the SMB Coin platform. With AI-powered real-time traffic analysis and prediction systems, it intelligently selects and manages a variety of Layer 2 scalability solutions, effectively responds to rapidly changing transaction loads and provides users with a fast and affordable payment experience.

Technology-based:

- AI-driven real-time traffic analysis and prediction:

- o Leverage AI models that have learned a variety of data, including historical transaction data, user activity patterns, and event information to analyze real-time network traffic and predict short- and long-term trends.

- o Anomaly detection enables early detection and response to unusual traffic surges or potential attack attempts.

- based on prediction results, optimizing the transaction processing path.

- Select and route intelligent scalability solutions:

- o Automatically determine the best processing path for each transaction, taking into account the AI model's analysis and transaction attributes (amount, type, urgency, etc.).

- o High-frequency micro-payment: Provide low fees and fast definition by utilizing ZK-Rollup as a priority. AI flexibly expands the computing resources of ZK-Rollup nodes as micro-payment traffic increases.

- o Large-scale payments and specific service traffic: leverage Sidechain that provides high throughput and customization. When AI detects the concentration of traffic in a particular service, it enhances the performance of that Sidechain or temporarily activates

a new Sidechain.

- o Situation-based hybrid utilization: In the event of network congestion or temporary problems with a particular scalability solution, AI bypasses transactions to other available solutions to maintain stable operations without disruption.

- Dynamic Resource Management and Load Balancing:

- o AI monitors and predicts the resource utilization (CPU, memory, network bandwidth, etc.) of each scalability solution and associated server infrastructure in real time.

- o Prediction-based resource allocation and dynamic load balancing to avoid overloading specific nodes or servers and optimize responsiveness and reliability across the entire network.

4.3. AI-powered server and network performance optimization

In addition to the hybrid scalability layer, optimization through AI technology is actively considered to continuously improve the performance across the SMB Coin platform.

- Prediction-based server resource management: AI models predict server resource demand by analyzing platform usage patterns and transaction trends, and avoid performance bottlenecks by securing the necessary computing resources in advance.

- Optimizing Intelligent Network Routing: AI analyzes network topology and real-time traffic flow to optimize data transmission paths and improve user experience by minimizing network latency.

- Automatic anomaly detection and response: AI-powered security systems detect abnormal patterns or potential security threats in network traffic in real time and quickly resolve issues through automated response processes.

- Machine Learning Based Performance Tuning: Leverages AI and machine learning technologies to automatically optimize system settings, parameters, and more, continuing to improve overall performance and efficiency of the platform.

4.4. Example of a real-world application scenario

- Focus traffic when a particular event occurs: If traffic is expected to be concentrated on a particular service when a particular product launches or promotional event occurs, AI proactively extends the processing power of the Sidechains associated with those services and adjusts load balancing rules to distribute server load.
- Debit Card Payment Network Congestion: When a temporary congestion is detected in an external payment network, AI temporarily increases off-chain payment processing using Rollup to minimize user payment failure rates, and when network conditions normalize, it again increases the proportion of Sidechain-based payments.

Through hybrid layer technology and AI-based performance optimization techniques, SMB Coin will provide users with fast, reliable, and scalable real-time payment services. This will overcome the limitations of existing blockchain-based payment systems and play a key role in SMB Coin's successful commercialization.

4.5. Data collection and preprocessing layer

A layer that defines the preprocessing process for efficiently collecting and safely utilizing various data generated by the SMB Coin ecosystem. In particular, we focus on the automatic de-identification process for accurate and rapid collection of real-time payment data and privacy.

4.5.1. Real-time payment data collection

It aims to collect all payment-related data that occurs within the SMB Coin platform in real time. It can include not only on-chain data but also off-chain data as needed. Accurate and reliable data collection is the basis for SMB Coin ecosystem analysis, service improvement, and new value creation.

Examples of data to be collected:

- Basic Payment Information: Payment Time, Payment Amount, Payment Method, Transaction ID

- Participant information: payer identifier (after de-identification), recipient identifier (after de-identification)
- Product/Service Information: Product/Service ID, Product/Service Category (optional)
- Affiliate Information: Affiliate ID
- About Transaction Status: Payment Successful, Cancelled, Refunded
- Network information: transaction hash, block number (on-chain payment)
- Location information: Location information at payment (optional)
- Other Additional Information: Whether to use promo code, etc. (optional)
-

How data is collected:

- API Interworking: Collects payment data generated through the API of the SMB Coin platform in real time.
- Stream events: Utilize message queue systems such as Kafka and RabbitMQ to efficiently process and collect large amounts of payment data.
- Database Interworking: Collect data by working directly with SMB Coin-related databases as needed.
- Off-chain Data Collection: Payment data can be collected through API interworking with off-chain systems such as merchant POS systems.

Colum	Data type	contents	sample
transaction_id	VARCHAR(255)	Unique transaction identifier	tx_1234567890
timestamp	TIMESTAMP	Payment Occurrence Time	2025-04-29 7:00
amount	DECIMAL(10, 2)	Payment amount	10.5
payer_id_hashed	VARCHAR(255)	payer identifier (de-identify)	a1b2c3d4e5f6...
payee_id_hashed	VARCHAR(255)	Recipient Identifier (de-identify)	f6e5d4c3b2a1...
payment_method	VARCHAR(50)	a means of payment	SMB Coin, Credit Card, Mobile Payment
product_id	VARCHAR(255)	Goods/Service Identifiers (Optional)	prod_98765
merchant_id	VARCHAR(255)	Affiliate Identifier	merch_abc001

status	VARCHAR(20)	transaction status	SUCCESS, FAILED, CANCELED
transaction_hash	VARCHAR(255)	On-chain transaction hash (On-chain payment)	0xabcdef1234...
block_number	INTEGER	block number (On-chain payment)	1234567

[[Fig. 10] Relational DB sample structure

4.5.2. Automatic de-identification process

Because the collected payment data can contain personal information, it must go through a secure de-identification process before analyzing and utilizing the data. This is to protect the privacy of users and comply with relevant laws and regulations. An automated de-identification process ensures both efficiency and security.

Examples of data subject to de-identification:

- payer identifier, recipient identifier, (optional) location information at payment

Example of automatic de-identification process flow:

- a. Data Collection: Data is collected through a real-time payment data collection system.
- b. Identification classification: Classifies identification information subject to de-identification processing from collected data.
- c. Application of de-identification techniques: Automatically apply appropriate de-identification techniques to the classified identification information (e.g., hashing for user ID, adding a certain level of random noise for location information)
- d. Store de-identification data: Transfer de-identification processed data to the analysis and utilization layer or store it in a separate repository.
- e. Manage access rights: Maintain security by strictly controlling access to de-identified data.
- f. Audit and Logging: Ensure transparency and accountability through auditing and logging throughout the de-identification process.

Real-time Payment Data Collection	Data Transmission and Storage	Automated De-identification Process
- Point of Sale (POS) system: Payment information is generated through the POS terminal and sent over the network when card payment or cash payment occurs in offline stores - Payment Gateway (PG) system: When a user enters payment information during online payment, payment is processed through the PG system, and relevant data is recorded - App/Web Payment API: When payment is made by entering card information directly from a mobile app or website, payment information is collected through the API of the platform - Other payment platforms: Data generated by various payment methods such as simple payment services (e.g., various payments) and account transfers are also collected through each platform's system	- Encryption: Protect data in transit using encryption protocols such as SSL/TLS, and apply encryption when stored (e.g., AES-256, isomorphic encryption review) to prevent access - Security Network: Data transfer and storage is carried out within a secure network environment protected by firewalls, intrusion detection systems (IDS/IPS), etc - Access control: Access to databases and related systems is granted to a minimum number of people, and role-based access control (RBAC) is applied to provide the necessary access	• De-identification processing: - pseudonymization, deletion, masking, categorization, rounding, aggregation, data shuffling, noise addition • De-identification Rule Management and Application: Automatically apply according to predefined rules • Re-identification Prevention Measures: Minimize the likelihood of de-identified data being re-identified in combination with other information - Apply privacy models such as record connection restriction, outlier processing, K-anonymity, L-diversity, T-nearity, etc • De-identified Data Verification: To verify the appropriateness of de-identification processing results - Statistical analysis, re-identification risk assessment, expert review

[Fig. 11] Relational DB, Automated De-identification structure

4.6. Data Analysis and Utilization Layer

(Adding to Section 3.3 - Review service improvement and homogeneous encryption through de-identification data analysis)

A layer that performs various analyses based on de-identified data and contributes to the growth of the SMB Coin ecosystem and user convenience.

Examples of key data analytics and applications:

- Transaction Analysis:
 - o Analysis of overall transaction volume and trends
 - o Analysis of transaction patterns by time and region
 - o Analysis of utilization rate by payment method
 - o Sales Analysis by Affiliate
 - o Analysis of sales trends by product/service (optional)
- User Analysis:
 - o Analysis of user activity patterns (payment frequency, average payment amount, etc.)
 - o Characterization by user group (demographic information within de-identified range)
 - o Analysis of new user inflows and departures
 - o Analysis of loyalty program effectiveness
- Risk Management:
 - o Detect and predict abnormal transactions

- o Analysis of fraudulent transaction patterns
- o Credit risk assessment (if required)
- Improve marketing and service:
 - o Provision of personalized referral services (based on de-identified user behavior)
 - o Establish target marketing strategies
 - o Derive insights to improve user experience
 - o Discover new service development ideas
- Ecosystem Health Analysis:
 - o SMB Coin Distribution Analysis
 - o Analysis of platform utilization
 - o Analysis of community activities (if required)

4.7. Final Database and Blockchain Layer

(Adding to Section 3.4 - Encryption of identification data, secure storage management, and blockchain-based integrity verification)

SMB Coin's multi-service layer structure, hybrid scalability solutions, and AI-driven performance optimization technology enable safe and efficient data processing and high-performance transaction processing. This will provide users with fast and reliable real-time payment services, enhance privacy, and serve as a key foundation for the platform's sustainable growth.

5. Development of Packing Model-Based System and Token Issuance Structure

The SMB Coin ecosystem introduces multi-token systems and paging models to ensure value stability between service layers, user compensation, and enhance system security. It aims to minimize volatility, induce user engagement, and increase platform safety.

5.1. Multi-Token System Structure

The SMB Coin ecosystem consists of three main tokens.

5.1.1. SMB Core Token: A key currency that plays a central role in the exchange and transformation of values between all layers in the platform. The SMB Core Token has limited total issue volume and is designed to increase in value with the growth of the platform.

5.1.2. Branch Coins (country-specific pegging tokens): Stable coins with a 1:1 fixed (pegged) value with each country's legal currency. For example, the Korean won and the 1:1 pegged SMB-W, and the U.S. dollar and the 1:1 pegged SMB-USD will be issued. Branch coins are used as the main medium of actual payment and service use, allowing convenient use without the risk of exchange rate fluctuations.

5.1.3. SMB Reward Token: A utility token that is paid as a reward for the platform's users' various activities (payments, recommendations, community engagement, etc.). The SMB Reward Token can be used to use services, discount commissions, purchase special offers, etc. within the platform and is designed to be exchanged for the SMB Core Token.

5.1.4. SMB Security Token: A token issued for participation in the security and governance of the platform. Holders of the SMB Security Token can participate in decision-making about the operation of the platform and be rewarded for their contribution to maintaining network security (future plans).

5.2. Packing and value exchange by service layer

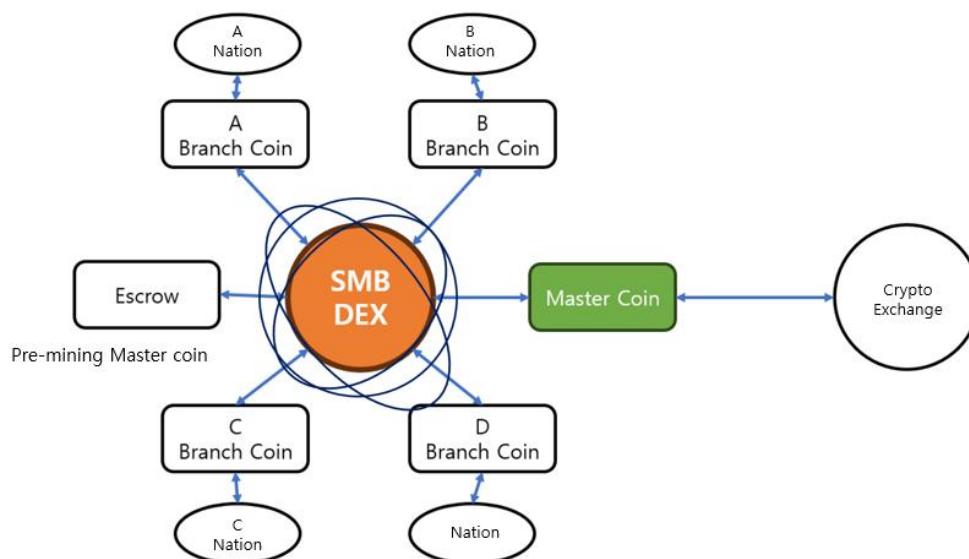
Apply the following paging structures to control value variability at each service layer

and facilitate asset movement and exchange between layers.

- Branch Coin (SMB-Fiat) ↔ Fiat Currency (Fiat): Each branch coin is tagged in a 1:1 ratio with the country's fiat currency. This remains stable via smart contract-based automated oracle systems or reputable centralized management agencies. Users can deposit fiat money within the platform to issue branch coins for their countries and, conversely, incinerate branch coins to convert them into fiat currency.

- Branch Coin (SMB-Fiat) ↔ SMB Core Token: The exchange between branch coins and SMB Core tokens takes place at the exchange rate determined by the supply and demand of the market. The platform provides liquidity provider incentives and supports seamless exchange through automated market maker (AMM) systems.

- SMB Reward Token ↔ SMB Core Token: Users can exchange the SMB Reward Token acquired through platform activities for the SMB Core Token. The exchange rate can be adjusted according to the platform's policy and market conditions and is designed to encourage user engagement.



[Fig. 12] Hybrid Dex structure

5.3. System Development Contents

The development of the system based on the paging model includes the following key technical elements.

- Issuing and Managing Stable Coins Smart Contracts: Develop smart contracts to maintain issuance, burning, and paging of branch coins for each country. This can reflect real-time exchange rate information through interworking with Oracle systems and include collateral asset management functions.
- Automated Market Maker (AMM) System: Builds an AMM system that supports liquidity supply and automated trading between branch coins and SMB Core Tokens. It helps users exchange tokens smoothly and mitigates price volatility.
- Rewards Systems Smart Contract: Develops a smart contract that handles SMB Rewards Token payments, management, and exchange to SMB Core Tokens based on user activities. Includes a differential compensation system and fraud prevention mechanism based on user contribution.
- Security Token Issuance and Management Smart Contracts (future plans): Develop smart contracts that support the issuance, transmission, and governance functions (voting, proposals, etc.) of SMB Security Tokens.
- Oracle System Construction and Interworking: Build a stable oracle system that provides real-time legal currency exchange rate information for each country, and work with stable coin smart contracts to maintain the accuracy of paging. Increase reliability by considering the introduction of decentralized oracle solutions.
- Asset Management and Security System: Builds a system to securely store and manage users' digital assets (SMB Core Tokens, branch coins, and reward tokens). Secure assets through cold storage, multi-signatures, and security audits.

- User Interface (UI/UX) Development: Provides an intuitive interface for users to easily and conveniently use token issuance, exchange, rewards verification, and security token-related functions.

5.4. Potential problems and measures to strengthen security

Packing model-based systems can have the following potential problems and require security enhancements to address them.

- Reliability issues in decentralized oracle systems: data manipulation risks exist when relying on a single oracle. To address this, we consider introducing a decentralized oracle network (DON), which leverages a number of reputable oracle providers and transparently discloses the data consensus process.
- Risk of Stablecoin Collateralized Assets: For fiat-collateralized stablecoins, the management and security of deposited assets are critical. Minimize risks through automated management through smart contracts, using multiple signature wallets, and regular audits. For algorithm-based stablecoins, the establishment of sophisticated economic model design and monitoring systems is essential to prevent the risk of deflation caused by rapid market fluctuations.
- Lack of liquidity and price volatility in AMM systems: Lack of liquidity in the early stages can lead to increased price volatility. Provide sufficient incentives to liquidity providers and operate liquidity bootstrapping programs as needed to ensure stable liquidity. Each layer is bootstrapped independently to enhance network efficiency and security through interlayer interworking.
- Inflation Risk of Rewards Tokens: Excessive rewards payments can lead to token depreciation. Adjust appropriate rewards payments by considering user activity and platform economic conditions, and manage inflation risks by reviewing the introduction of token burning mechanisms.

- Smart Contracts' Security Vulnerabilities: Errors in smart contracts can lead to loss of funds. Conduct thorough code audits (security professionals and communities) during the development phase and consider applying advanced security technologies such as formal verification.

- Security Token-Related Regulatory Uncertainty (Future Plan): Security token issuance and operation must comply with relevant laws and regulations. Consult legal experts prior to launch and establish a framework to respond flexibly to changing regulatory environments.

SMB Coin will do its best to provide reliable services to users by establishing a stable paging model and a transparent token issuance and management system, and to ensure the safety of the platform through various security enhancement measures.

5.5. SMB Coin Ecosystem Token Structure

The SMB Coin ecosystem designs the following token structures to perform various functions and induce user participation.

5.5.1. Branch Coin (SMB-Fiat): Payment Method

Branch Coin (SMB-Fiat) is a token that is used as a practical payment method within the SMB Coin ecosystem. It aims to provide a convenient and efficient way for users to purchase goods and services in their daily lives.

Key Features:

- Stable Value: Branch coins aim to minimize value volatility by interlocking with Fiat Currency. For example, 1 SMB-Fiat may have the same value as 1 fiat unit in a particular country.

- Wide Usage: Support for use as a payment method in various merchants linked to the SMB Coin platform. This includes both online and offline merchants.

- Ease of Use: Users can make payments using branch coins easily and quickly through SMB Coin wallet apps and more. It enhances convenience by supporting

various payment methods such as QR code scanning and NFC payment.

- **Low Transaction Fee:** Provides lower transaction fees compared to fiat currency-based payment systems, reducing the burden on users and merchants.
- **Interoperability:** Designed to support diverse utilization scenarios within the ecosystem, taking into account interoperability with SMB Core Token and SMB Reward Token.

Technical considerations:

- **Stablecoin Mechanism:** To stabilize the value of branch coins, we adopt the most appropriate method by considering various stablecoin mechanisms (legal currency collateral, cryptocurrency collateral, algorithmic type, etc.).
- **Regulatory Compliance:** Designed to comply with relevant laws and regulations and to be issued and operated.
- **Scalability:** Building on scalable blockchain or Layer 2 solutions that can efficiently handle large-scale payment traffic.

5.5.2. SMB Reward Token: Reward, Service Use, SMB Core Token Exchange

The SMB Reward Token is a utility token that can be paid as a reward for various activities within the SMB Coin ecosystem, or used to use specific services within the platform. It also provides an exchange function with the SMB Core Token to boost participation in the ecosystem.

Key Features:

- **Reward Mechanism:** Users can earn an SMB Reward Token as a reward for platform activities (e.g., payment, writing reviews, inviting friends, participating in events, etc.). This contributes to inducing user engagement and increasing platform loyalty.

- Service availability: The SMB Reward Token can be used to provide a variety of services within the SMB Coin platform. (Example: Premium features, discount coupon purchase, content usage, etc. - Specific services will be specified in the future.)

- SMB Core Token Exchange: Users can exchange their acquired SMB Rewards tokens for SMB Core tokens at a certain rate. This can have the effect of facilitating the cycle between utility tokens and core tokens, and increasing the demand for SMB Core tokens.

- Community Contribution Reward: It can be paid as a reward to users who contribute to the development of the platform (e.g., bug reporting, content creation, community operations, etc.).

Example:

- Every time a user pays with SMB-Fiat, they can be credited with a certain percentage of SMB Reward Tokens.

- You can use the SMB Reward Token to take advantage of certain premium features within the SMB Coin platform.

- You can exchange your 100 SMB Reward Tokens for 1 SMB Core Token at a certain percentage.

- The SMB Reward Token can be awarded as a reward to active users in the community forum.

Technical considerations:

- Token Issuance and Management: Transparent management of SMB Reward Token's issuance volume, distribution mechanism, and incineration policy.

- Reward System Design: Design a fair and efficient reward system for user activities.

- Utility Extensions: Continuously expand interworking with a variety of services on the platform to increase the utilization of the SMB Reward Token.

- Exchange Rate Management: Consider the mechanisms by which the appropriate

exchange rate between the SMB Reward token and the SMB Core token can be established and adjusted according to market conditions.

5.5.3. SMB Security Token: Strengthen Security, Participate in Governance (Future)

The SMB Security Token is a token that aims to enhance the security of the SMB Coin ecosystem and provide governance engagement in the future, which can contribute to the platform's long-term growth and decentralized operations.

Key Features

- **Enhanced Security:** Consider granting SMB Security Token holders the right to participate in decision-making regarding platform security (e.g. proposing security updates, participating in risk assessments, etc.)
- **Governance Engagement:** Aim to establish a mechanism for SMB Security Token holders to participate in the operations and policy decisions of the SMB Coin platform in the future (e.g., protocol upgrade voting, fee policy decisions, new feature proposals, etc.)
- **Staking:** Consider the mechanisms by which SMB Security Token holders can stake tokens to contribute to maintaining network security, and be rewarded for it.
- **Long-term Value Growth:** With the successful growth of the platform and the increased value of governance engagement authority, we can expect the long-term value growth of the SMB Security Token.

example

- SMB Security Token holders can vote on the platform's introduction of new security protocols.
- Users who staked the SMB Security Token can be rewarded for their network operations.
- SMB Security Token holders can participate in proposals and voting on changes to

the platform's fee policy.

Technical considerations:

- Compliance with security token standards: Issue and manage in compliance with relevant laws and security token standards.
- Governance system design: Design mechanisms for building transparent and fair governance systems (e.g., voting systems, proposal processes, etc.)
- Staking Mechanism Design: Design a safe and efficient staking and compensation system.
- Gradual Deployment: The security and governance capabilities are considered to be gradually introduced in line with the growth phase of the platform.

5.6. Measures to secure token value

Securing the sustainable value of the SMB Coin ecosystem tokens is critical to the long-term success of the platform. We will come up with concrete plans in the future, and we will comprehensively consider the following factors.

- Expand practical use cases: Continue to expand SMB-Fiat's payment destinations and develop a variety of SMB Reward Token utility features to create real demand for tokens.
- Designing a healthy token economy model: Carefully designed the issuance, circulation, and incineration mechanisms of each token to prevent inflation and maintain token scarcity.
- Platform Growth and Success: Increasing User Growth, Volume Growth, and Service Expansion on the SMB Coin platform are key drivers of token value growth.
- Community Revitalization: Maintains the vitality of the token ecosystem by encouraging active community participation, collecting user input and reflecting it in the development of the platform.
- Strategic Partnership: Increase the expansion of the SMB Coin ecosystem and token utilization through strategic partnerships with companies and projects in various industries.

- Regulatory compliance and trust building: Ensure users' trust through thorough compliance with relevant laws and regulations and transparent operations.
- Continuous Technology Development: Increase user satisfaction and increase the value of tokens through continuous technology development to improve the performance of the platform and add new features.

In the future, the SMB Coin white paper will reveal the details of how to secure the value of each token in detail

5.7. Issuance of coins

SMB Coin will be issued (mined) as blocks are created in SMB.

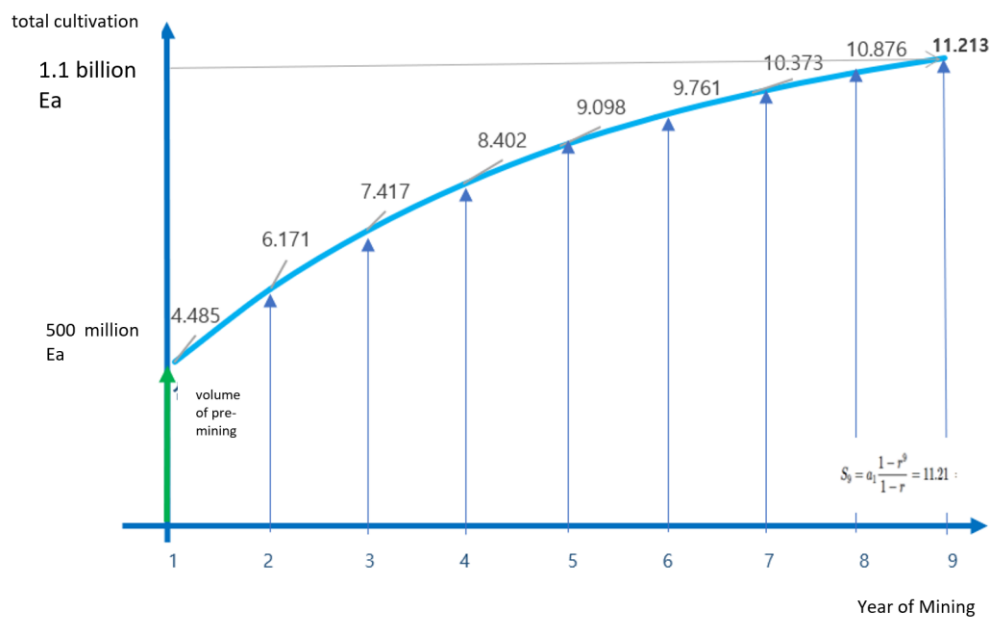
The unit of SMB Coin is represented in SMB and the issuance (mining) period will last for the next nine years.

The total number of SMB coins issued is 112,128,000,000, of which through its own SMB DEX, a Polygon-based smart contracted DEX, a total of 448,512,000 of SMB's issued volumes will be pre-listed for flexibility in crypto funding.

The rest is made for liquidity swaps and mainnet swaps. 3,784,320,000 SMB swaps are exchanged for 224,256,000 ecosystems among SMB tokens for DEX POOL and mainnet swaps. This is used for ESCROW purposes to control liquidity between Branch and Master.

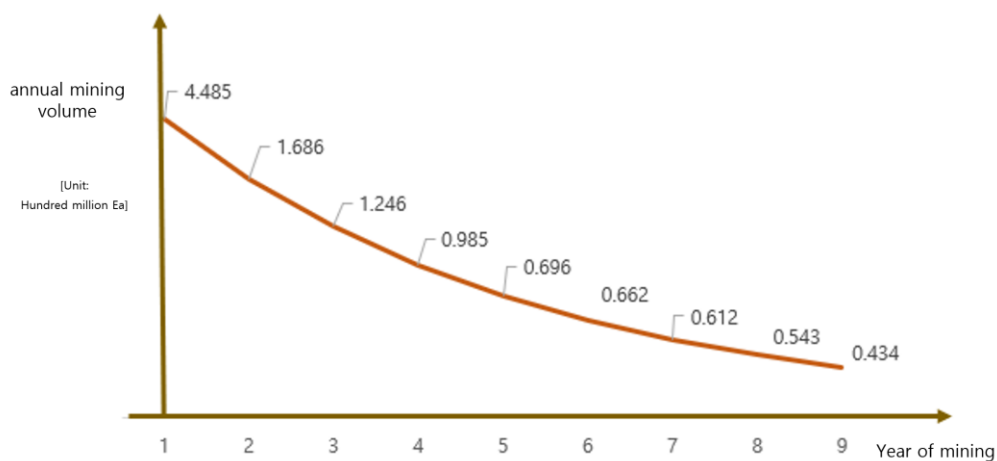
In addition, the operation system is established as a liquidity buffer by linking actual ready-to-use token economic services in the process, and a 20-year flat-panel equity mining environment is established as a delegated equity mining node operation model with the main chain based on the mainnet.

SMB COIN Half-life cycle



[Fig. 13] Amount of SMB Coin issued: (Token for pre-listed (first mining) + DPOH mining through mainnet (main mining))

SMB COIN Annual mining volume



[Fig. 14] SMB Coin issued: Annual Mining Volume

Pre-mining for IDO and main mining for SMB operation, all have a half-life in which the amount of mining per block decreases according to their respective ratios.

The pre-mining and main mining are carried out together for a certain period of time from the creation of the first block, and in the case of pre-mining, only 15 days are effectively carried out according to the applied half-life of mining, and after that, only the main mining proceeds.

The amount of coin issuance in SMB is first determined by calculating the amount of coin issued per second by half-life, and the amount of coin issued per second and the time when the block was created.

For example, if the initial SMB block creation time is 5 seconds and the specified coin issuance per second is 8 coins, 40 coins are issued ($8\text{Coin/sec} \times 5\text{ seconds}$) when one block is created.

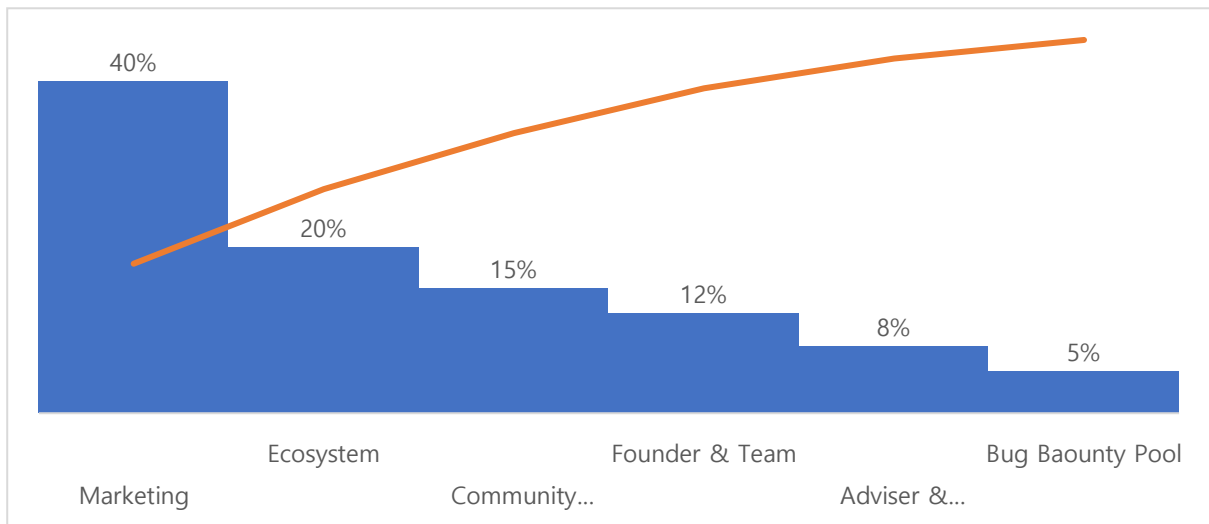
If the block generation time is 2 seconds ($8\text{Coin/sec} \times 2\text{ seconds}$), 16 coins of interest will be issued.

Because of this, SMB always has the same amount of coins issued within the same period, and even if the system is optimized and the block generation time is accelerated, the total issuance period and issuance volume of the initially determined coins always remain the same.

5.8. IDO Token Distribution: Pre-mining

The distribution of IDO tokens proceeds with 5 billion coins made during the pre-mining period.

Of the 5 billion coins, 47.4% or 23.65 billion will be distributed to ICO participants, 40% or 2 billion will be used for Branch Coin's Escrow, 10.2% or 510 million will be distributed to Team & Advisors rewards, and 2.5% or 122.5 billion will be distributed to Reserve.



[Fig. 14] ICO Token Plan

5.9. SMB Mining Compensation: Main Mining (MAIN-MINING)

SMB operates the system, and 1.1 billion coins will be mined over the next nine years.

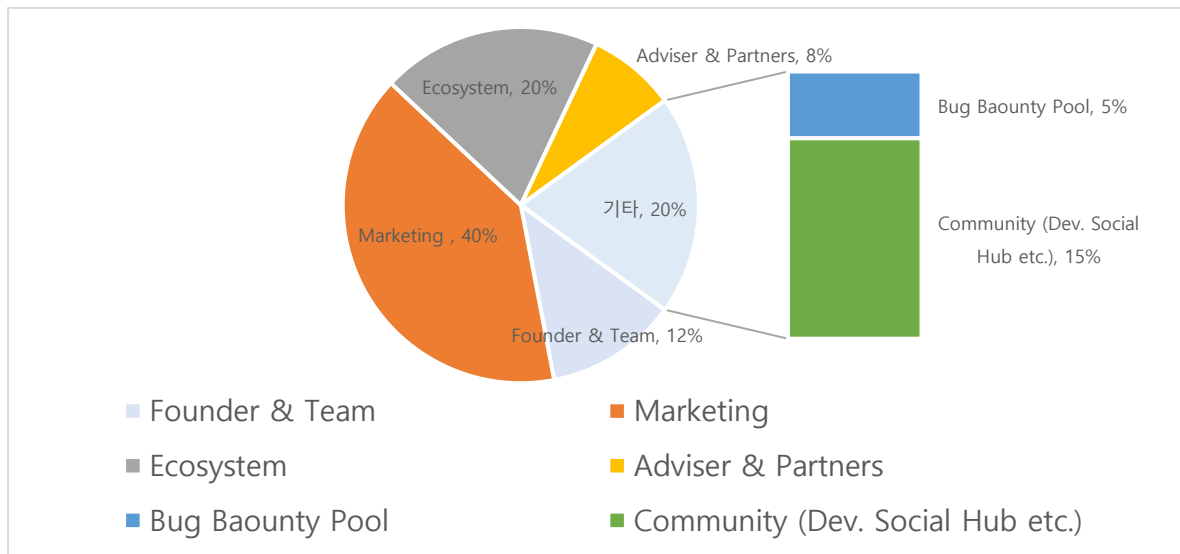
The coin is mined as the block is created by the previously introduced SMB's consensus algorithm, POPS, and the amount of mining is determined by the half-life of each year.

The coins mined in this way are used as compensation for block creators and SMB service users, and are also allocated as operating funds for the future of SMB.

6.7. Use of fundraising money

Donations raised for SMB development are used to construct development personnel and purchase equipment for more advanced blockchain technology development, and to provide better services and more benefits to users.

To this end, the fundraising money is used for technology development, business service development, and system operation, and it is used for marketing expenses to secure many users and has a small reserve.



[Fig. 14] ICO Token Plan

6. Technical Architecture

The SMB Coin platform adopts Layer technology architecture to ensure scalability, reliability, and security and to efficiently support a variety of services.

6.1. Blockchain Technology Stack

The core foundation technology of SMB Coin is blockchain. It aims for a modular architecture to flexibly integrate various scalability solutions and respond to future technological changes.

Base layer (Layer 1):

- Foundation consensus algorithm:

- o Aiming at high throughput and low fees, consider various consensus algorithms based on service characteristics (e.g. Proof-of-Stake (PoS) variations, Delegated Proof-of-Stake (DPoS), etc.)

- o Flexibility is achieved by considering the transition to new consensus algorithms or introduction of hybrid consensus algorithms as needed in the future.

- Network Protocol:

- o Apply customized or standard network protocols for reliable and efficient node-to-node communication.

- o Design an optimized network structure for high transaction throughput and low latency.

- Smart Contract Platform:

- o Increase the convenience of integration and development with existing Ethereum ecosystems by prioritizing Ethereum Virtual Machine (EVM) compatibility.

Keep an eye on the latest technology trends, such as ozkEVM, and consider working with other smart contract platforms or building their own high-performance smart contract

environment as needed.

Scalable layers (Layer 2 and others):

- ZK-Rollup:

- o Prioritize the introduction of ZK-Rollup technology for fast completeness and high security, which are the key requirements of real-time payment services.

Review integration with various ZK-Rollup solutions such as ozkSync and StarkNet, and strive to ensure EVM compatibility.

- Sidechain:

- o Consider building an independent Sidechain when high throughput and specific service customization are required (e.g., large merchant payment processing).

- o Open the possibility of working with various Sidechain solutions such as Polygon PoS and SKALE, and focus on securing safe bridge technology.

- Optimistic Rollup:

- o EVM compatibility and relatively easy to implement, so consider availability for specific service or migration scenarios.

- o Review interworking with key Optimistic Rollup solutions such as Arbitrum and Optimism.

- Modular blockchain architecture:

- o Designed to respond flexibly to future changes in scalability solutions by separating data availability (DA) layers, consensus layers, execution layers, and more.

- o Continuously research technology trends related to modular blockchain such as Celestia and EigenLayer.

+-----+

| Service Platform (6.2) |

+-----+

| Scalable Layer (Layer 2, etc.) |

| - ZK-Rollup |

```

| - Sidechain |

| - Optimistic Rollup |

| - Modular DA/Consensus Layer |

+-----+

| Base layer (Layer 1) |

| - Consensus Algorithm |

| - Network Protocol |

| - Smart Contract Platform |

```

6.2. Service Platform Architecture

The SMB Coin service platform adopts a modular architecture to provide various user and merchant services based on the blockchain technology stack. Each module is designed to be independently developed, distributed, and scaled to increase ease of maintenance and system stability.

Key components:

- API Gateway:
 - o Centralize and route all requests from external clients (webs, mobile apps, etc.) to each service module.
 - o Strengthen platform security and reliability by performing functions such as authentication, logging, and traffic control.
- User Management Module:
 - o Provides user-related functions such as user account creation, authentication, and permission management.
 - o Support KYC (Know Your Customer) and Anti-Money Laundering (AML) processes.
- Payment Processing Module:
 - o Process payment requests using various tokens such as SMB-Fiat and SMB Core Token, and manage interworking with blockchain network.

- o Provides payment status tracking and notification.
- Compensation system module:
 - o Manage SMB Reward Token payment logic based on user activity and provide token balance update function.
 - o Support a variety of reward policies and event functions.
- Affiliate Management Module:
 - o Provides franchise-related functions such as franchise registration, information management, and payment history inquiry.
 - o It supports interworking with the merchant settlement system.
- Data Analysis Module:
 - o Analyze collected payment and user data to derive business insights and use them to improve services.
 - o Provides a variety of statistics and reporting capabilities based on de-identified data (see 3.6 for more information)
- Wallet Service Module:
 - o Supports a wallet interface that provides features such as token balance management, remittance, and payment for users.
 - o Designed to support various blockchain networks and token standards.
- Notification service module:
 - o Deliver various notification messages to users, including payment completion, compensation payment, and event guidance.
 - o Support various channels such as push notification, email, SMS, etc.

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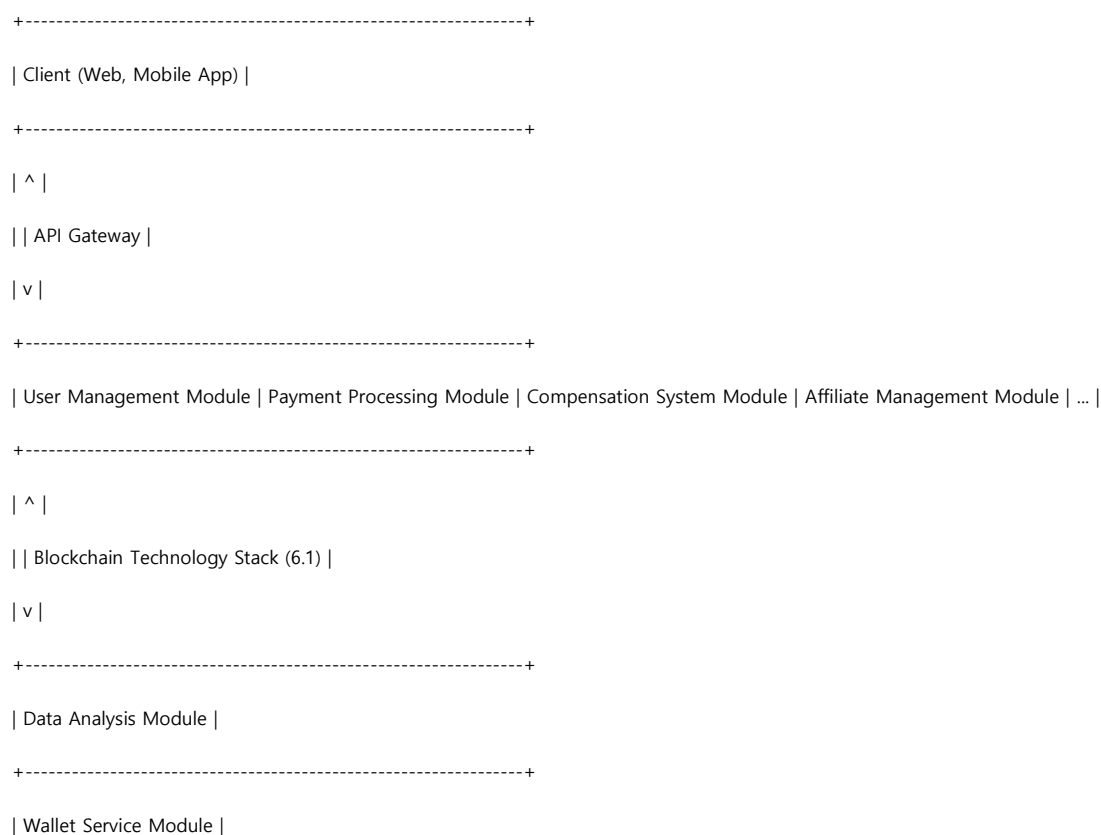
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- o Support various channels such as push notification, email, SMS, etc.

Service Platform Architecture Diagram sample:



6.3. Detailed description of data processing and security technologies

The SMB Coin platform applies state-of-the-art security technology for secure processing and storage of user data and transaction data. It specifically addresses de-identification technology for privacy and encryption algorithms for maintaining data confidentiality and integrity.

6.3.1. De-identification Technology

The SMB Coin platform prioritizes privacy when analyzing collected payment and user data. The following de-identification techniques are applied to minimize the possibility of personal identification in the data utilization process. (See 3.5.2 for more information.)

- Hashing: Anonymous sensitive information, such as user identifiers, using a one-way hash function, for example SHA-256; hash values cannot be returned to their original values, reducing the risk of privacy leakage.
- Masking: If necessary, cover part of the data with characters such as '*' to reduce the likelihood of personal identification (e.g., masking some of the phone numbers)
- Tokenization: Replaces sensitive personal information with random, unique tokens, and keeps real information in a secure, separate system to minimize the impact of data leakage.
- Pseudonymization: Replaces personally identifiable information with other identifiers required for analysis purposes.
- Aggregation: removes personality by grouping individual data and converting it into statistical form (e.g., the average amount of payment for users of a certain age group)
- Differential Privacy: Adds noise to the data analysis results to minimize the risk of information leakage for individual users while maintaining the usefulness of the data.

De-identification Process:

1. Data Collection: The data you need is collected both inside and outside the platform.
2. Identification classification: Identifies information that is likely to be personally identified among the collected data.
3. Select De-identification Techniques: Select the appropriate de-identification techniques based on the characteristics of the data and the purpose of the analysis.
4. Automatic de-identification processing: automatically de-identifies data by applying selected techniques.
5. De-identified Data Storage and Utilization: De-identified data is securely stored and utilized for analysis.
6. Manage access rights—Enhance security by minimizing access to de-identified data.
7. Audit and logging: maintain records across de-identification processes to ensure transparency

6.3.2. Encryption Algorithm

The SMB Coin platform applies a variety of encryption algorithms to ensure the confidentiality, integrity, and authentication of data.

- Symmetric-key cryptography:
 - o The same key is used for data encryption and decryption.
 - o Secure data in transit and stored data using powerful algorithms such as Advanced Encryption Standard (AES).
 - o Mainly used to encrypt large amounts of data efficiently.
- Asymmetric-key cryptography:
 - o Different public and private keys are used for encryption and decryption.
 - o Algorithms such as Rivest–Shamir–Adleman (RSA) and Electronic Curve Digital Signature Algorithm (ECDSA) are used for digital signatures, key exchanges, authentication, and more.

- o Particularly important to transaction signatures and secure communication channels.
- Hash Functions:
 - o A one-way function that transforms data of any length into a unique value (hash value) of a fixed length.
 - o Secure hash algorithms such as SHA-256, Keccak-256 are used to verify data integrity and store passwords.
 - o Quickly check for falsification of data.
- TLS/SSL (Transport Layer Security/Secure Sockets Layer):
 - o Apply the TLS/SSL protocol for secure communication between the web browser and the server to prevent eavesdropping and tampering during the data transfer process.
- End-to-end encryption (E2EE):
 - o Enhanced communication security by applying E2EE to ensure that data is encrypted on the sender's device and decrypted only on the receiver's device for certain services (such as messaging).
- Hardware Security Module (HSM):
 - o Minimize the risk of key leakage by introducing HSM to safely store and manage critical encryption keys.

7. Roadmap

7.1. Goals and schedules for each stage of development (future materialization)

NO	Goal	Period	contents
1 ST	Building a token-based DEX environment	Second half of 2025	Development and integration of decentralized exchange (DEX) infrastructure
2 ND	Building a Web3 Dedicated Commerce Framework	the first half of 2026	Design of blockchain-based e-commerce platform
3 RD	Build Test Net and Main Net	the first half of 2026	Test and official launch of its own blockchain network
4 TH	Establish test net and mainnet node environments	the second half of 2026	Strengthen node infrastructure for network reliability and scalability
5 TH	Building a Branch-Based Payment Environment	the first half of 2027	Interworking Blockchain Payment System with Existing Payment System (Branch)
6 TH	Establishing a stable token-to-token exchange network	the second half of 2027	Development of Stable Coin Interchange Mechanism
7 TH	Push for advancement between individual services	Will be updated in the first half of 2027	Improve performance and functionality of existing services

7.2. Partnership and Cooperation Plan (future materialization)

Partnership Field	Goal	Contents
1. Establishment of a Global Web3-Based E-Commerce Distribution System	Establish distribution partnerships to enter global markets	Cooperation with overseas e-commerce platforms and logistics companies
2. Building a Digital Web3 Payment Network	Collaboration for Expansion of Blockchain Payment System	Partnerships with payment gateways and financial institutions
3. Establishment of Card Linked Currency Exchange Service Network	Interworking existing card system with cryptocurrency	Working with credit card companies or fintech companies
4. Establishment of Global Membership Interworking Services	Blockchain integration of membership programs	Development of a membership sharing system with global brands or platforms
5. Building a Web3 Type P2P Commerce Market	Creating an Ecosystem to Revitalize Transactions Between Individuals	Technical collaboration with P2P platform operators

7.3. Market Expansion Strategy (Future Specification)

Based on the development roadmap and partnership plan of the SMB Coin Project, detailed strategies for entering the global market and expanding the ecosystem are presented as follows.

7.3.1. Target market segmentation and prioritization

- Initial Target Market:
 - o Web3 E-commerce Leading Region (US, Europe, Southeast Asia)
 - o Emerging markets (India, Brazil, etc.) that lack cryptocurrency payment infrastructure.
- Detailed Targets:
 - o Global e-commerce platforms, local payment providers, P2P commerce users, and stable token users.

7.3.2. Step-by-step market entry strategy

Second Half of 2025: Building a Token-Based DEX Environment

- Strategy:
 - o Exchange Partnership: Integrate with global DEXs (e.g., Uniswap, PancakeSwap) to ensure liquidity.
 - o Liquidity Incentives: Introducing Staking Compensation Program to Attract Initial Users.

o Community Building: Attracting interest by holding an Ask Me Anything (AMA) session on Discord/Telegram.

8. Risk factors and countermeasures

The SMB Coin Project is based on the innovation and potential of blockchain technology, but at the same time, it can face a variety of internal and external risks. In this chapter, we analyze key risk factors that can hinder the sustainable growth of the SMB Coin Project and present specific countermeasures. It will provide investors and stakeholders with important information to ensure the transparency and stability of the project.

8.1. Technical Risk

Blockchain technology is constantly developing, but it still poses technical limitations and vulnerabilities that correspond to its early stages. The SMB Coin Project aims to provide stable services by recognizing these technical risks and proactively responding.

8.1.1. Scalability and Throughput Limits:

1) Dangers: Blockchain networks can experience scalability issues that can slow processing and increase fees if the number of participants increases and transactions explode. This can hamper the user experience and make service access difficult.

e.g.) Polygon, Solana, and Sui all target high transaction throughput per second (TPS), but there's always the possibility of bottlenecks in real-world large-scale DApp operations due to instantaneous traffic surges or excessive resource use by certain DApps. In particular, Solana has experienced multiple network downs due to traffic surges in the past, a prime example of its scalability limitations.

2) SMB Coin Response Plan:

a. Layer 2 Solution Deployment Review: Initially, use a stable mainnet, but consider actively introducing or linking layer 2 scalability solutions such as Polygon's 'zkEVM' or 'Optimistic Rollups' by monitoring user and transaction growth. This allows you to process transactions off-chain, reducing the burden on the mainnet and increasing throughput.

b. Introducing Sharding or Parallel Processing Architecture: Study design principles that can handle transactions in parallel, such as parallel processing architectures such as Sui's 'Narwhal' and 'Bullshark' or Solana's 'Tower BFT' consensus mechanism, and review

their applicability in a form suitable for the SMB coin ecosystem.

c. Continuous technology stack optimization: Maximize system efficiency by continuously improving internal technology stacks, including smart contract code optimization, data storage, and approach efficiency.

d. Build a distributed node infrastructure: Build a stable, distributed network of nodes to minimize single point of failure and ensure network reliability and throughput.

8.1.2. Smart Contract Vulnerability:

1) Dangers: Errors or vulnerabilities in smart contract code can lead to serious security incidents such as money leakage and disruption of service. This is a danger that can occur on top of any solid blockchain, as seen in Solana's Wormhole Bridge hack and some of Polygon's DApp vulnerabilities discoveries.

2) SMB Coin Response Plan:

a. Thorough Code Audit (Audit): Prior to smart contract deployment, at least two independent code audits are required through professional blockchain security audit organizations such as CertiK and SlowMist, ensuring transparency by publishing audit reports.

b. Bug Bounty Program Operations: Encourage the White Hacker community to operate bug Bounty programs at all times to detect and resolve potential vulnerabilities early.

c. Modular and Test Automation: Modularize smart contracts to increase manageability, and automate unit and integrated tests to minimize errors in code changes.

d. Multi-signature Wallet Use: Core Asset Management and Critical Smart Contract upgrades use multi-signature wallets to prevent harm from malicious behavior or hacking by a single entity.

8.1.3. Network Reliability and Availability:

1) Dangers: Network instability (frequent downtime), unpredictable latency, or centralization of certain nodes can compromise service reliability and cause user disruption. Solana has been criticized for its decentralization and reliability during several network downs in the past.

2) SMB Coin Response Plan:

a. Induce participation of various validators: To decentralize the network, we design an incentive model that induces various actors worldwide to participate as SMB coin

validators.

b. Building a continuous monitoring system: Establish a system that monitors network health, node utilization, transaction throughput, etc. in real time 24 hours a day to respond immediately to anomalies.

c. Establish Contingency Plan: Proactively establish and periodically train specific contingency plans (e.g., rollback, alternative node operation) to recover quickly in the event of a network failure and minimize disruption to service.

d. Transparent communication with the community: When network issues arise, maintain the trust of users by sharing the situation with the community quickly and transparently and informing them of the resolution process.

8.2. Risk of Market Competition

The blockchain and cryptocurrency markets are very dynamic and are fiercely competing with the constant emergence of new projects and technologies. The SMB Coin Project must establish its own value in this competitive environment.

8.2.1. Emergence of similar projects and technologies:

1) Dangers: New projects with similar capabilities to the core values or services SMB Coin is looking to offer, or competitors with a better technology stack, may appear at any time. This can lead to user and developer departures. For example, Polygon, Solana, and Sui all aim to address Ethereum's scalability issues, but they are constantly competing with different technological approaches and ecosystems.

2) SMB Coin Response Plan:

a. Raising Differentiated Core Value: Continuously discover and strengthen unique service models, user experiences, or technological advantages that only SMB coins can provide. Clarify SMB Coin-specific competitive advantages (e.g., specific industrial sectors, independent consensus algorithms, etc.).

b. Continuous update of technology roadmap: Periodic update of technology roadmap through market trends and competitor analysis, and actively invest in introducing new technologies and improving capabilities to maintain technological edge.

c. Building a strong community: Building a loyal community that shares the project's vision and engages actively, creating strong network effects that competing projects cannot easily emulate.

8.2.2. Difficulty in securing market share:

1) Dangers: SMB coins may find it difficult to gain significant market share among existing blockchains (e.g., Ethereum, BNB Chain) and emerging powers (Polygon, Solana, Sui) that already have huge capital and user base.

2) SMB Coin Response Plan:

a. Building strategic partnerships: Building strategic partnerships with major DApps, companies, and developers in the existing blockchain ecosystem to create mutual synergy and drive inflows into the SMB coin ecosystem.

b. Attracting and Supporting Developers: Through abundant developer tools (SDKs), clear documents, active developer communities, and developer grant programs, we actively attract and support competent developers to build DApps on top of SMB coin platforms. Sui is committed to attracting developers by emphasizing developer-friendly Move languages and rich development tools.

c. Target Market Clarification: Rather than covering all areas, SMB coins target niches by focusing on specific industries (e.g., gaming, DeFi, NFTs, social, etc.) or service areas where they can be the most competitive.

8.2.3. Difficulties in securing users and onboarding:

1) Dangers: Blockchain technology still has aspects that are complex and difficult to access for the average user. It may be difficult to bring and maintain new users into the SMB coin ecosystem.

2) SMB Coin Response Plan:

a. Provides a user-friendly interface (UI/UX): All services in the SMB coin ecosystem, such as wallets and DApps, offer intuitive and easy-to-use UI/UX, lowering entry barriers for end users.

b. Clear and easy onboarding process: Provides step-by-step guides, tutorials, customer support and more to make it easier for new users to understand and utilize SMB coins.

c. Attractive Incentives and Rewards System: Provides various incentives such as airdrops, staking rewards, and refurbished programs to promote user inflows and encourage activities.

d. Continuous marketing and promotion: actively promote the value and merits of SMB coins through online and offline channels, and increase accessibility to potential users.

8.3. Risk of Regulatory Environmental Change

Regulations around the world for blockchain and cryptocurrency have yet to be established, and are changing rapidly. This regulatory uncertainty can act as a significant risk to the operation of the project.

8.3.1. Strengthening regulations and uncertainty by governments:

1) Dangers: Certain countries may ban cryptocurrency transactions altogether, or introduce strict regulations on issuance and distribution. There is also the risk of being classified as unregistered securities based on the securities judgment and subject to legal sanctions. This could threaten the existence of the project itself, as seen in Solana's case of being embroiled in the SEC's securities controversy after the FTX crisis.

2) SMB Coin Response Plan:

a. Legal Advice and Compliance: Continuously monitor cryptocurrency-related legal and regulatory trends in countries involved in key business areas and ensure that all business activities comply with relevant laws and regulations through professional legal advice.

b. Proactive response to global regulatory trends: complying thoroughly with FATF's recommendations, each country's Anti-Money Laundering (AML) and Anti-Terrorism Funding (CFT) regulations, and KYC (Customer Identification) obligations.

c. Establish compliance monitoring systems: Run compliance teams internally or work with external experts to proactively identify and respond to possible legal and regulatory risks.

d. Multi-faceted business structure design: Consider diversifying business and operational structures to minimize the impact of regulatory changes in a particular country on the entire project.

8.3.2. Changes in Tax Policy:

1) Dangers: Tax policies on cryptocurrency transactions and holdings may be strengthened or changed, which may dampen users' activities or affect the project's financial plans.

2) SMB Coin Response Plan:

3) Tax Expert Advice: Working with crypto-related tax experts to predict changes in each country's tax policies, and to prepare for them.

4) Transparent financial operations: transparent disclosure of the project's financial status and token distribution plans, and faithfully fulfilling tax obligations.

8.3.3. Anti-Crypto Sentiment Spread:

1) Dangers: If the public and regulators' negative perceptions spread due to speculative cryptocurrency markets, hacking incidents and environmental issues, it could lead to increased regulations across the industry or difficulties in pushing ahead with the business.

2) SMB Coin Response Plan:

a. Fulfilling Social Responsibility: The SMB Coin project seeks operational plans that take into account ESG (Environmental, Social, and Governance) factors and builds a positive image through activities that contribute to creating social value.

b. Improve public education and awareness: actively inform the public of the net function of blockchain technology and practical use cases of SMB coins, and conduct educational and public relations activities to resolve misunderstandings.

c. Transparent Information Disclosure: Transparent disclosure of key project information, such as white papers, development roadmaps, and financial reports, to ensure investor and public trust.

8.4. Security Threats and Response

Blockchain projects are the main targets of attacks by hackers, so building a thorough security system is essential to the survival of the project.

9.4.1. Smart Contracts and On-chain Hacks:

1) Dangers: Vulnerabilities in smart contract code can lead to asset theft and malfunction. Examples include hacking of numerous DeFi protocols and hacking of the Wormhole Bridge (Solana ecosystem).

2) SMB Coin Response Plan:

a. 9.1.2. Thorough code audit, bug bounce, modularity and test automation, and multi-signed wallet usage are essential, just like smart contract vulnerability countermeasures.

b. Time Lock and Pause: Apply time lock when upgrading critical smart contracts or moving funds to prevent immediate changes and provide emergency stop to temporarily stop some features of the protocol in the event of a serious security threat. This helps prevent the spread of attacks and free up response time.

c. Use decentralized oracle: Use decentralized oracle solutions such as Chainlink to reduce single points of failure or risk of manipulation when using external data (such as price feeds).

8.4.2. Private Key Leaks and Wallet Hacks:

1) Dangers: Private key leaks from users or projects lead to a direct takeover of cryptocurrency assets. These include hacking of centralized exchanges or attacks on security vulnerabilities in personal wallets.

2) SMB Coin Response Plan:

a. Introducing Hardware Security Module (HSM) and Multi-Party Computing (MPC) technology: Apply HSM or MPC technology for the highest level of security in managing the core assets of a project to minimize the risk of a single point exposure of a private key.

b. Multi-sig wallet utilization: For project operation funds and critical address management, make sure to use multi-signed wallets to make it impossible to move money without multiple acceptors.

c. Security training and awareness: Provide regular security training to team members to strengthen their ability to protect themselves from phishing and social engineering hacking.

d. Provide a security guide for users: Provide security-related training materials such as safe wallet usage and anti-phishing tips for SMB coin users.

9.4.3. Denial of Service (DDoS) Attacks:

1) DDoS attacks that cause excessive traffic to the server or network and thus impede service availability can seriously compromise the user experience.

2) SMB Coin Response Plan:

a. Leverage distributed infrastructure and CDN: leverage cloud-based distributed server infrastructure and content delivery networks (CDN) to provide greater defense against DDoS attacks.

b. Introduction of professional security solutions: Introduction of DDoS defense professional solutions (e.g., Cloudflare, Akamai, etc.) to detect and block abnormal traffic.

c. Regular security vulnerability checks: Proactively identify and act on potential vulnerabilities through regular Penetration Tests on web applications and servers.

8.4.4. Reliable system design and contingency planning:

1) Dangers: Service interruption due to internal problems such as unpredictable system errors, hardware failures, software bugs, etc.

2) SMB Coin Response Plan:

a. High Availability Architecture: Redundancy and redundancy configurations for critical components of the service eliminate single points of failure and increase system availability.

b. Regular backup and recovery training: Regular backup of all critical data and regular recovery training to help you recover data quickly in an emergency.

c. Construct Incident Response Team: Operate a professional incident response team that can quickly recognize the situation, prevent spread, and perform recovery operations in the event of a security incident.

8.5. Risk of Pegging Failure and Management Measures

If an SMB coin project involves stablecoins or issues tokens that are linked to certain assets, the risk of pegging failure should be seriously considered. (This chapter is the case if SMB coins contain stablecoins or tokens that are linked to certain assets, otherwise they can be omitted or replaced by regular token price volatility.)

8.5.1. Risk of De-peg for algorithmic stablecoins:

1) Dangers: If algorithm-based stablecoins are issued within the SMB coin ecosystem, the lack of collateral, capital flight, speculative attacks, etc., as seen in the UST (TerraUSD) crisis, can break the pegging and collapse its value. Some algorithmic stablecoins in the Solana ecosystem may be exposed to similar risks.

2) SMB Coin Response Plan:

a. Over-collateralization: Instead of algorithm-based stablecoins, we adopt stablecoins models that are over-collateralized with sufficient amounts of cryptocurrency or real assets, such as MakerDAO's DAI or Aave's GHO.

b. Utilize a wide range of collateral assets: To reduce reliance on a single asset, we use various types of highly liquid cryptocurrencies such as Bitcoin and Ethereum as collateral to spread the risk.

c. Automatic Liquidation Mechanism: Establish a system that automatically

liquidates if the collateral value falls below a certain level to maintain the integrity of the protocol.

d. Transparent collateral management: Transparent real-time disclosure of collateral types, quantities, and management methods to ensure the trust of investors and users.

8.5.2. Risk of centralized collateral-based stablecoins:

1) Dangers: When using or issuing centralized stablecoins with fiat money or real assets as collateral, such as USDT or USDC, there are a lack of transparency, regulatory risks, and risk of bankruptcy of the issuer.

2) SMB Coin Response Plan:

a. Regular External Audit: Regular audits of the status of holdings of collateral assets are conducted by an independent external audit body, and the results are disclosed in a transparent manner.

b. Choose a trusted partner: thoroughly verify the reliability and compliance of financial institutions that store and manage collateral assets.

c. Compliance obligations: Ensure transparency and trust by thoroughly fulfilling all legal and regulatory obligations as an issuer.

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8.5.3. Lack of market liquidity and Sleepage risk:

1) Risk: Insufficient market liquidity in SMB coins can lead to higher price volatility during large transactions, resulting in unexpected losses (slippages). This is a particularly important risk factor for stablecoin interlocking.

2) SMB Coin Response Plan:

a. Listing and Securing Liquidity on Major Exchanges: To increase accessibility and ensure sufficient volume of SMB coins by listing them on major domestic and foreign cryptocurrency exchanges.

b. Liquidity Providers (LPs) Incentives: Expand liquidity pools by offering incentives to users who supply liquidity to SMB coin-stable coin pairs on decentralized exchanges (DEXs).

c. Market Maker Cooperation: Working with professional market makers to keep SMB Coin's buy-sell asking price stable and provide liquidity.

8.5.4. Black Swan Events and Macroeconomic Risks:

1) Dangers: An unpredictable global economic crisis, financial market instability, or a plunge across the crypto market could have serious implications for SMB coins's pricing. For example, the Luna-UST crisis has sent shockwaves throughout the crypto market.

2) SMB Coin Response Plan:

a. Multi-Faceted Risk Management Strategy: Establish risk management strategies for different scenarios by analyzing long-term macroeconomic trends as well as short-term market fluctuations.

b. Emergency Liquidity Reserves: secure sufficient emergency liquidity reserves for extreme market conditions, or come up with emergency liquidity procurement measures from outside.

c. Enable community and governance: Enable governance in the form of decentralized autonomous organization (DAO) to provide a flexible response through community decision-making in the event of a crisis.

9. CONCLUSION

SMB Coin goes beyond just new digital assets and wants to have a positive impact on the blockchain ecosystem by combining innovative technologies and social values. This chapter highlights the expected effects and social values that SMB Coin will bring and presents the future prospects of the project.

9.1. Expected Effects and Social Values of SMB Coins

The SMB Coin project is expected to create a variety of positive effects through technical excellence and user-centered design, adding significant value across society.

9.1.1. Increasing Financial Inclusion:

SMB Coins can significantly expand financial inclusion by providing affordable and accessible financial services to those who were marginalized from the existing financial system. For example, by reducing small remittance fees, simplifying identification procedures, and providing collateral-free microfinance opportunities, we create an environment where anyone can access and manage assets anywhere in the world. This will contribute to substantial quality of life improvement, especially in developing countries or areas that lack financial infrastructure.

9.1.2. Enhance transparency and reliability:

Immutability and transparency, which are the core characteristics of blockchain technology, apply to all transactions and data records in the SMB coin ecosystem. It contributes to preventing corruption, minimizing intermediary intervention, and building a mutually reliable environment for all participants. For example, utilizing SMB coins in donation tracking, supply chain management, etc., can transparently disclose the flow of funds, increasing reliability, and improving inefficient processes.

9.1.3. Boost economic activity and create new business models:

The SMB Coin Platform promotes new business models and economic activity by providing developers with the foundation to build innovative distributed applications (DApps). Low fees, fast processing speed, and strong security will enable previously impossible services in various fields, such as gaming, DeFi, NFTs, and social media. It will

create new jobs, increase the efficiency of existing industries, and ultimately drive the growth of the digital economy.

9.1.4. Community-led Growth and Engagement:

Through a decentralized governance model, SMB Coin empowers community members to participate directly in the important decision-making process of the project. This allows the project to flexibly adapt its direction to the needs and consensus of the community, and plays a key role in building a stronger and more sustainable ecosystem by encouraging active participation and contribution from users.

9.1.5. Strengthen data sovereignty and privacy:

The blockchain-based SMB Coin ecosystem helps users control their data and minimize the risk of personal information leakage. By not relying on centralized servers, it will reduce the possibility of data infringement and abuse, and contribute to strengthening users' data sovereignty.

9.2. Future Prospects

The SMB Coin project is not satisfied with its short-term success and wants to become a leader in the blockchain industry through its long-term vision and strategy.

9.2.1. Expand ecosystems and strengthen partnerships:

SMB Coin will actively attract and support DApp development in various fields beyond stabilizing core services. In particular, we will maximize the utilization of the SMB coin ecosystem through convergence with new technologies such as games, metaverse, and artificial intelligence (AI). In addition, we will continue to seek strategic partnerships with leading domestic and foreign companies, institutions, and other blockchain projects to create mutual synergy and expand the global influence of SMB coins.

9.2.2. Continuous development and innovation in the technology roadmap:

The SMB Coin Development Team will closely analyze the latest trends in blockchain technology and focus on research and development to continuously improve scalability, security, and interoperability. It will provide a faster, safer, and more efficient blockchain infrastructure through the introduction of the latest encryption technology, advancement of consensus algorithms, and implementation of cross-chain solutions. It will focus on protecting privacy and catching two rabbits of efficiency by actively considering the introduction of advanced technologies such as **zk-Rollup and ZKP**.

9.3.3. Flexible response to regulatory environmental changes:

SMB Coin will respond preemptively and flexibly in the rapidly changing blockchain regulatory environment. We will monitor each country's legal and policy changes in real-time, and ensure that all business activities thoroughly comply with relevant laws and regulations through professional legal advice. Through this, we will minimize uncertainty and promote long-term growth by establishing a stable business operating environment.

9.4.4. Enable strong communities and governance:

The success of SMB coins depends on a strong and active community. The development team will maintain a transparent communication channel with the community and actively reflect user feedback to create the direction of development of the project together. By gradually strengthening its function as a decentralized autonomous organization (DAO), the system will be advanced so that all important decisions of SMB Coin can be made through community consensus.

SMB Coin will make the most of the potential of blockchain technology to create real value and contribute to creating a better digital future. We will constantly strive to provide a transparent and reliable platform to all participants who will join us on this journey.

Supplementary Provisions

explanatory terminology

Blockchain: It is a type of distributed ledger technology (DLT), which combines data in units called 'blocks', connects and stores them in a chain form, and all participants share and verify them. It is characterized by difficulty in falsifying and transparent data.

Cryptocurrency: a digital asset that is issued based on blockchain technology and uses encryption techniques to maintain security. Unlike fiat currencies, it is not controlled by central agencies.

Decentralization: A distributed way in which multiple nodes or individuals participating in the network operate and control the system rather than a specific central organization or entity.

Decentralized Application (DApp): an application that operates on the basis of smart contracts over a blockchain network. It operates distributed without a central server.

Smart Contract: a contract that automatically executes when predefined conditions are met on the blockchain. It is written in code, making it impossible to falsify and transparent.

Scalability: The ability to represent how efficiently a blockchain network can handle the increasing number of users and the amount of transactions.

Throughput: The number of transactions a blockchain network can process per second (TPS).

Layer 2 Solution: a technology that processes transactions outside the mainnet and records the results to the mainnet to solve the scalability problem of the main blockchain (Layer 1) such as Ethereum. (e.g., roll-up, sidechain)

Rollup: a type of Layer 2 scalability solution that compresses numerous off-chain

transactions and writes them to Layer 1 as a single transaction. There are optimistic rollups and zk - rollups.

Sharding: A technology that increases scalability by dividing a blockchain network into several small pieces (shards) to parallelize transactions.

Validator: who participates in verifying and creating new blocks in the blockchain network. Roles and rewards depend on consensus algorithms.

Consensus Algorithm: The way distributed network participants reach consensus on the state of the blockchain. There are Proof of Work (PoW), Proof of Equity (PoS), etc.

Private Key: a secret key that allows you to access your crypto wallet and sign a transaction. If a private key is leaked, you may lose your assets.

Multi-signature Wallet: a wallet that requires more than a set number of signatures among multiple private keys to approve one transaction. Used for enhanced security.

Pegging: Fixing the value of cryptocurrency to the value of a particular asset (e.g., US dollars). It mainly applies to stablecoins.

De-pegging: A phenomenon in which the value of a stable coin deviates from the value of the linked asset and fails to maintain a fixed ratio.

Stablecoin: A cryptocurrency that links its value to fiat currencies such as the U.S. dollar, or other cryptocurrencies, real assets, etc., to minimize price volatility.

Over-collateralization: A state in which the value of an asset provided as collateral is higher than the value of the asset being borrowed. It is used to secure the stability of stable coins.

DeFi (Decentralized Finance): a system that provides financial services without intermediaries based on blockchain technology. There are loans, deposits, insurance, etc.

Non-Fungible Token (NFT): a digital asset that has unique value and is non-interchangeable. It is used in art, game items, collectibles, and more.

Decentralized Autonomous Organization (DAO): an organization that operates transparently according to smart contract rules and is voted on by its members.

Data Sovereignty: a concept in which an individual has control and ownership of his or her data.

Cross-chain: a technology that enables the transfer and interaction of assets or data between different blockchain networks.

Zero-Knowledge Proof (ZKP): encryption technology that proves to the verifier that the verifier knows certain information (secret) without revealing that the verifier knows it. It is useful for privacy protection.

Distributed Denial of Service Attack (DDoS): A cyber attack that uses multiple computers to generate excessive traffic to a particular server or network, leading to service paralysis.

Slippage: The difference between the expected price at the time of order and the actual signed price. It is easy to occur during large transactions in a market that lacks liquidity.

Multi-Party Computation (MPC): Encryption technology in which multiple participants perform certain calculations jointly without exposing their secret information. It can be used to strengthen private key security.

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Sui Official Documentation. (Move Language, Narwhal & Bullshark DAG)

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SlowMist Hacked - Blockchain Security Incidents. (Analyzing Key Blockchain Hacking Cases)

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OWASP Top 10 Web Application Security Risks

Link: <https://owasp.org/www-project-top-ten/> (Not blockchain specific but see basic security principles)

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SEC (U.S. Securities and Exchange Commission) Official Statements/Enforcement Actions regulating crypto assets

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Financial Services Commission (FSC) - Policy Data on Cryptocurrency. (Korea Financial Services Commission)

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EU Regulation on Markets in Crypto-assets (MiCA).

감사합니다.