The World's First Public Blockchain Platform that Provides Full Services to Metaverse

Statter Network Whitepaper

Version 1.0

ABSTRACT

This article will present our knowledge of the metaverse by introducing its eight characteristics and six core techniques. There will also be discussions about the potential benefits that blockchain, the cornerstone of the cryptocurrency industry, might have for the metaverse. The issues and difficulties that might arise from the extensive use of multi-disciplinary blockchain technology will be examined. The final section will describe the origins of Statter Network.

The Statter Network (hereafter as "Statter") is dedicated to the development of metaverse infrastructure. It aims to construct the world's first public blockchain platform for the metaverse ecosystem, serving metaverse developers, users, and creators. A high-performing and extremely secure metaverse infrastructure is what this platform is intended to be.

This report introduces technological details regarding the development direction and innovation, based on the above mentioned core positioning. The following cutting-edge technologies are adopted: the advantages of adopting a layered structure with high cohesion and low coupling; how the drag-and-drop technology enables developers to establish public blockchains and structure DApps without limitation; how to implement cross-chain mutual recognition of digital identity through the DID aggregation protocol; and how cross-chain bridge facilitates the value circulation and delivery inside and outside the ecosystem. In addition, there are parts explaining the strong security of Statter and its robust performance through technologies of Sharding and DAG scalability; introducing examples of using scenarios of plugins from the plugin App market; clarifying the specifications for the Application BlockChain Interface (ABCI) and a few additional interfaces, which serve as a bridge to link third-party metaverse Apps. The last section introduces the tokenomics, token issuance, and DAO governance that will be implemented.

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1 Metaverse and the Post-human Society

1.1 Statter's Definition of the Metaverse

In 1992, science-fiction author Neal Stephenson coined the term "Metaverse" in his hit novel "Snow Crash". The novel depicts a self-sustaining virtual world that connects, interacts with and impacts almost all aspects of life.

Metaverse is a large-scale, operable network that supports a virtual world with real-time rendering. On the basis of identification, historical records, rights, objects, telecommunications, and payment data, numerous users can enjoy simultaneous real-time connections and an authentic sense of presence.

- Metaverse is an integrated universe where virtual and reality are combined and co-exists

It is important to note that the metaverse is distinct from the virtual world. Instead, it is the merging of the virtual and the real by blurring the line between the two worlds. Gradually, the metaverse technological revolution fuses the virtual world with reality to provide an immersive and engaging experience. The virtual commencement ceremony at the University of California, Berkeley was a typical example. Within six weeks, a team of more than 100 UC Berkeley students and alumni constructed over 100 virtual gyms, libraries, plazas, and other facilities in the popular video game Minecraft. Viewers from all around the world can log in to the university's server to watch the performances live, roam the campus, and enjoy the concerts throughout the duration of the event. This is not a true metaverse in the strict sense of the term, but it does provide the groundwork for the future seamless merging of the online and offline environments.

- Metaverse is a super-universe. Specifically, it is a virtual reality complex propelled by revolutionary production relations

The metaverse will be constructed in the following directions: First, to fully utilize computer graphics (CG), virtual reality (VR), augmented reality (AR), mixed reality (MR), artificial intelligence (AI), and other technologies to achieve complete reality and immersive experience; second, to liberate production relations and confirm the basic rights of production factors through blockchain infrastructure (smart contracts) in conjunction with blockchain applications (NFT, GameFi, Web3, DAO, DeFi, etc.). Meanwhile, users' virtual identity and possessions would be safeguarded. Due to its eternal existence, the metaverse cannot be monopolized by any single centralized institute. Each individual's assets and accomplishments can be accumulated and inherited, and they will not be lost even if a game developer goes out of business. In order to realize an efficient and stable economic system, value exchange is available and maintained in the metaverse, while a transparent and certain enforcement of system rule is assured. In other words, blockchain is the metaverse's economic cornerstone.

- Metaverse is a novel lifestyle

Metaverse is an entirely new world derived from the technological Big Bang. It also represents a fresh way of lifestyle. In the metaverse, entertainment, consumption, social interaction, and work will be conducted differently, much as they did when the Agrarian Society transformed into the Industrial Society.

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1.2 The Eight Properties of the Metaverse

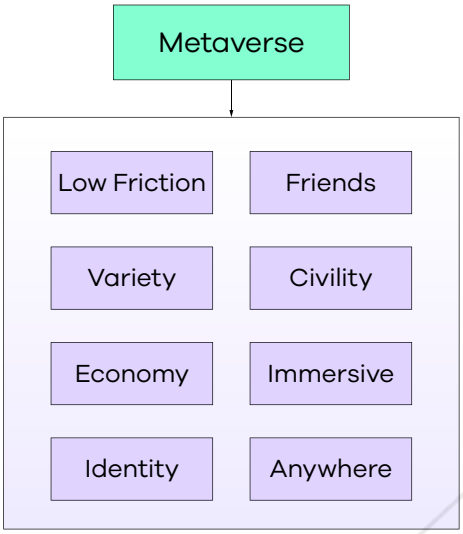


Figure 1: The Eight Properties of the Metaverse

Metaverse has eight key properties: Identity, Economy, Immersive, Anywhere, Low Friction, Variety, Civility, and Friends.

1. **Identity:** Each person has a unique identity in the metaverse;
2. **Economy:** A comprehensive economic system is required for the operation of the metaverse;
3. **Immersive:** Users will have an immersive experience just like what you may sense in the real life;
4. **Anywhere:** Users can access the metaverse at anytime and anywhere as long as they have Internet access;
5. **Low Friction:** Low friction and real time interaction is supported by sound data delivery speed and network computing technologies;
6. **Variety:** Users from all walks of life can contribute to the metaverse for the creation of an all-encompassing, super-universe;
7. **Civility:** All users in the metaverse, where a digital society will emerge from years of data collection, play by the same set of rules;
8. **Friends:** Interact and socialize with friends frictionlessly.

With a virtual and interactive economic system, metaverse intends to create a social experience that transcends time and location and is characterized by a sense of immersion. To this end, problems such as universal identity, systematic economy, 3D real-time interaction, low friction, and variety have to be solved. However, these problems are too complex for current technology to handle. As scientists and engineers from all around the world contribute to the creation of the metaverse, the answer to these issues will soon be uncovered.

1.3 Blockchain-the Economic Cornerstone of the Metaverse

Metaverse is impossible without new technologies, including software, hardware and telecommunications. As the comprehensive result of these technologies, the rising of the metaverse is dependent on the following six core technologies:

1. **Blockchain:** the foundation of the virtual assets for the metaverse;
2. **Human-Computer Interaction (HCI):** creating an immersive virtual reality (VR) experience;
3. **Online Games:** the social morphs of the metaverse;
4. **Artificial Intelligence (AI):** the driving force for the productivity and self-sustained operation of the metaverse;
5. **Network and Computation:** the carrier of the metaverse in the physical world;

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6. **Internet of Things (IoT):** the medium that promotes the integration of the metaverse with the real world.

The blockchain is one of the six essential technologies that makes the virtual world a parallel universe and connects it to the physical universe; otherwise, the metaverse would be nothing more than an electronic game. Blockchain is the infrastructure that shields virtual assets and identities, enables value exchange in the metaverse, and ensures the principles of a transparent system are followed. In conclusion, the value of the blockchain is expressed in the following aspects:

- Resolve data trust problems;
- Build a public and transparent community autonomy model;
- Secure a reliable economic system;
- Make sure the identity is unique and tamper-proof;
- Decentralized settlement platform and value transmission.

2 About Statter

2.1 The Origin

Applications of blockchain technology have expanded into a variety of sectors, including fintech, distributed algorithm, decentralized storage, intelligent manufacturing, and supply chain management. On the other hand, the widespread implementation of blockchain technology is hindered by a dearth of talent.

Due to its cross-discipline nature, blockchain technology is exceedingly complicated, since it encompasses cryptography, computational mathematics, and artificial intelligence, requiring developers with exceptional skills. Blockchain technology is still in its infancy, without a mature underlying framework or immediately available components and a set of technological standards to implement. Consequently, blockchain applications face issues such as high development complexity and a long development cycle.

It is impossible to implement blockchain technology on a broad scale by merely issuing tokens or creating public blockchains. In addition to the requirements of high security and high performance, there are a number of development and debugging challenges that must be addressed, such as setting up a development environment, composing smart contract code, deploying a public blockchain operating environment, docking an application interface, acquiring and docking infrastructure supporting resources, and so on.

Only by providing developers with full-service solutions of "drag-and-drop technology for public blockchain generation, multi-chain operation platform, metaverse plugin App market," can these issues be resolved once and for all. In order to construct the metaverse infrastructure, we launched the Statter Network with the goal of developing the world's first public blockchain platform that offers comprehensive services for the metaverse environment. This concept is also the core positioning of Statter platform.

Statter has built its technology around its main positioning: enabling developers with drag-and-drop technologies and underlying modules, components, and components to construct public blockchains and DApps flexibly. In addition, a multi-chain and multi-consensus operating environment is created so that developers' public blockchains and DApps may be installed and run directly on the platform. Finally, 3D rendering, edge comput-

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ing, digital twins and other application plug-ins are connected to provide developers with plug-and-play basic supporting resources.

Statter has incorporated the following cutting-edge technology according to the aforementioned eight metaverse qualities. Users access the metaverse "anytime, anywhere" with a highly secured blockchain network and a widely available multi-layer structure. The drag-and-drop technology for constructing public blockchains promotes "variety." For instance, the financial and entertainment industries would prefer to use different components when building their own high-performance public blockchains that are customized to meet their application needs, respectively. The cross-chain digital identity aggregator provides mutual authentication and unifies "identity information." The cross-chain bridge and smart contract technologies that enable cross-chain value circulation tackle "economy" and "civility" issues. The high TPS supported by Sharding and DAG technologies allows for "great performance and minimal latency." The "immersive, real-time interaction" function relies on the fundamental resources made available by the metaverse plugin App market, such as 3D rendering, edge computing, and digital twin.

2.2 About Statter

Statter Network is the world′ s first full-service public blockchain platform for the metaverse ecosystem. It aims to build a high-performance and high secure infrastructure for metaverse developers, creators and players.

Centering on the infrastructure positioning, Statter innovatively created drag-and-drop technology for public blockchain generation, with which developers could build new public blockchains as easily as playing with LEGO. The drag-and-drop public blockchain generation technology satisfies metaverse application's demands for a multi-functional public blockchain; research and develop DID aggregation protocols to achieve interoperability of cross-chain digital identities; with the scalability of Sharding and DAG technology, it achieves 100,000 TPS on the main chain and transactions are confirmed within seconds; adopts a multi-layer structure with high cohesion and low coupling; and supports parallel multi-chain and multi-consensus.

Statter is an open ecosystem and platform that offers infrastructure connections in the plugin App market for 3D engines, GIS, edge computing, edge rendering, decentralized storage, digital twin, and computer vision, among others. Statter provides comprehensive services for developers to construct the metaverse from fundamental theory to a realm beyond reality by utilizing drag-and-drop technology for public blockchain generation, based on the multi-chain operation platform and the metaverse plugin App Market.

Statter is highlighted by the following advantages:

- Play a dominant role in the era of Web3 which democratizes the establishment of public blockchain;
- The world's first authentic public blockchain platform of the metaverse built on the drag-and-drop technology for public blockchain generation, multi-chain operation platform and the metaverse plugin App market, which provides all-round services for developers.

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3 Multi-layer Structure with High Cohesion & Low Coupling

The metaverse is a vast system with several complicated physical entrances. Therefore, software and hardware must be separated in the metaverse. Those associated with technologies run on the software network, which is analogous to a "physical sandbox" and a mechanism for the execution of code and hardware.

Statter modularizes and layers the software network using a multi-tier architecture to independently deploy multiple micro-services or modules of code. This substantially resolves the issue of strong coupling in Statter development and lays a solid basis for a clear code and an easily maintained multi-layer architecture. The advantages of a multi-layer structure with high-cohesion and low-coupling are as follows:

- Clear structured and low-coupling;
- Well maintainable and scalable;
- Supporting developing tasks simultaneously and highly adaptive to demands.

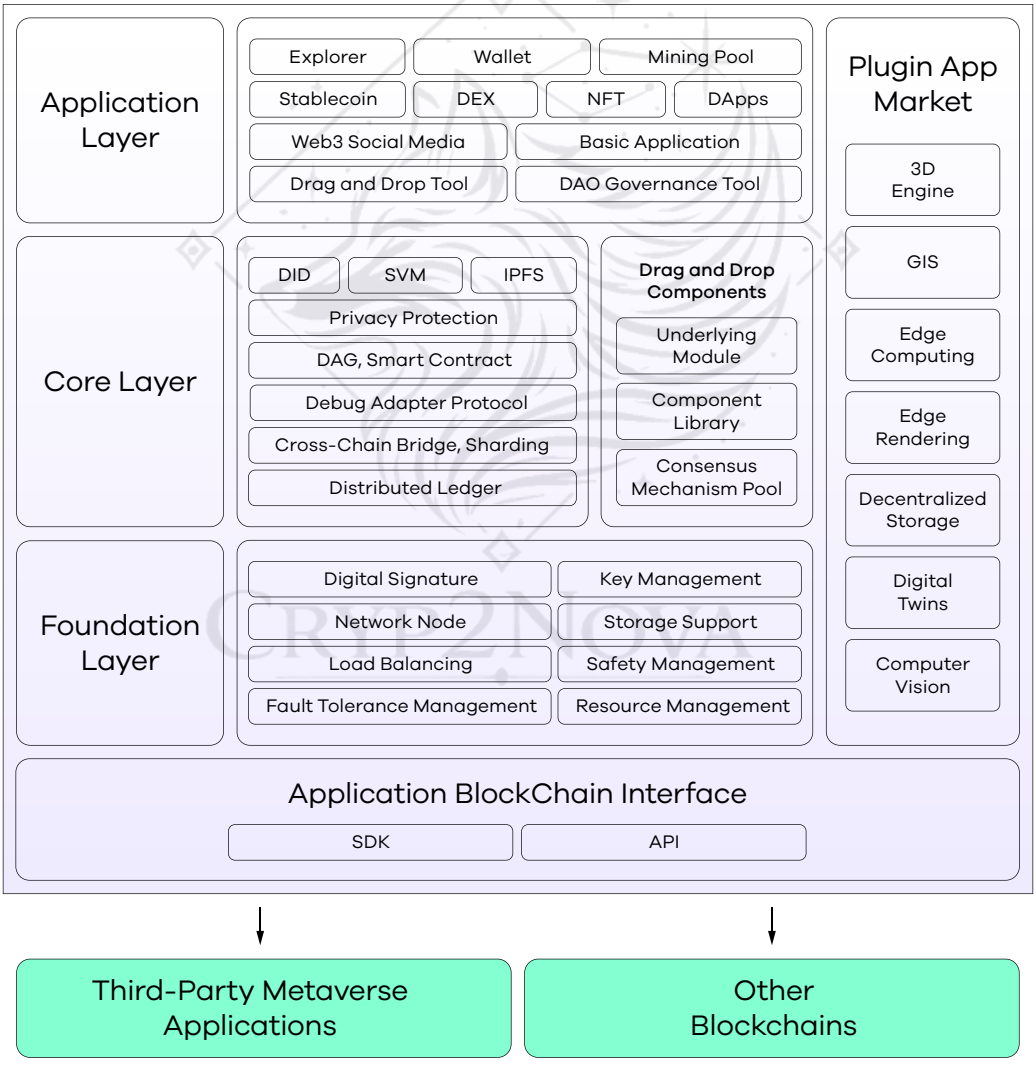


Figure 2: The Structure of Statter

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Statter is a high-performance public blockchain built on a multi-layer framework with distinct job divisions for each layer:

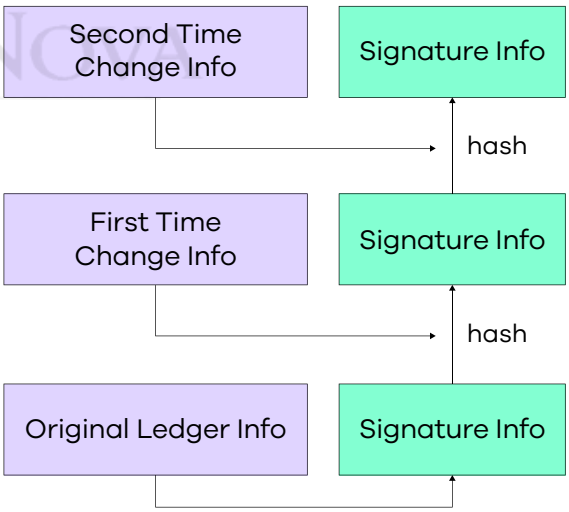
- **Foundation layer:** The foundation layer includes digital signature, key management, network nodes, storage support, load balancing, safety management, fault tolerance management, and resource management. These solutions offer a fundamental operating environment with scalable storage, extensibility, and automated node failure recovery.
- **Core layer:** The core layer provides application layers with supplemental services, such as DID management, Sharding, DAG, safety smart contract engine, privacy protection, cross-chain integration, digital interaction, adapter protocol, virtual machine, distributed ledger and storage mechanism, pluggable consensus mechanism, and underlying modules and components.
- **Application layer:** The application layer provides applications or services to end users, including DApps, blockchain explorers, wallets, basic applications, drag-and-drop tools and application interface.

4 The Cornerstone of Safety and Trust

4.1 Reliable and Consistent Record

Statter ensures that business requests are tamper-proof during transmission through digital signatures with asymmetric encryption. The consensus method ensures the consistency of the data saved in each node. Data validation is a method of verification that ensures data integrity. Self-verification in the node and quasi-real-time multi-node data verification preserve the data records that have been saved from tampering.

1. The self-verification of node. Statter saves data in a block structure, and any manual changes will compromise the block structure's integrity. The self-verification system is capable of rapidly validating tampered records and recovering data from other nodes. In addition, each Statter bookkeeping node has its own private key, and each block's head carries the private key's signature. The signature might check the authenticity of any data that might be modified.
2. Multi-node quasi-real-time data verification. If a node's private key is stolen, a malicious user may tamper with all the data in the ledger chain, and Statter's quasi-real-time data comparison mechanism between multiple nodes can detect potentially tampered node ledger data in time to prevent tampered data from being re-written.



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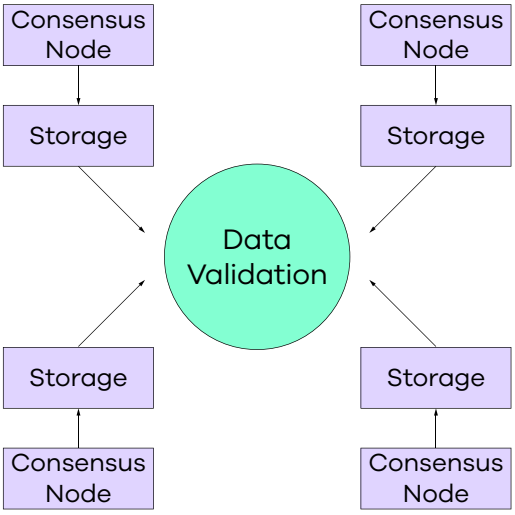


Figure 3: Data Validation Mechanism

4.2 User Privacy and Transaction Confidentiality

In Statter′ s mainnet, user information and blockchain addresses are isolated; associated user information cannot be accessed from the record storage of each node; user information is stored with multiple layers of protection such as permission control, access authentication and encrypted storage; users with higher transaction confidentiality or privacy can also choose the transaction irrelevance mechanism, where each transaction of the same user is mapped to a different address on the blockchain, thus ensuring that the relevance of multiple transactions of a user cannot be accessed in the transaction ledger.

4.3 Key Management

In Statter's key management, the key safe and user account delegation functions are provided to secure keys; the key safe uses user information to encrypt and split the keys for storage on different nodes.

5 SPoW: a Just and Low-carbon New Consensus

Carbon neutrality is a long-term global strategy, and mining needs to be more low-carbon and green; although mining cannot avoid competition for computing power, Statter needs to strike a balance between computing power competition, fairness and low energy consumption; the initial competition in mining is small, and low-energy mining rigs can work effectively; however, if the consensus mechanism is not upgraded, the competition for computing power will become more and more intense, and mining will definitely move to high energy consumption.

As a response, Statter uses the SPoW (Segmented Proof of Work) consensus mechanism; the calculation task is segmented, and the segmented task is assigned to all mining pools in the network, and the mining rigs in the pool perform the exhaustive calculation of random numbers.

Statter has made two designs, one is to group mining rigs into different mining pools (so mining rigs must join the pool to mine), and the second is to segment the computing tasks; the segmented tasks are assigned to the pools, so that the mining rigs in each pool can be guaranteed to have computing tasks; the pools will receive the next segmented task upon completion; these two designs make some balance on computing power competition, fairness and low energy consumption: guaranteeing that all mining rigs can participate in mining, while reducing the energy efficiency ratio of high energy consuming mining rigs, and computing power competition on the basis of fairness.

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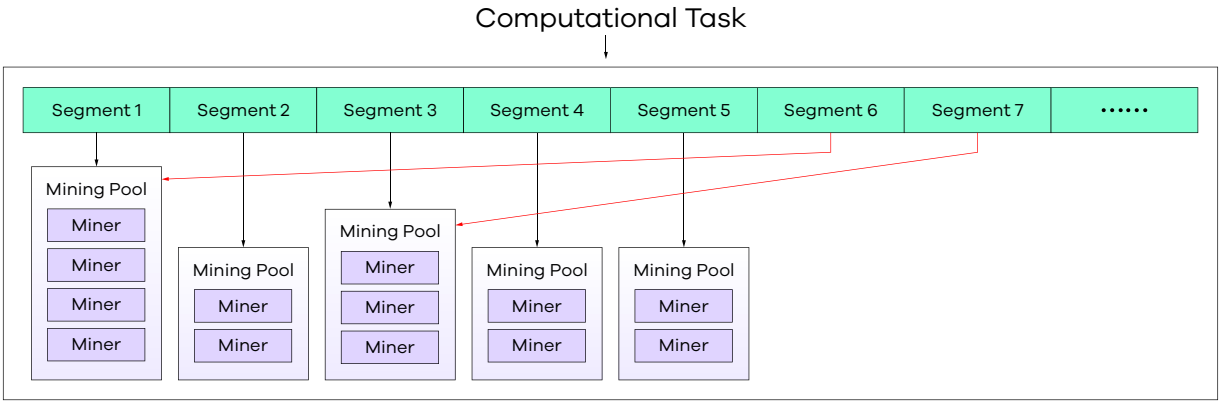


Figure 4: Segmentation and Grouping of Computation Tasks

Task segmentation can not only avoid repetitive and invalid computation, but also achieve a significant increase in efficiency through task parallelism; the SPoW consensus mechanism, in addition to high efficiency, also takes into account fairness and low energy consumption, reducing computing power competition to a certain extent and realizing low-carbon home mining.

6 Drag-and-drop Public Blockchain Generation Technology

Statter decouples and splits the software and smart contract code, and encapsulates the decoupled code set into one underlying module and component; each component is functionally independent with low coupling in between, and can be adapted in any combination components.

Statter has a large number of built-in underlying modules, component libraries, configuration parameters and consensus mechanism pools in the platform, including: network module, ledger module, consistency module, digital identity component, consensus mechanism component, block component, trading component, cross-chain component, smart contract component and infrastructure service component, etc., covering the development, compilation, consensus mechanism and application support of smart contracts.

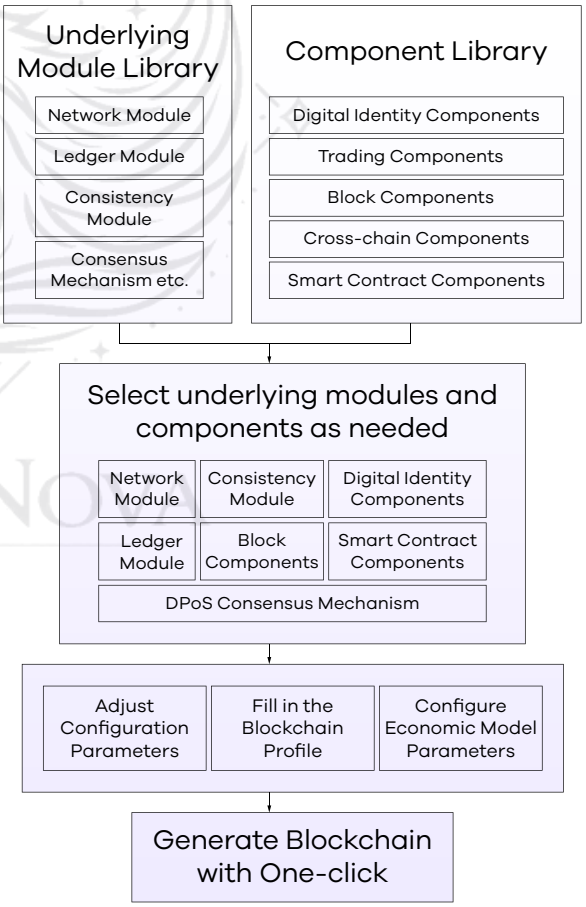


Figure 5: Generate a Public Blockchain on Demand

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From the operation point of view, through the zero-code, drag-and-drop, self-service technology, developers only need to drag and drop the underlying modules through the interface, select the required components from the component library for association, select the consensus mechanism, adjust the configuration parameters, fill in the public blockchain information and economic model parameters, with just one-click, the generation tool will automatically generate the code package, and the new public blockchain is created successfully; the new public blockchain will be deployed in the Statter network automatically by default (the generated public blockchain will run in Statter′s mainnet like a satellite chain), and of course, it also supports building your own environment to run your public blockchain.

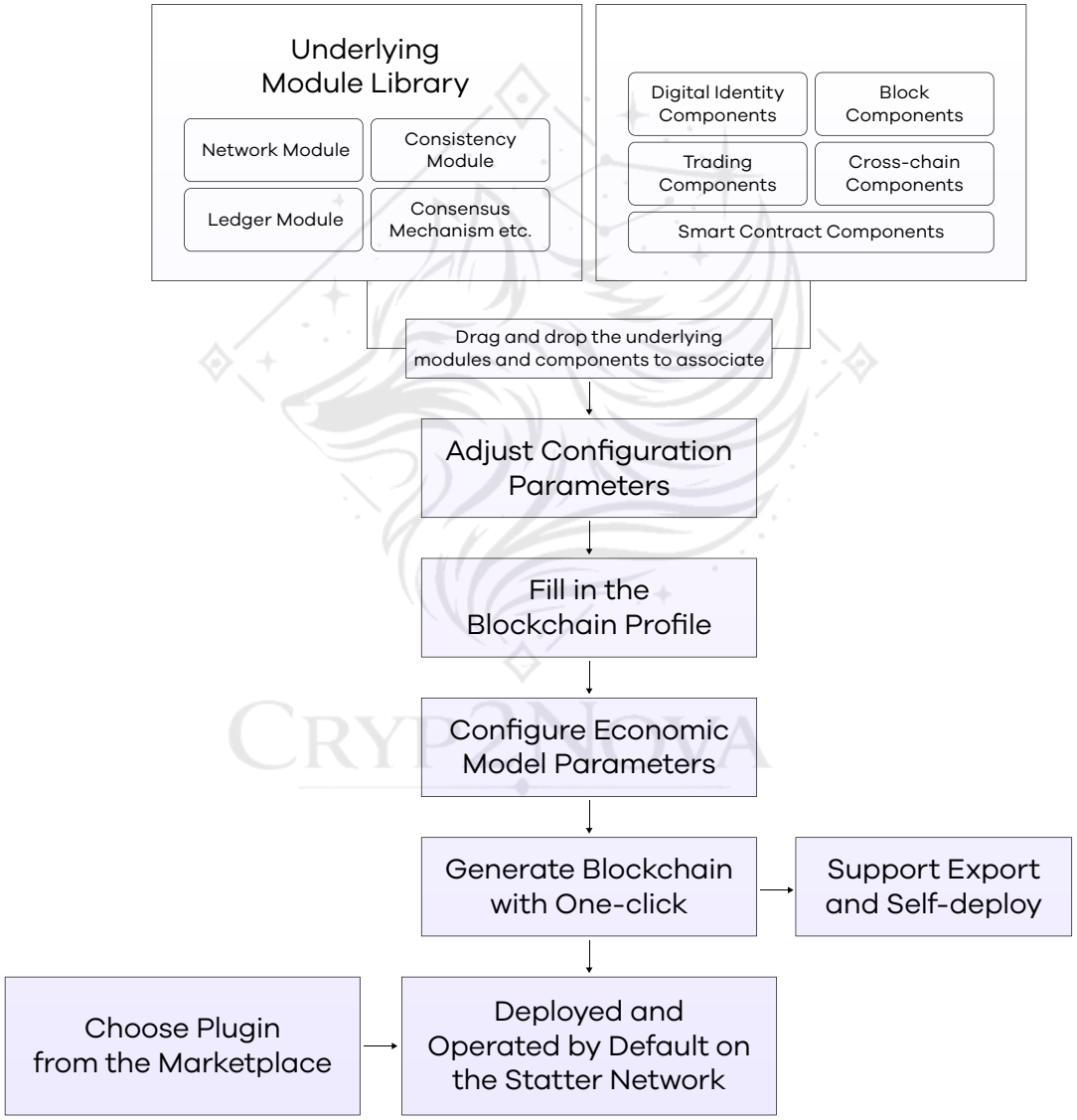


Figure 6: Diagram of Drag-and-drop Generation of Public Blockchains

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Usually a DApp has a UI component, such as a WEB or a mobile application, which is the medium for users to interact with the smart contract; developers can use the built-in WEB template and UI component of the Statter platform to quickly generate a DApp; of course, they can write and deploy their own WEB or mobile applications independently; Statter's application interface ABCI is the bridge to link third-party metaverse applications and public blockchains.

From the perspective of smart contract development, for commonly used functional modules or components, there is no need to write code, just refer to them as needed, and the platform directly generates smart contract code, providing convenience for public blockchain creation; from the perspective of contract compilation, for metaverse applications under development, there is no need to rely on the console to compile the contract code, just use Statter's built-in SVM virtual machine to compile; it is directly exported to Java applications through the virtual machine, a swift and silky experience as if developing native java programs. From the perspective of application development, from smart contract to application building, including such tasks as creating public blockchains, introducing dependencies, writing configuration code, accessing smart contracts, and writing related code classes, all can be easily done through Statter's built-in underlying modules, component libraries and configuration parameters.

Different metaverse applications have different requirements for public blockchains, for example, public blockchains serving game applications are demanding in TPS, and public blockchains serving financial applications in security and decentralization; so, for different application requirements, developers can choose the corresponding underlying modules, components and consensus algorithms according to their application characteristics or needs, and match them to generate public blockchains or DApps through drag-and-drop operations like building blocks.

7 Multi-chain and Multi-consensus Parallel Architecture

Statter is the king of public blockchains in the Web3 era, allowing everyone to build public blockchains; being able to create public blockchains that meet the needs of different applications is a pioneering achievement in itself, and it is much more demanding to be able to run these satellite chains on one platform without interfering with each other; although the characteristics of each satellite chain are different, they can all be well supported, applied, run and expanded on Statter′ s platform of multi-layer and multi-chain parallel architecture.

In the multi-chain parallel architecture, Statter′s master chain is the most important part, and other applications can create and run an independent satellite chain through Statter, which all run on the application layer without interfering with each other; the multi-chain parallel architecture achieves multi-fold performance improvement, meanwhile, one abnormal or fully-loaded satellite chain will not affect the operation of other satellite chains.

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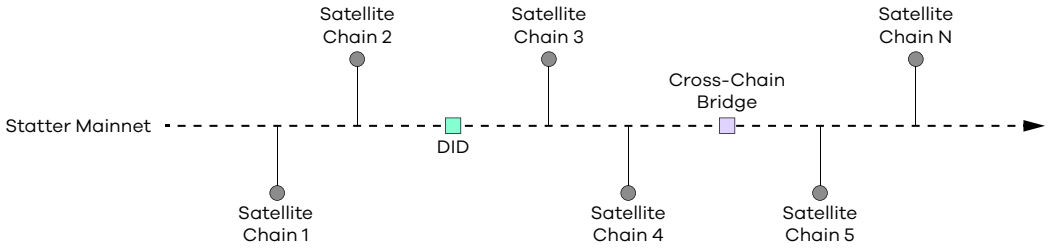


Figure 7: Statter's Multi-chain Parallel Architecture

In addition to supporting multi-chain parallelism, Statter also supports one-chain consensus and multi-chain consensus; in addition to its own SPoW consensus mechanism, it also supports PoW, PoS, PoC, DPoS and other consensus mechanism pools (in the future, it will also support developers to submit new consensus mechanisms to the pool), so that creators or developers can freely choose different consensus mechanisms when generating public blockchains; such a multi-chain multi-consensus parallel architecture has the characteristics of scalability, isolation, high performance, interconnection and interoperability, which can be applied to a wider range of metaverse applications.

8 Cross-chain DID Interoperability

With the emergence and popularity of the Internet, traditional identity has another form of expression, namely digital identity; in the traditional Internet era, when users trade, use and consume online, they need to use each platform's account to complete the authentication of digital identity, but the centralized identity authentication brings problems such as data fragmentation, manipulable data and insecurity.

A Decentralized Identifier (DID) is completely controlled by the owner without any centralized third-party involvement, meaning that any information about your identity is completely in your own hands and no one can access this information without your permission.

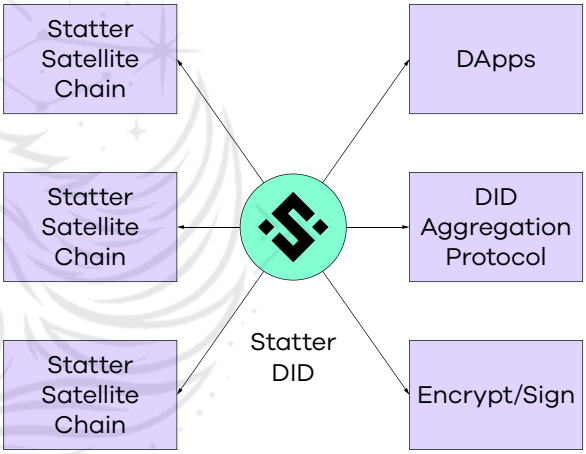


Figure 8: DID Interoperability

Statter adopts DID aggregation protocol, which provides DID data indexing, DID verification and association, and DID data aggregation services; from the user's perspective, the DID aggregator aggregates digital identity information from different chains in the ecology, and only requires user authorization to access to each application or DApp without registration, realizing cross-chain digital identity exchange in the ecology. From the developer's point of view, DID aggregator adopts a unified digital way to publish and verify standards, helping applications or DApps to secure user identity verifica-

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tion services, which can reduce the corresponding development work.

The cross-chain DID aggregator actually solves the problem of "identity interoperability"; using the 3D avatar plug-in in the application market (described in detail later), users can easily generate a 3D virtual image; by combining the cross-chain DID and 3D avatar plug-in, users can travel freely in various applications with a unified 3D virtual image and identity information; imagine that in the future, there will be countless sub-universes connected together into a metaverse, you can travel freely in it through this unified digital identity, and all the data and asset flow are one and the same.

Statter cross-chain bridge enables protocol conversion, adapts protocols of other public blockchains to Statter′ s cross-chain protocols to achieve unified protocol communication; allows tokens, smart contract instructions and information to be passed between different public blockchains; although different public blockchains may have different protocols, rules and governance models, Statter′ s cross-chain bridge securely connects them together through interoperability. Statter enables the free exchange and circulation of value or assets within the ecosystem through the cross-chain bridge technology and the common token STT; the cross-chain bridge can also connect to other public blockchain protocols and enable the free exchange and circulation of value or assets with external public blockchains when allowed, for example with Polygon (Matic).

9 Scalability Through Sharding and DAG Technology

Decentralization, security and scalability constitute the impossible triangle of blockchains, and usually only two can be met; among them, decentralization is the biggest advantage of blockchain technology and needs to be guaranteed as a priority; if you want to establish a long-lasting and sustainable ecology, security has to be best guaranteed. That′ s why we have generally low performance of public blockchains, and it is imperative to improve it under the premise of balancing decentralization and security.

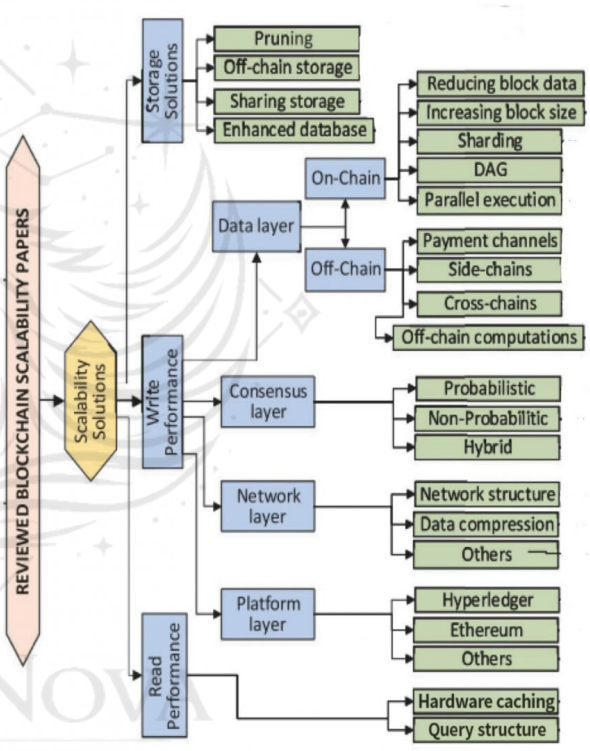


Figure 9: This diagram is sourced from Handbook of Research on Blockchain Technology (2020); focusing on the Write Performance section of the diagram, Statter uses Sharding and DAG technology to achieve scalability at Layer 1.

9.1 Sharded Task Parallelism

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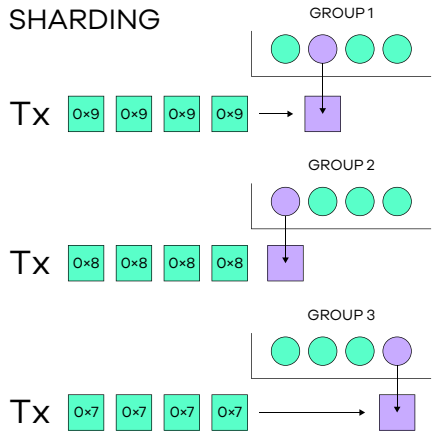


Figure 10: Network Sharding

1. **Network Sharding**
   Statter pools the mining rig nodes in the network into different shards (groups), each of which processes, verifies and reaches consensus for a different subset of transactions; in this way, different subsets of transactions can be processed in parallel, and it is not necessarily to have frequent communication between shards.
2. **Transaction Sharding**
   Statter decomposes all pending tasks (confirming transactions, running DApps, etc.) in the blockchain network, and mining rig nodes across the network are also sharded (grouped), with each group processing one decomposed task (e.g. 1,000 pending confirmations) at the same time, thus changing from a single node processing all tasks across the network to multiple groups of mining rig nodes processing in parallel.
3. **Sharding Challenges**
   Sharding has significantly improved efficiency while also bringing new problems, mainly including security and efficiency within shards, as well as cross-shard security and efficiency caused by cross-shard transactions; the computing power of a single shard and the number of verification nodes within a single shard is much lower than the entire blockchain network before sharding, which leads to the possibility of launching 51% of attacks; in the later Statter′ s economics system requires mining rigs to stake in order to mine, which can significantly increase the cost of doing evil and prevent 51% of attacks.

9.2 DAG High-speed Asynchronous Technology

DAG (Directed Acyclic Graph) refers to a graph in which any one edge has a direction and there is no loop. Characterized by sequential nodes with bifurcation, it is a nonlinear data topology, often used in data processing, transaction planning, optimal path finding, data compression and other algorithmic scenarios.

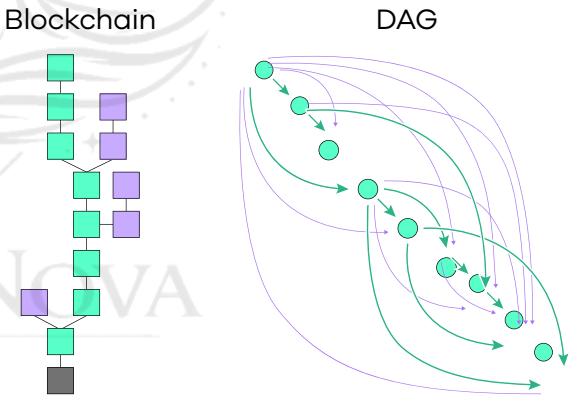


Figure 11: Comparison of Blockchain and DAG Structures

All transactions in the blockchain are recorded in the same block, and each transaction in the DAG is recorded in each transaction separately; the blockchain component unit is Block, and the DAG component unit is TX (transaction); in the DAG structure, each new unit is not only added to one block

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in the long chain of Statter, but joined to all the previous blocks; When a new transaction is added to the chain, and there are two valid blocks in front of it, then the new block will actively link to the previous two at the same time; each new unit in the DAG verifies and confirms its parent unit, and the parent unit of the parent unit, slowly reaches the genesis unit and includes the hash of its parent unit into its own unit; as time increments, the block chains of all transactions are connected to each other, forming a graph-like structure; DAG changes the single chain to tree and mesh, block granularity to transaction granularity, and single point to concurrent writes; DAG also changes Statter's synchronous bookkeeping to asynchronous bookkeeping, which can write many transactions concurrently, thus significantly improving network performance.

Statter achieves task parallelism through the Sharding technology, combined with DAG high-speed asynchronous and concurrent write transactions; with the combination of Sharding and DAG technology, scalability in Layer 1 is achieved from two technical directions, hence a single chain of 100,000 TPS, and transactions are confirmed in seconds.

10 Statter Virtual Machine (SVM)

In order to prevent security risks caused by attacks on devices, smart contracts cannot be run directly on real machines; each node has to run smart contracts for verification, but if they are run directly on machines instead of virtual machines, they can be easily exploited and attacked when smart contract developers are negligent or inadequately tested. Therefore, Statter developed the SVM, which is responsible of translating and running smart contracts and is the most critical technology for implementing smart contract systems.

Statter abstracts common contract functions based on smart contracts with different metaverse application features, and encapsulates them into smaller smart contract components for direct use or secondary development by creators; it also provides a series of functions such as direct deployment of components on the chain and on-chain testing, making it easier and faster to develop smart contracts and DApps.

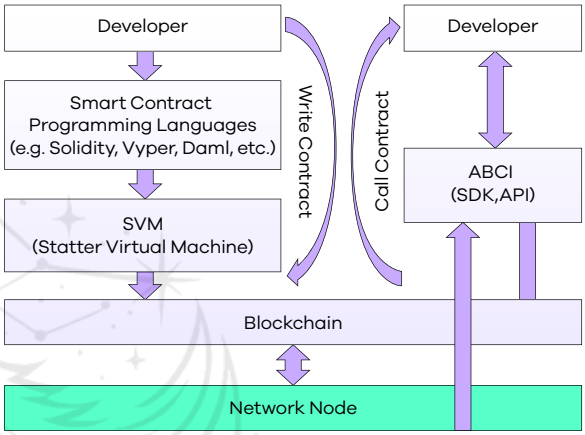


Figure 12: SVM Operating Environment

As shown above, the SVM is a code runtime environment built on Statter′ s blockchain; the virtual machine itself is not stored within the blockchain, but on each node at the same time as the blockchain; each verification node participating in the Statter network runs the virtual machine and uses it as part of the block validity verification protocol; each node performs the same calculations for contract deployment and invocation and stores the same data to ensure that the most authoritative (and authentic) results are recorded on the blockchain.

11 The Metaverse Plugin App Market

The metaverse is an integration of virtual world and real world. Virtual world interaction is a huge and systematic project. For example, the virtual world requires rendering to

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look like and interact in a way similar as the real world. Information from multiple dimensions need synchronizing. To meet this end, numerous infrastructure services should be built on terminal hardware devices. The underlying layer of the metaverse consists of infrastructure and terminal hardware devices, including but not limited to, human-computer interaction, 3D engines, GIS, design tools, game rendering, image rendering, privacy computing, AI, operating systems, industrial Internet, content distribution, application stores, and blockchain. On top of these hardware foundations, the metaverse also requires software and technology synergies, such as 5G, 6G, cloud computing, blockchain nodes, edge computing nodes and DPUs on the infrastructure side, and user-end routers, sensors, chips, VR and brain-computer interfaces.

Statter is an open ecology and platform that provides infrastructure connections in the plugin App market, such as 3D engines, GIS, edge computing, edge rendering, decentralized storage, digital twin, cloud computing, AI and computer vision. Leveraging the drag-and-drop public blockchain generation technology, multi-chain operation platform and the metaverse plugin App market, Statter provides all round services for the metaverse developers to construct the metaverse from basic theory to a world beyond reality.

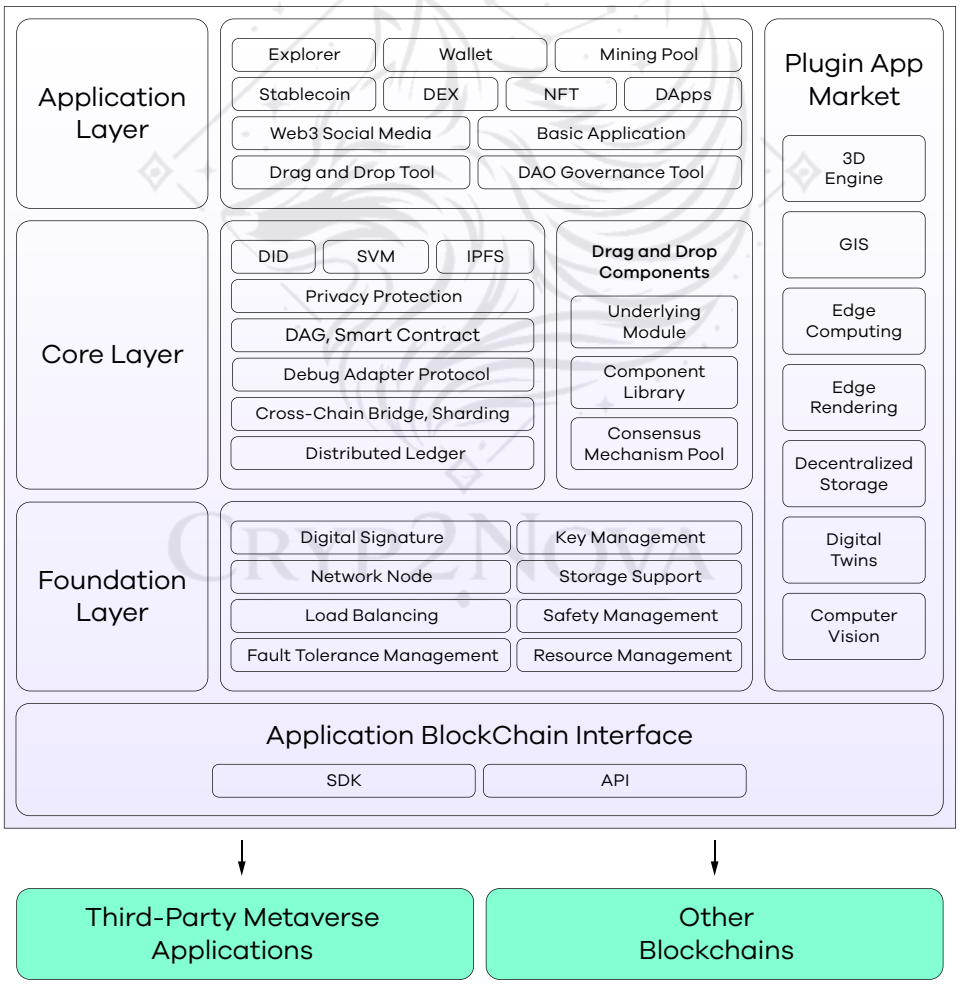


Figure 13: Overall Structure of Statter

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According to the structure diagram above, the plugin application market is integrated into Statter's eco-platform. Plugins supports select-and-apply mode. The following two examples show how to use the plugin application market. The first example shows how to create an avatar out of a selfie image with an interesting AI-based 3D avatar generation tool. Users first take a photo with their camera or upload a photo to the App to get an avatar. Then modify the original animated avatar by adjusting its features, hairstyle and clothing. The avatar can be presented in either half-body or full-body, and it is a profile between photo style and cartoon art.

The Statter platform integrates the 3D avatar generation tool through the interface, and after debugging, the 3D avatar plugin is launched in the market for developers. The plugins in the App market are ready to use. If developers select this 3D avatar plugin in the market, no interfacing processing is required before the developer's clients create his or her 3D virtual profiles directly in the plugin application. It is possible to imagine that users' identity and avatar in Sandbox can be synchronized directly to Statter's metaverse soccer field. The day when players can use the same identity and avatar to enter every corner of the Internet is not far off.

The second example is about decentralized storage. Most DApps usually generate a large amount of data and content that needs confidential storage for a long time. The decentralized storage plugin provided by Statter in the market is an effective solution to meet the needs of high-value data or long-lasting data storage. Developers just need to select a decentralized storage plugin in the market and choose the data to be stored. Then, the storage plugin can automatically shard and store the selected data in multiple copies on various nodes distributed around the world. Such sharding and distributed storage mean only the data owner can read the complete data.

12 Application BlockChain Interface

Application BlockChain Interface (ABCI) is the bridge that links third-party metaverse applications to the public blockchain. Statter supports two common interface methods, SDK and Restful API:

1. **SDK development kit:** encapsulates functions for public/private key pair generation, address generation, signature, signature verification, encryption, decryption, etc., providing java language support for direct use by developers.
2. **API:** direct code call through Restful interface.

Specification (Partial)

- **Communication protocol**
  Use https protocol to protect user information from being intercepted due to plaintext transmission. The interface only supports POST mode call.
- **Data format**
  The submission of parameters and the return of results are in json format. For example:
  {
  "code":0,
  "msg":OK,
  "content":190000020920160917000000001,
  "sign":9DB4A016A8B515349C307F1E348CE735
  }
- **Initialize the SDK**
  Initialize the SDK in code with the following example of registration function:
  @Override
  public void onCreate() {

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super.onCreate();
SttWalletSDK.getInstance().init(this);
}

- **Capture the current language**
  Gets the current language environment from the user settings in the Statter application. The example is as follows.
  window.statter.getCurrentLanguage();
- **Payment**
  (1)STT Token Transfer Method
  (2)To receive the transfer or refuse the transfer, please add the following method to your JavaScript
  function isPayToken(isPay,msg) {
  //isPay(boolean) true(Transfer success), false(The transfer fails or the user cancels)
  //msg (See return code for details)
  }
  (3)Type
  var fromAddress;//Payment address
  var toAddress;//To address
  var amount;//number
  var gas='2002';//gas Fuel surcharge
  var contractName; //The contract of
  (4)Example
  window.statter.payToken(fromAddress,toAddress,amount,gas,contractName);
  (5)Return to the code example

Status code	**meaning**
1001	successful
1002	failure
1003	Lack of balance(Balance at STT transfer+Gas,When it comes to token transfers, it refers to Gas)
1004	Insufficient token balance
1005	There is no contract
1006	Wallets don't exist

13 Statter' s Ecological Construction

The metaverse redefines the relationship between people and space. Technologies such as AR, VR, MR, cloud computing, 5G and blockchain have built a gateway to the metaverse, a way to interact with the fusion of virtual and reality that is changing our lives.

At present, the development of metaverse is in the deconstruction stage - deconstructing industry needs and consolidating the underlying foundation; in applications, the deconstruction stage will allow some easy-to-implement fields to take the lead in integrating with metaverse, such as digital finance, digital culture, games, music, remote work and other fields.

In the metaverse, we are all creators. what will become of the world in which humans live? Let's imagine with Jack's story.

"Jack is a well-known photographer in New York, and a member of the Photographic Society of America (PSA). He loves nature and flora and fauna photography, and has shot hundreds of thousands of photographs, with some paid by the media to use. Jack is living quite well for what he is doing.

But, he has a big thing to do; he wants to start a platform for NFT exhibition and release - Particle Art NFT platform. As for the details of starting the platform, he discussed with Tom and William of PSA many times, and today he has to make a final decision.

Jack opens Statter' s social metaverse, logs in with his face ID (camera swept his face), uploads a full body photo, and creates an avatar with the 3D avatar generation tool; the virtual avatar is something between real and cartoon, which is very interesting.

Jack wears an XR device and controls the virtual avatar in the social metaverse. Following the familiar streets to the rooftop, which is

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known as the most beautiful restaurant in New York; with the help of 3D engine, GIS, XR, computer vision, communication and other technologies, the Statter' social metaverse provides real-time 3D scene rendering, character control and scene interaction, giving Jack an aesthetic experience beyond reality.

Jack sits down by the window in the corner. He orders some signature dishes and waits for Tom and William. Soon after, the other two people come and they start discussing and eating. Jack opens the document "Particle Art Memo" , drags it into Statter' s social metaverse, and clicks share with Tom and William. With the shared document on their mobile devices, it took them over three hours to discuss and finalize all the details.

They divide the task: Jack is in charge of the platform; Tom is responsible for the public blockchain and trading platform building; William is responsible for UI. Fortunately, Statter' s public blockchain platform is available for them. Tom selects the underlying modules, suitable components and consensus algorithm according to the demand of the platform, and quickly generates the particle art public blockchain with NFT properties. As the trading component is selected, it supports the whole business of NFT issuance, collection and trading, the created public blockchain and trading platform are directly deployed and run on Statter's platform. When William's UI production is completed, it can be linked up through the application interface ABCI, and the particle art NFT platform is finally built."

The NFT platform and the social metaverse mentioned in the story belong to the category of metaverse culture construction.

13.1 Metaverse Culture

- **NFT and Trading Platform**

Non-Fungible Token (NFT) is a kind of cryptographic digital proof of interest that is structured on the blockchain technology, which cannot be copied, altered, or split. In simple terms, NFT is a blockchain-based token and each token represents a unique asset.

Minting photography NFT allows creators or collectors to establish demonstrable rarity, verified ownership and ongoing creator income. Simply put, NFT allows you to prove in the metaverse that the photography is yours, and to witness the process of trading it, as well as the final owner of the photography.

Generate your own NFT-specific public blockchain on the Statter platform and carry out related businesses such as creating NFT marketplace, and NFT minting, listing, collecting and trading.

- **Social Metaverse**

The social metaverse built on the blockchain technology combines 3D engine, GIS, XR, cloud computing, artificial intelligence, computer vision, communication and other technologies, which provides real-time 3D scene rendering, character control and scene interaction, real-time communication and state synchronization; at the same time, by using a decentralized and open model, users can control their own data and revenue from the production content; creators or developers can build the social metaverse based on the blockchain technology of Statter′s platform and the plug-in application market in the metaverse, to issue their own tokens, NFT and trading market.

Socializing in the metaverse provides a more realistic experience. Driven by a 3D real-time rendering engine, users experience a wide variety of immersive social scenarios with their virtual image avatars: such as, chatting, partying, shopping, online launch, live streaming, teleconferencing, etc., as well as communicating, entertaining and interacting in a near-realistic real-time experience.

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Users can chat, publish content, comment and share knowledge in the social metaverse, and get token rewards for producing content; original articles or pictures published by users can also generate NFT, and other users can buy, transfer or even rent NFT in the market; tokens and NFT obtained by users can also be exchanged to other cryptocurrencies across chains in the trading market, or even to fiat money, making it possible to make money while playing in the social metaverse.

From graphic and video to 3D, digital and virtualized, social metaverse breaks the limitation of time and space, gamified and virtualized immersive scenes, allowing users to have a richer, more diverse and natural experience in social interaction.

Let′s go back to Jack′s story.

"The reason why Jack, Tom and William want to start the Particle Art NFT platform is, on the one hand, to protect the copyright of photographers' works with the help of the blockchain technology; on the other hand, to exchange works for income without intermediaries, use half of the income to set up a fund to arouse people's interest in photography around the world, and use photography as a medium to enhance international mutual understanding.

Regarding the choice of pricing currency of NFT, at first Tom proposed to use ETH, but everyone felt that the price′ s too volatile and not conducive to the value of the work as well as the stability of the foundation; after several rounds of discussion, it was unanimously resolved to use the stablecoin USTT for pricing (USTT is a stablecoin issued by Dubai Wealth Fund on Statter′ s public blockchain platform, backed by Swiss Bank USD assets on the chain as a credit, and anchored 1:1 to USD).

In order to counteract the shrinkage of the fund′ s assets brought about by inflation, Jack evaluated and compared a number of decentralized finance, and they choose two DiFi products, Dubai Wealth Fund and Swiss Bell Fund, for financial management. Both funds are automatically executed through smart contracts for lending and borrowing, the whole process is transparent, open and without human operation, reducing human and material expenditure and yielding up to 5%-6% per year."

The stablecoin USTT and decentralized finance above all belong to metaverse financial construction.

13.2 The Metaverse Finance

The decentralized model and distributed ledger technology are the financial cornerstones for the metaverse. It will first develop the payment function and gradually involve in many niche financial fields such as NFT, crypto assets, lending, and trading. Based on that, it further expands to the fields of asset digitization and asset validation to support the economic activities of the metaverse in a decentralized environment.

- **Stablecoin Issuance**

Cryptocurrencies support efficient P2P transactions without centralized institutions, thus significantly reducing transaction costs. However, cryptocurrency prices are highly volatile, making it difficult to use as a traditional currency in many scenarios. Stablecoin, as a cryptocurrency backed by blockchain technology, is associated with fiat currencies that have stable values. It maps real-world physical assets to the blockchain by pegging fiat currency to stabilize its price. Stablecoins are perfect for cross-border remittances (which usually take 3 to 7 days to arrive), trade (subject to high taxes), payments, and payroll labor. The Statter platform

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supports the issuance of USTT stablecoins for the above businesses with physical assets uploaded on-chain as credit backing.

• **Decentralized Finance**

Mortgage loan is one of the most common products in traditional finance. Compared with the traditional mortgage lending model, decentralized finance shows great advantages in terms of lending efficiency and operating costs. Developers can create a DeFi public blockchain on the Statter platform and then conduct businesses such as cryptocurrency finance and mortgage lending. The lending process is executed automatically via smart contracts with the smart contract plugin on the public blockchain platform. All procedures are performed on-chain, including posting financing demands, locking collateral assets, borrowing underlying assets, investment operations, repayment at maturity, and delayed delivery. The whole process is transparent, open, and requires no manual operation. It not only reduces the expenditure on manpower, material resources, and operations but also improves the speed of loan processing.

• **Metaverse Financial Center**

Metaverse is the catalyst for financial business breakthroughs. Currently, banks, insurance companies, and other financial institutions are overwhelmed by homogeneous services and products. Integrating metaverse into financial industry innovation can help traditional finance break the limitations of time and space. On the one hand, customers can enjoy the advanced and immersive 1-to-1 service experience provided by financial institutions. On the other hand, financial institutions also welcome new opportunities for business expansion. The financial center in the metaverse is built with a 3D engine, GIS, XR, cloud computing, artificial intelligence, computer vision, communication, and other technologies to create an immersive experience, enhance customer satisfaction, and optimize the effect of financial product marketing.

Let's move on to Jack's story.

"It was after 10 p.m. when Jack had everything settled. He was ready to play for an hour before going to bed. Three years ago, Jack gave up traditional games and started playing GameFi, as the latter's play-and-earn mode is more rewarding for him.

Over the past three years, Jack built himself a small universe in Firefly GameFi: it had three planets, seven mining sites, more than a hundred giant interplanetary spacecraft, and more than 20,000 ship-based aircraft. The game's ores, planet passports, ship-based aircraft, and interplanetary spacecraft can be traded freely in the marketplace on the central planet. Players can also purchase supplies, mechanics, and mercenaries they need at the fair. Jack's goal was to operate a larger Jack universe in Firefly GameFi, so he will be on an interstellar expedition for over an hour each day.

Jack must go to bed early tonight in order to get up early the next day to watch Brazil vs. Serbia at 8:00 a.m. Jack is a fan of the Brazilian football team, and he just bet £1,000 on Brazil at odds of 1.3 on the decentralized betting platform. Good night and hope tomorrow is another lucky day."

The Firefly GameFi and decentralized betting platform mentioned in the story represent the metaverse' development in entertainment:

13.3 Entertainment in the Metaverse

• **Metaverse Game**

Electronic games exist in a virtual form, but it fits in well with the metaverse. The

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metaverse makes games as real as reality. Specifically, the equipment and game tokens in metaverse games are digital assets. In the game, players are able to possess their own territories and even change the rules of the game or the direction of the story with their in-game token holdings.

Developers can create a game token and a market on the Statter platform, which is connected to the game through ABCI. The tokens obtained by players playing the game can be traded in the marketplace. In-game items and virtual goods, such as lands, props, and pets, can also be sold directly in the market. The blockchain linked to the metaverse makes the issuance, circulation, and trading of props, tokens, and other in-game digital assets more open and transparent, winning the maximum trust of players.

- Betting for Fun in a Decentralized Way

The World Cup is the carnival of soccer fans, but also the carnival of the gambling industry. Traditional betting platforms are neither public nor transparent. The decentralized betting platform gives full play to the characteristics of blockchain technology to solve the current problems that the gambling industry has been criticized for, including the credibility of traditional betting platform prize draws, high commission and low returns, undisclosed and non-transparent data, security of funds, and suspected cheating by operators.

Creating a betting public blockchain on Statter to run a decentralized betting platform is part of our entertainment plan. All betting information (game events, results, bets, and prizes) will be recorded on the blockchain in a tamper-proof way. All information is open and transparent, effectively eliminating any suspicion of manipulation. The smart contract deployed in advance (using the smart contract component on the platform) can automatically obtain game results, assign betting funds, match winning prizes, and pay out prizes, preventing human intervention.

For online travel, virtual concerts, immersive theaters, telecommuting, online education, and other financial activities or application scenarios, creators can choose the appropriate underlying modules, components, and consensus algorithms on the Statter platform to create customized applications with flexibility according to their application characteristics or needs.

The Statter Foundation will set up an ecological support fund in 2023 to launch a global ecological construction and technical contribution reward program to strongly support the construction of ecological applications for fields including but not limited to metaverse culture, finance, and entertainment. Through the Satellite Chains Program, it will support and help creators or developers create more metaverse applications on the Statter platform. With the continuous development and improvement of metaverse infrastructure facilities and the emergence of a large number of applications in various industries, the metaverse will definitely embrace prosperity.

14 Statter Metaverse Tokenomics

Fair launch has been touted as the holy grail of cryptocurrency. In an article published by Arjun Balaji and Hasu in early 2019, a fair launch is defined as a product that is issued over a long period of time for proper price discovery and price equality (without discounts).

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Tokens should be allocated to people who make a true contribution to the development of the entire ecosystem and the public blockchain platform. Everyone should work hard to maintain the network, build the mining pool, research and develop technology, cultivate ecology, and operate the community in order to get a justified share of tokens as incentives. Since there is no priority allocation or discounts, everyone involved in mining is at the same starting level, and will be rewarded fairly. In addition, Statter tokens will be given the long-term utility of participating in DAO governance. As a result, Statter tokens are transformed from ordinary tokens to governance tokens with unlimited power.

14.1 About STT

STT is Statter Network′ s token with a total supply of 1,861 million. STTs are produced by mining as there will not be ICO.

14.2 Mining Mechanism

SPoW (Segmented Proof of Work) consensus mechanism is used to segment computing tasks and assign them to all mining pools to guarantee a fair mining activity. The Mining output is as follows:

- **Block Time:** 12 seconds
- **Block Reward:** 120 STT
- **Reduction Rule:** Block rewards for STT miners are reduced by 25% for every 12 months

To ensure a stable output, there will be a one-month-long beta testing period for mining (for the time of the beta testing, please refer to the announcement published on official website or Statter's Twitter account). All miners participating in the mining test will be rewarded 160 STT for each block.

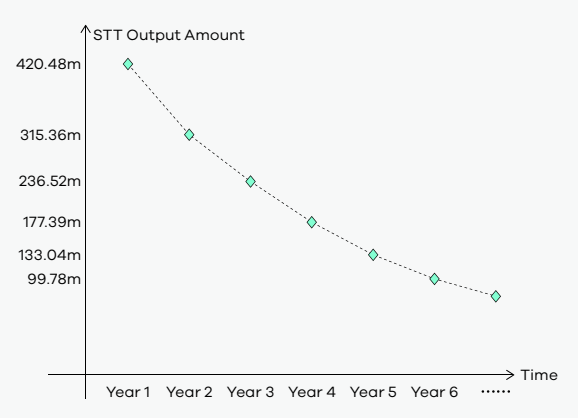


Figure 14: STT Reduction Curve

14.3 Distribution

STT will be distributed proportionately:

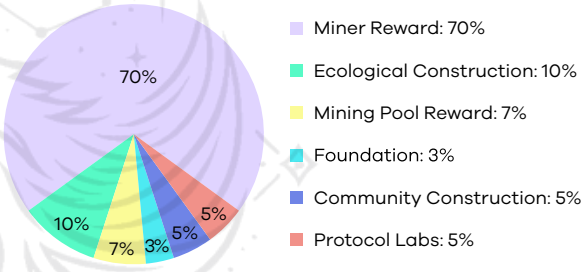


Figure 15: STT Distribution

- **Miner Reward:** 70% for the maintenance of network security and decentralized storage of data.
- **Mining Pool Reward:** 7% for mining pools incentives.
- **Ecological Construction:** 10% for ecology construction and supporting ecological Apps.
- **Community Construction:** 5% for global community construction and consensus delivery.
- **Protocol Labs:** 5% for the R&D, upgrade and iteration of Statter's protocol labs.
- **Foundation:** 3% for the working capital of the foundation.

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14.4 Staking Mechanism

Statter nodes will keep all the ledgers. As long as there are nodes in the network, the data will not be lost. In addition to packaging ledgers, the Statter's mining rigs will also store the data and content generated by the DApp. Then, the data will automatically be sharded and stored in multiple copies in miners distributed around the world. The departure of any mining rigs can cause a loss of data or content.

Countless public blockchains and decentralized storage DApps running on the Statter platform will generate a large amount of data and content. The security and integrity of the data might be undermined if mining rigs are taken offline randomly without preparation. It is difficult to guarantee the network security and integrity of the data and content of the decentralized storage by technical means alone. Thus, economic methods are essentially needed. Accordingly, Statter has set a pledge penalty mechanism: if a mining rig goes offline for more than a specified period of time (including drop-outs or abnormal withdrawals), a certain amount of pledge coins will be deducted (no penalty before mainnet 2.0).

Therefore, miners must stake a certain amount of STT for each mining rig before mining (no pledge is required during the beta testing period). After 180 days of lock-up period (for the time of the beta testing, please refer to the announcement published on official website or Statter's Twitter account), the staked STT can be redeemed at any time.

14.5 Burning Mechanism

Supply and demand relationship is a direct reflection of the value of tokens. As a result, reducing circulation by burning has proven to be the most effective method of keeping tokens valuable.

Statter will be destroyed through a variety of methods, including mining pool creation fees, GAS fees generated by Statter's main chain, and GAS fees generated by Satellite Chains. The deflation target is to keep 186.1 million tokens (10% of the total supplement) in circulation while burning 90% of the total STT.

Most tokens are burned after paying the gas fee incurred by the Statter chain, especially the gas fee for the public blockchain generated by Statter's drag-and-drop function, which accounts for the vast majority of the Statter chain's gas fee. Imagine that there are thousands of such chains, each serving thousands of people, all operating on the Statter platform. Each transaction will be charged a gas fee, which means a huge amount of tokens will be burned. Once the desired degree of deflation is reached, the mining pool fees will be used for ecological and community development, while the gas fee will be distributed to miners in the form of rewards.

14.6 Scenarios

STT is the universal token that can be exchanged and traded freely in the Statter ecosystem. It can also be used to pay fees for the launch of mining pool, mining staking, Gas fee, and the Gas fee for DApps in ecology. Users can also deposit STT to get stablecoins. Furthermore, STT will be the universal token for the ecology, with voting rights weight, to be used in DAO governance.

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15 Metaverse Nautical Chart

Snow Crash

The constructing stage of the public blockchain, Q1, 2022 to Q2, 2023

- Launch the Official Website, and release the economic model of mining
- Launch the Official Wallet
- Launch the Blockchain Explorer
- Publish Whitepaper 1.0
- Launch the testnet of the public blockchain
- Establish the supporting fund for Statter ecology
- Launch the global ecology construction series of activities

Code Charter

The co-constructing stage of blockchain ecology, Q3 to Q4, 2023

- Launch the mainnet of the public blockchain
- Support Apps for the blockchain ecology
- Launch the Technology Contribution Rewarding Plan
- Launch the project to develop drag-and-drop technology for blockchain generation

Cyberpunk

The co-constructing stage of the metaverse, Q1, 2024 to Q4, 2024

- Upgrade the mainnet of public blockchain to version 2.0
- Launch the public blockchain generation platform based on the drag-and-drop technology
- Launch the decentralized storage
- Support Apps of the blockchain ecology
- Satellite Chain Program

Time Traveling

The prosperous stage of the metaverse, Q1 to Q4, 2025

- Launch the platform for modularized DApp
- Start the construction of Statter Metaverse City
- Auction land and private space in the metaverse

Higher-Dimensional Civilization

Forward-looking exploration, Q1, 2026

- Start the trial of integrating the digital twin, XR, and other technology into the real world
- Facilitate people's entry into the metaverse via hardware technologies such as brain-computer interfaces or iris recognition interfaces
- Explore and investigate other forward-looking technologies

16 Surreal DAO Governance

Statter is a global open-source public blockchain platform governed by the DAO, which breathes life into the ecology of Statter. The public blockchain platform is currently in the start-up phase and is temporarily managed by the Foundation and the Protocol Lab. Protocol Lab is responsible for technology development and upgrade iterations, while the Foundation is responsible for overall management and ecological construction.

The Foundation will set up a fund to support the development of ecology, encourage contributions to technologies, and support the construction of basic applications. The Foundation will also collabo-

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rate with top universities to establish a metaverse lab and conduct forward-looking technology research. Various competitions will also be organized to promote the development of the Statter ecosystem. When the mainnet is upgraded to 2.0, the lab will follow the open source protocol and publish the source code on Github to the public. It will also provide mature development tools and perfect development documents that are available to the masses. Open source creation will gradually become the core of the future community. The open source model facilitates all people participating in the development process to create and enjoy the fun of creating the metaverse together.

DAO (Decentralized Autonomous Organization) represents the will of the community and is controlled by the community. When Statter and the ecology are taking shape, the Foundation and protocol lab will initiate a DAO, transferring power to the community. DAO governance participants become public blockchain platform owners.

Statter writes the rules of DAO governance and operation into a smart contract. In this way, DAO governance can operate autonomously without centralized control or third-party intervention. Through intelligent management tools and token economic incentives, DAOs are self-running, self-governing, and self-evolving, thus increasing their governance effectiveness above traditional organizations.

Despite all the benefits, DAO still faces some problems to be solved, including:

- Contributors become exhausted and thus not active to work, resulting in low long-term retention rates.
- Members are reluctant to participate in governance, with only a few participants voting on proposals;
- Free Rider Problem. A small number of participants took on most of the tasks, including drafting and promoting proposals.
- Economy-based voting weight may lead to inequality as participants holding more tokens exert more influence on proposals.

In order to solve the above problems, Statter will add a credit-weighted and reward mechanism to the existing STT token vote-weighted system. The credit weight is linked to members' participation, trustworthiness, and influence to solve the problem of unequal voting power among members. According to the reward mechanism, members who make, vote on, and contribute to proposals that have been approved will be rewarded with tokens or credit points. The reward mechanism will address issues such as low retention rates and low participation rates in governance.

In Statter's DAO system, autonomy, contribution, and rewards are integral parts. Users can buy and hold tokens to participate in governance, or they can take on roles such as community volunteers, self-publishers, part-time operators, and developers to make their own contributions to the ecology. There are options of full-time working or contributing several hours per week as a part-time developer. The reward mechanism will award contributors tokens or credit points according to the value they contributed and created.

The Highlights of Statter DAO:

1. **Code is law**
   The governing and operational rules of the DAO are written in a smart contract. This allows the DAO to

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operate autonomously without centralized control or third-party intervention. Leveraging intelligent management tools and tokenomic incentives, DAOs are self-running, self-governing, and self-evolving. As a result, the rule's effectiveness is optimized.

2. **Token Weight**
   According to the token-weighted governance model, the more tokens the holder has, the greater the voting weight given to the holder when voting on the proposal, thus exposing the DAO to the risk of whales' manipulation of voting results.
3. **Credit Weight**
   The credit-weighted system was designed to address the unequal power distribution system where large token holders decides and manipulate the outcome of voting regardless of other smaller holders. On the contrary, a credit-weighted system is based on social activity and contributions to governance. It links a member's creditability with his or her trustworthiness and influence. Higher credit weights mean more influence, which translates into larger weights when voting for proposals.
4. **Incentive Mechanism**
   The incentive mechanism is used to encourage the proposers, voters and contributors who have passed the voting in the form of token or reputation; If the proposal fails, your reputation will be damaged; The adoption of the incentive mechanism will significantly alleviate the low community retention rate and low willingness to participate in governance.
5. **Regulatory System**
   The community formulates the DAO regulatory framework, and the regulatory rules are included into the smart contract; Unless the majority of members vote to change the rules, the established rules cannot be tampered with; Non-compliant actions or records in the governance process trigger the regulatory system and are automatically disclosed to the community.

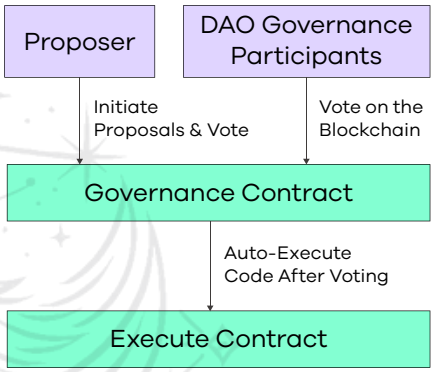


Figure 16: The Governance Process of Statter DAO

The participation in DAO does not require any license. STT token holders, contributors, parliaments and foundations can all launch new proposals for governance parameters, operations, marketing, resource allocation, etc. The approved proposals will be subject to an online referendum. After the referendum, the proposal will be automatically implemented. Examples are listed as follows:

- Approve open-source code - for example, decide whether to agree to open source code, as well as the object and scope of open source code;
- Adjust the parameters of the public blockchain platform - for example, adjust the number of mining and staking, the creation fee of mining

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pool and the number of staking penalties, or decide whether to charge the creation of fee public blockchain, etc.;
- Submit and discuss the improvement proposals - for example, adjust the specific content of the DAO governance rules, or question other proposals before the formal vote;
- Decide on the use of funds of the ecological support fund - for example, how to distribute the bonus in the ecological support fund to the contributors, or decide whether the foundation invests or acquires excellent teams;
- Manage the leaders - for example, vote to decide the dismissal of management, vetoing the decisions of leaders, or change the organizational structure of the DAO;
- Conduct the arbitrage on differences - for example, decide whether to compensate investors for losses caused by accidents or loopholes;
- Decide on the long-term roadmap and final vision of the public blockchain platform - for example, discuss the route adjustment of the public blockchain platform, or decide on specific issues;
- Develop the value capture mechanism of the agreement - for example, whether to destroy tokens, the proportion of destruction/reward, the incentive method for DAO participants, etc.

17 Risk Statement

This article is not an investment suggestion. If you decide to purchase STT, create a public blockchain to issue token on Statter, create a DApp, or use plug-ins in the app store of Meta Universe, etc., you shall explicitly accept and assume the following risks:

Uncertain regulations: the regulatory action of virtual currency may have a negative impact on STT or Statter; If regulatory actions or changes in laws or regulations make it illegal to operate in that jurisdiction, the Statter Foundation can stop its business in a certain jurisdiction.

Inadequate information disclosure: So far, the Statter platform is still under development, and the technical concept, consensus mechanism, algorithm, code and other technical details and parameters may be updated and changed constantly; Although this article has included the latest information about Statter, the development team of Statter may still adjust and update it from time to time, so insufficient information disclosure is inevitable and reasonable.

Forward-looking statements: This article contains some forward-looking statements about performance in the next 2-5 years; It includes but is not limited to, the expected market conditions of Statter; The expected market development of the public blockchain platform; Planning of its vision and route strategy; The completion of the ongoing development of the public blockchain platform; Forward-looking statements only represent the confidence and assumptions of the Foundation and the protocol laboratory. As of the date of this article, these statements are not guarantees of future performance.

Other unforeseen circumstances: due to various reasons, it may lead to, but is not limited to, the price decline of any digital asset, virtual currency or STT, unexpected technical failures or hacker attacks.

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