3ʳᵈ Edition

SINOVATE
Whitepaper
2021

This book is the 3rd edition of the SINOVATE project whitepaper. It should not be considered as investment advice and for information only. Its purpose is to provide an exhaustive overview of all the technical characteristics of the project as well as the possible applications. The SINOVATE project wishes you a pleasant reading.

Authors: SINOVATE Nation.

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Content

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I.   Introduction

"A purely peer-to-peer version of electronic cash would allow online payments to be sent directly from one party to another without going through a financial institution. Digital signatures provide part of the solution, but the main benefits are lost if a trusted third party is still required to prevent double spending. We propose a solution to the double-spending problem using a peer-to-peer network. The network timestamps transactions by hashing them into an ongoing chain of hash-based proof-of-work, forming a record that cannot be changed without redoing the proof-of-work. The longest chain not only serves as proof of the sequence of events witnessed but proof that it came from the largest pool of CPU power. If a majority of CPU power is controlled by nodes that are not cooperating to attack the network, they will generate the longest chain and outpace attackers. The network itself requires minimal structure. Messages are broadcast on a best effort basis, and nodes can leave and rejoin the network at will, accepting the longest proof-of-work chain as proof of what happened while they were gone."

Satoshi Nakamoto – October 31, 2008

II.   Our Vision

Since its launch in September 2018, the SINOVATE project has strived to provide innovative solutions in the field of blockchain technologies. At the same time, a complete democratic solution has been developed to respect and consider the individuals' opinion as the community is the major aspect of any blockchain project. It is therefore essential that all members of the community feel welcomed and involved. SINOVATE aims to be innovative in how to use blockchain technology for the sole purpose of improving the user and business experience in this area.

Our vision is to create a Blockchain platform in which the needs of the community are considered while learning from the mistakes of the past. SINOVATE is committed to demonstrating transparency, accountability, and honesty in its efforts to resolve existing issues in the blockchain world. Our slogan indicates it succinctly: Create, Build, and Innovate.

III.   Our Mission

Blockchain technology is still viewed by many to be in its early stages of development. However, its new and future applications are far beyond the mere ability of using cryptocurrency as the sole store of value. The SINOVATE team is very aware of the challenges to come and relies on reliable and recognized aspects of the technological advantages of blockchain to build itself and provide unique services with high added value.

SINOVATE is a decentralized open-source network using reliable technical principles and composed of pre-existing and innovative blockchain technologies. The various technologies have been carefully selected to meet the challenges of speed of transactions, security, and network scalability. SINOVATE is therefore ready to adapt, to evolve and to maintain its technological and social relevance and its usefulness in a constantly evolving environment.

Therefore, our goal is to make SINOVATE a user-friendly, innovative, and accessible platform so that they are fully integrated into the user's daily life.

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IV. BIG DATA: The Problems of Mainstream Clouds

IV.1. Centralization

The contemporary cloud is a storage center for files, data and databases administered in computer servers on a network. It is also known as network storage and is totally different from local data storage. All network attached storage options use the same underlying architecture. They all synchronize or copy each other to a centralized server cluster. The owner of the centralized storage provider has full control over the stored data.

IV.2. Infrastructure Stability

Cloud storage platforms do their best to deliver stable performance, but the results achieved by most cloud service providers are regularly negative. They often offer unstable performance throughout their use. This problem is mainly due to the definitive sharing of physical resources, such as network, memory spaces, disks, CPUs, with many different users and requirements. Additionally, users cannot recover their data when data centers are temporarily offline for maintenance reasons.

IV.3. Fees and Expenditure

The fees of centralized storage are inevitably high, considering the inevitable structural charges such as employee salaries, accounting fees, legal fees, administrative duties, and data center rents. Growing demands for data storage have helped large and centralized solutions to lower their rental prices over the past decade by optimizing their data centers and absorbing significant market share. As a result, new companies cannot join this centralized cloud market without a decent quality of service.

The costs of migrating data between different centralized cloud storage platforms are high, and cybersecurity measures cannot completely prevent network hacks and corruptions. Quite recently, we observe the emergence of decentralized solutions sailing like Cloud 3.0 where the projects show the possibility of pushing back the limits of this field. Decentralization will greatly improve the deployment of data storage servers in companies and at the same time drastically reduce rental costs.

IV.4. Users' Privacy

The centralized Cloud inevitably exposes the stored data to leaks and breaches of privacy if the organization holding the structures can control, monitor, censor or even provide information to third parties, the stored data can also be lost or modified. Despite the laws, data do not completely belong to users who may have violated their privacy.

IV.5. File Transfer Speed

File transfer speed is critical for cloud storage, especially when dealing with large files. The data communication speed of the centralized storage is slow because a centralized server is often located far away from the users, which makes the data transmission speed considerably slower. In addition, centralizing processes requires very complex data traffic congestion management at the servers as they become privileged storage sites.

IV.6. System Security

Centralized data centers have several security concerns. They usually congregate in one or few places to keep costs down, and therefore, a physical attack could easily disrupt services through theft, inaccessibility, or destruction of data. During a power outage or other malfunction, a significant number of related services often fail with the real risk of losing data forever. Finally, a data center can be easily located in the network and is easier to target by hackers thanks to the redundancy of data transfers on the target node.
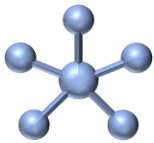
Centralization
Data storage administered and controlled by large operators in servers located in an identifiable infrastructure.

Instability
Servers subject to disruptions of their services offered by data center maintenance.

Huge Fees
Growing data storage requiring increasingly complex centralized infrastructures for which customers pay the costs.

Private Data Leaks
Limited control of our personal data which can be traded thanks to the acceptance of complex terms of use.

Network congestion
The speed of transfers varies depending on the distance to the users' servers and the ability of the servers to handle incoming and outgoing data traffic.

Hacking
Cybersecurity often failing and easy physical geolocation of data centers weakening data integrity.

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V.   SINOVATE – Blockchain for Cloud Data Storage

SINOVATE (SIN) is a technically resilient, open-source, and community-based blockchain to resolve Big Data paradigms.

Incorruptible Data Storage (IDS) provides a decentralized data network as a complete cloud solution. It leverages the Proof of Service (PoSe) of thousands of ***Infinity Nodes*** that provide inexpensive and highly secure data storage and usage services.

The security of the infrastructure is guaranteed using the blockchain associated with a Proof of Work (PoW) layer for the validation of transaction blocks and the unique coin destroying system explained in Section 7.3 for the creation and maintenance of Infinity Nodes.

SINOVATE has also never been the subject of fundraising through an Initial Token Offer (ICO) or an Initial Exchange Offer (IEO) supported by cryptocurrency exchanges, early token sales or pre-mining.

Cloud and Blockchain Storage

SINOVATE is a public, open-source, community-based, and technologically innovative cryptocurrency project.

Providing you low-cost and user-friendly decentralized cloud storage solution is our credo.

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VI. Benefits of SINOVATE

SINOVATE differs from traditional blockchain technologies thanks to six main characteristics resumed as follows.

VI.1. Unique Decentralization of Validators

Today, SINOVATE is a distributed structure that uses Infinity Nodes and a PoW algorithm designed for graphic processor units (GPUs) to ensure decentralization of block validation power and fairness for validators known as miners. The project tends towards a hybrid consensus mechanism for the validation of blocks that merges PoW, Infinity Nodes, and Proof of Stake (PoS). This choice encourages the use of traditional processors (CPU) and GPU and allows to stake out from SINOVATE wallet to reach a wider user base. There are currently more than 1,250 nodes permanently connected to the blockchain, providing decentralization, security, and stability to the network and its future services.

VI.2. Protections against Attackers

The algorithm for calculating the difficulty by linearly weighted moving average (LWMA) and the ReorgFork solution merged with the mechanism of coin destruction called "Proof-of-Burn" (PoB)) establish a reliable 51% secure protection to discourage attackers. These technical features make the SINOVATE network immune to fluctuations in hash power unlike other blockchain projects. The times between blocks are more constant and less sensitive to peaks of hash mining power.

The ReorgFork solution implemented for the prevention of 51% attacks is the Reorg 55 block solution from the Ravencoin project whose success is proof of its effectiveness. The hybrid consensus makes network and double-spending attacks virtually impossible.

VI.3. Novel Governance

Revolving Sovereignty Votes (RSVs) improve e-governance designed to put power in the hands of users. The RSV is based on the democratic participation of the owners of Infinity Nodes in the life of the project. Decentralized governance is the future of any successful blockchain project and SINOVATE considers blockchain to be and will be ubiquitous in infrastructure and services of daily life soon. It is vital for all to have a fair vote for future developments, marketing, and innovations of the SINOVATE blockchain.

Owners of Infinity Nodes can participate in the democracy life over the lifetime of their nodes, which is 365 days. Users who wish to continue to perceive interests while having some decision-making power over the future of the project must thus renew their nodes. The larger the node, the greater the weighting of the vote.

VI.4. Increased Stability

The PoB mechanism and deterministic Infinity Nodes provide unique network stability and fair returns on investments (ROI). This combination limits inflation, it allows a single control economy linked to SINOVATE, and it ensures that Infinity Nodes holders compensate the coins committed over one year. The 12-month lifespan guarantees a more exceptional quality of service for storage for the SINOVATE IDS Cloud. Indeed, Infinity Nodes holders, the operators must ensure connectivity to the network of their nodes if they want to pay back the sum of SIN coins involved in the PoB mechanism. Unlike other "Masternodes" projects, there is no cancellation of a node before the maturity date, which means all

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nodes must remain online for 12 months, which ensures sustainability and exemplary maintainability, necessary for the Cloud IDS of SINOVATE.

VI.5. Transparent and Collaborative Organization

SINOVATE enjoys unprecedented active full-time community support and is present on a wide range of communication channels heavily used in the cryptosphere. Since its inception in September 2018, the SINOVATE project has strived to provide innovative solutions in the blockchain universe with complete transparency. Therefore, the project provides weekly and monthly reports on current developments in its technology and the project in general.

As the project is collaborative, it respects and takes into consideration the opinions of its community for strategic decisions, the community and democratic aspect being crucial. This can be done through discussions or votes. SINOVATE is a Decentralized Autonomous Organization (DAO), and the votes of Infinity Nodes owners largely lead governance decisions.

VI.6. Advanced, Resilient, and Scalable Network

Block generation is around 2 minutes, with trade confirmations set at 55. Hybrid consensus will significantly reduce trade confirmation times thanks to increased security but will not increase the capacity of the network that depends on the design of the blockchain. To increase its capacities, SINOVATE integrates the Sharding and Schnorr signatures, which allows very high scalability and further increases the capacity of the chain. However, increased scalability and capacity is needed if SINOVATE scales like Bitcoin. Therefore, SINOVATE is compatible with all the technological characteristics of Bitcoin as with the Lightning Network (LN). By then, you can already benefit from the fast transactions of the SINOVATE blockchain with its main technical characteristics.

Decentralization
A hybrid consensus and a unique architecture to guarantee heterogeneity of validators.

Security
Technological and economic security mechanisms against attacks.

Governance
A democratic system based on the holders of storage nodes and validation of transactions.

Stability
Management of monetary inflation, capital flows in the market, and the connectivity of nodes to the network.

Transparency
Communication of the activities of the DAO with growing support towards its community.

Scalability
A blockchain adapting to the demands of growth and improvement of its infrastructure.

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VII. Technological Innovations and Solutions

VII.1. Block Validation Consensus Algorithm

From its inception, SINOVATE has worked on a consensus algorithm to justify its security and scalability. To protect and improve the decentralization of the blockchain, a unique and innovative hashing algorithm based on the PoW consensus has been developed and put into service with the community of miners, those validating the blocks of transactions.

Originally named as x22i and then evolving as X25X, this brand-new algorithm has been optimized to best benefit minors using domestic or advanced GPUs. As a result, the consensus is made resistant to dedicated hardware solutions called ASIC and FPGA and even quantum by adding the SWIFFTX approach to the algorithm chain. Ultimately, the X25X hashing algorithm prevents large mining operations or farms from dominating the SINOVATE blockchain. It is developed to provide a safe, fair, decentralized, and highly accessible solution for mining SIN coins. The X25X is a prime example of the evolution of SINOVATE blockchain technology.

The goal of the original X25X white paper was to design a proof-of-work algorithm that could provide the best possible combination of the following:

1. Make the use of ASICs and FPGAs on the algorithm much more difficult and expensive,
2. Allow miners with GPUs to quickly contribute to the network,
3. Allow GPU miners to have optimal efficiency over other hash components,
4. Being resistant to so-called "quantum" processors,
5. Use proven components, including certain industrial standards,
6. The use of cryptographic algorithms such as sha-2 and sha-3 to ensure the best possible security,
7. Less power consuming GPUs.

Below is a link to the X25X Algorithm Technical Paper:

Technical Paper: X25X

VII.2. Security against 51% Attacks

VII.2.a. Block Validation Difficulty Adjustment Algorithm

Difficulty adjustment algorithms have been designed, tested, and implemented to improve how mining difficulty responds to fluctuations in network hash power, regardless of size. More recently, a lot of advanced difficulty adjustment algorithms have been published and adopted after careful testing. SINOVATE has been at the forefront in integrating the latest difficulty algorithms into its code protocol. In particular, the difficulty adjustment algorithm securing against 51% attacks works as follows:

It estimates the current hash rate to fix the difficulty of obtaining correct solve times by dividing the harmonic average of the difficulties by the linearly weighted moving average (LWMA) of the solve times. It thus gives more weight to the most recent resolution times. It is designed to protect small projects from manipulation of timestamps and hash attacks.

The basic equation is as follows: *next_difficulty = harmonic_mean(Difficulties) * resolving_time / LWMA(solving time)*

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VII.2.b. ReorgFork Solution

Another method to counter 51% double-spend attacks is known as Reorg's Maximum Depth Solution by default. Enough trusted nodes or computer servers communicate with each other to prevent a bifurcated chain from being maliciously accepted as the so-called "real" chain.

To do this, we set a maximum number of previous blocks from which forked chains can be formed, whether valid or malicious. It is not recommended to use a shallow maximum depth solution of reorg, as this would prevent a wanted and valid "fork" or mutation of the chain (source code version upgrade for example).

VII.3. Proof-of-Burn: Coin Destruction Mechanism

The coin destruction mechanism known as Proof-of-Burn (PoB) was conceived as a self-regulating mechanism for the supply and demand of coins in circulation. This regulation is done by transferring transaction fees to an unusable SIN address. They are then said to be burnt, which is one of the main functions of the PoB mechanism. As the ledger is public and open to everyone, the unusable generic address of the project below makes it possible to trace all transactions and actions linked to the PoB mechanism:

SinBurnAddress123456789SuqaXbx3AMC

One of the characteristics specific to SINOVATE is to have extended this principle to the creation of PoSe nodes of the blockchain. Thus, this implies that all the SIN coins pledged ("collateral") to rule on the veracity of their posting are transferred immutable and recorded as unusable. This process helps to increase the validity of the decentralized network and ensures that all participating nodes reach consensus or risk losing transaction block rewards needed to fill back the collateral.

This requirement for stability ensures the endurance of the network and limits the circulating supply of SIN coins, thus reducing selling pressure on the exchanges. As a reminder, this is not the case with traditional Masternodes which can be liquidated and sold at any time.

The PoB mechanism offers this desired stability in view of future use cases of the IDS storage function whose cloud data stored in a decentralized manner will be hosted in the PoSe nodes called Infinity Nodes.

VII.4. PoSe Nodes called Infinity Nodes

SINOVATE designed the Infinity Nodes to overcome the hyperinflation faced by many cryptocurrency projects while opening a new era for solutions using PoSe through this structure. In particular, the implementation of Infinity Nodes through the PoB mechanism guarantees security and stability of the network.

In all blockchain solutions such as SINOVATE, nodes are essential to ensure the integrity of the network and the ledger. These essential components of a decentralized network protocol are simply computers or servers on which wallet client software runs. The following sections deepen the understanding of the Infinity Nodes of SINOVATE.

VII.4.a. What is an Infinity Node?

Like other blockchain solutions, the main SINOVATE chain relies on hundreds of nodes spread across the globe, beyond all borders or proper jurisdiction.

In the SINOVATE network, each node hosts a replica of the main chain allowing the authenticity of the ledger. They help support the network by providing their owners with additional custom-made, unique, and advanced functionality that cannot be provided by simple network nodes. In return, the blockchain

delivers a reward to holders of Infinity Nodes for each confirmation of transaction blocks alongside the PoW mining layer. As the PoB mechanism eliminates the collateral for a period of 12 months, the accumulation of rewards allows holders to recover their funds while ensuring the costs of managing the servers and guaranteeing themselves a reasonable passive gain.

VII.4.b. Multi-Layer Network

Infinity Node owners have three different levels to establish their nodes called Tiers. This organization of the network is an interesting distinction compared to the initial Masternode technologies although existing in some contemporary Masternode projects.

Each Tier seen as a layer of the network provides different and distinct functions to ensure both decentralization, overall network stability and IDS service, the major strength of the SINOVATE project. Each level requires a different number of coins to create a node which is defined for the:

- MINI Tier : 100 000 SIN coins,
- MID Tier : 500 000 SIN coins,
- BIG Tier : 1 000 000 SIN coins.

As a reminder, the SIN coins used for starting the "Infinity Nodes" must be transferred to an unusable SIN wallet address (See Section 7.1).

VII.4.c. Infinity Nodes Security for Blockchain

In addition to the validation of transactions by PoW, the Infinity Nodes are responsible for ensuring the security of coin transactions from one pair to another. A dedicated algorithm using the hash of each block selects a group of 10 nodes that secures transactions.

The PoW extraction layer provides the underlying security with the advanced LWMA difficulty targeting algorithm and a ReorgFork bifurcation reject solution of 55 blocks to the main SIN blockchain.

VII.4.d. Deterministic Infinity Nodes (DIN)

As previously stated, an Infinity Node is an improved version of an initial Masternode implemented by the DASH cryptocurrency. There were still many similarities between both codes in the first Infinity Nodes commissioning cycle.
With the update "Deterministic Infinity Nodes" (AURORA Mainnet of November 21, 2020), SINOVATE Infinity Node became drastically different from the DASH Masternodes code (among others) with a custom-made code allowing the implementation of a revolutionary platform making SINOVATE a unique project of its kind.

What makes the DIN code different from the initial DASH code?

The DIN evolution allows the SINOVATE platform to strengthen its services by offering the following advantages to the SINOVATE blockchain:

- A safer and more efficient protocol for the SINOVATE network,
- A more optimal network experience with lower CPU usage, less communication between nodes, and instant wallet synchronization,
- Elimination of existing security vulnerabilities related to the code structure of Masternodes,
- A revolutionary on-chain nodes structure,
- A purely personalized code extracting from the Masternodes code to be able to provide SINOVATE services including decentralized storage.

The Infinity Nodes in the DIN 1.0 update communicate over the chain with each other in a peer-to-peer fashion and getting online does not require any more effort from the user. In other words, setting up an

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Infinity Node will be done in minutes without the need to create a configuration file, security deposit, or boot alias. Beyond an activation and an autonomous network, the blockchain provides new services:

- A multi-signature transaction option based on the Schnorr protocol (MuSig). Using this new protocol instead of BLS signatures ensures faster transactions, a more scalable network but also a lighter blockchain due to the small cryptographic size of the signatures,
- A fully deterministic, fair, and openly verifiable reward system of block validations for Infinity Node PoSe,
- Control of coin creation and its quantity in circulation thanks to an ecosystem of commissioning and transfer of goods by PoB,
- Recording, securing, and maintaining the veracity of the data stored on the Infinity Nodes provided by the blockchain (On-chain structure),
- A decentralized autonomous organization, DAO based on a nodal democracy ensuring flexibility and decentralization of decisions,
- Sustainability of the network and associated services thanks to the attractive model for the creation of Infinity Nodes.

The DIN 1.0 update involved two phases of transition. The first phase of the transition was the simultaneous use of the DIN 1.0 code and the existing Masternode code. This should ensure that users did not suffer from missing rewards because they did not update. A full transition to the only DIN 1.0 platform took place as soon as the set requirements were met. For example, the creation of new nodes can only be done with a DIN 1.0 code. When the network will be completely renewed using DIN version 1.0, a second phase was to permanently delete the old Masternode code from the SINOVATE database.

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Masternodes Network
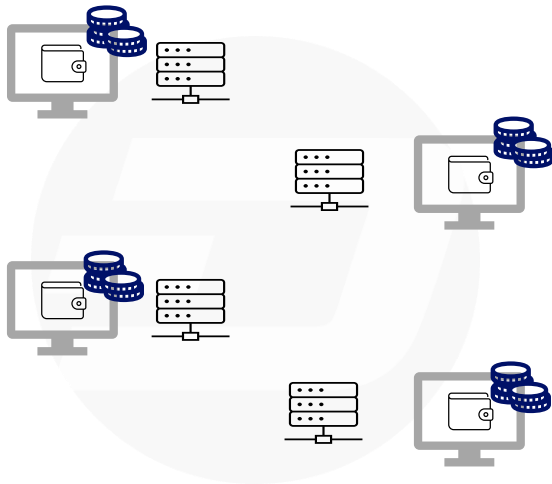
Network

- Decentralized
- Not stable for storing data
- Not renewable, weakly secure, and scalable
- Multi-layer is possible

Economy

- High inflation of coin circulating supply
- Strong selling pressure through accessibility to collateral
- Incomes from block validation and transaction fees
- Declining return on investment

Services

- Instant and Private Payment
- Governance whose voters can be eternal

Infinity Nodes Network
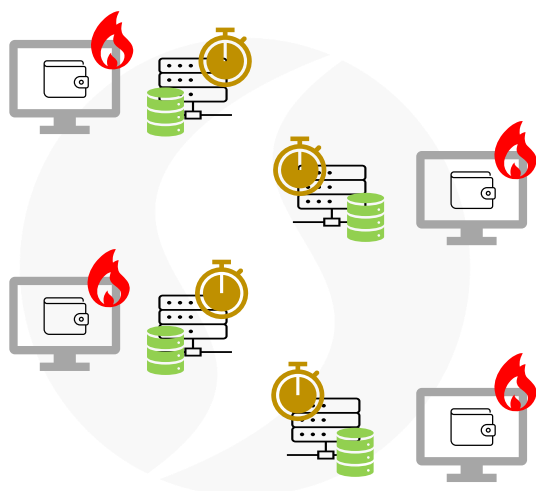
Network

- Decentralized
- Stable for storing data
- Renewable, secure, and scalable
- Multi-layer network where each layer plays a major role in the data storage

Economy

- Fully controlled coin circulating supply
- Low selling pressure with PoB
- Incomes from block validation and data storage fees
- Return on investment not decreasing and depending on the renewal rate of Infinity Nodes

Services

- Decentralized Cloud Data Storage (IDS)
- Tokenization
- Message, Mail, and Document Verification Services
- Revolving Sovereignty Votes

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VII.5. Incorruptible Data Storage (IDS): The Decentralized Data Storage for Cloud 3.0

One of SINOVATE's major projects is Incorruptible Data Storage (IDS), a decentralized data storage infrastructure based on blockchain and Infinity Nodes. This innovative Cloud architecture integrates public and private mechanisms for transferring, storing, retrieving, and verifying encrypted data through anonymous peer-to-peer communications protocols. This platform also offers users a private messaging system called "SINCORD" or even a mailing system which guarantees secure communications without any data storage. Here is a list summarizing what IDS is:

- A decentralized Cloud 3.0,
- DataStore for sending and storing data,
- A hosted "SINCORD" messaging system and a mailing system back by a blockchain protocol with proof of integrity,
- An unlimited and private large data storage network useful for BIG DATA.

VII.5.a. How does the IDS solution work?

The IDS solution uses the network Tiers consisting of Infinity Nodes and the blockchain architecture to process and store the data files. The first phase of IDS development ("Step-1") focuses on the "MINI" Tier to perform operations. Here are the steps that a user must follow to use the IDS:

- Upload a copy of the document or message to the Qt wallet or mobile wallet app,
- Send data to the MINI Infinity Nodes for temporary storage,
- Infinity Nodes validate the data transaction,
- After two confirmations, the data permanently stored and indexed in the "MINI" Tier is broadcast by the decentralized network protocol. Users can compare a local copy with the registered copy to provide proof of ownership.

The data is therefore stored and encrypted using the public key of the data owner. For later retrieval, the transaction ID and proof of authenticity (private key) are required to access data from Infinity Nodes. As part of the participation of identified third party legal or natural persons, a right of access to additional data is added as an option in the system to allow their access to the data if requested.

To avoid overloading the blockchain with transactions, a user must pay SIN transaction fees to store data and thus not increase storage requests. The amount paid will depend on the size of the data and its chosen encryption level. All transaction fees resulting from this service are burned and thus removed from the coin circulating supply.

In this structure, the main network SINOVATE blockchain and the "MINI" Tier store these metadata. They are then saved and indexed in a "levelDB" type database manager but only the data owner can consult them and use them for verification purposes.

VII.5.b. SINOVATE Document Verification (SDV)

Unfortunately, this is still the case in many aspects of daily life, individuals, businesses, or governments can face to false documents. They can easily be mistaken for genuine copies; the advent of computer tools gives access to ever more sophisticated forgery tools. It is difficult for stakeholders to identify the true copies from the fake ones due to certain constraints (time, means, etc.). The demand for systems to resolve fraudulent activity is increasing year by year.

Blockchain technology has an essential role to play in proving the legacy and ownership of documents. It has the unique capability of time stamping and storing data files in an immutable way. Decentralized

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document verification will transform the manner that documents are viewed, transferred, verified, and stored using public / private key cryptography.

Birth certificates, marriage documents, court proceedings, employment contracts, and formal legal agreements are all use cases. The SINOVATE Blockchain intends to be a useful tool to facilitate the process. The IDS can be used to securely store and control access to data files with the SIN network. This structure combined with a proven way to sign data and prove ownership / authenticity of the data by comparing it to a locally stored copy. It is the SINOVATE Document Verification (SDV).

VII.5.c. DataStore

DataStore allows users to store digital documents or data, time stamped with metadata and secured by the SIN blockchain which is incorruptible. A local copy of the document or data is always available for comparison with the one stored in the blockchain. SINOVATE cryptography and blockchain are the underlying trusted third party to enable validation of stored data. Besides the ability to send data, the SINOVATE network allows users to store data for specific durations. It is important to emphasize that the data is not directly transferred to a receiver but rather distributed among 20 Infinity Nodes.

Example: Alice (sender) and Bob (receiver) want to use the SINOVATE solution, here are the steps:

- It starts with the issuance of data which means the Alice's selection of Infinity Nodes to store the data. She can either choose nodes manually that she trusts or use an algorithm that randomly chooses twenty nodes classified as "low risk" (if the Infinity Nodes has a return on investment of <70%. In other words, the nodes will not expire in the next months.). Alice can select more than twenty nodes to store the data, but the storage costs will be higher.
- Following the selection, the 20 nodes store the data (including those chosen by Alice and more if Alice has requested it)
- The data will be stored in the nodes for seven days giving Bob time to retrieve the data. It is possible to extend the storage period by paying a fee in the form of additional transaction fees.

VII.5.d. SINCORD: Instantaneous Messaging System of IDS

Using an underlying IDS protocol, users can chat with each other while enjoying "DataStore" functionality using SINOVATE's reliable and secure blockchain to ensure data validity. This offers the following unique advantages:

1. Guaranteed security of personal information.
2. Full control of users and recipients over their messages and data, with no additional storage costs.
3. Increased data privacy controlled by users. This aspect is essential against hacking and allows users to protect themselves against the misuse of existing data by centralized systems such as Facebook, Google, and others. The user is the sole master on board to decide whether to sell their data for commercial or analytical purposes.
4. An almost non-existent risk of piracy and elimination of any periods of service interruption that centralized databases experience.

Example: Here are Alice and Bob again. Alice sends messages and encrypted data to Bob. With absolute control and increased privacy, Bob and only Bob can read messages, receive, and read data.

This transfer of messages and data uses the ECDSA ("Elliptic Curve Digital Signature Algorithm") algorithm, which uses private / public keys and digital signatures. To be more precise, Alice can encrypt the data using the public key provided by Bob before it is broadcast by the SINOVATE network. Only Bob has permission to decrypt the data using his secret private key. In addition, Bob receives a notification in the customer wallet that specific Infinity Nodes store his data for a limited time. The process by which a simple message with data is sent is described as follows:

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- Alice wants to broadcast a message with data. She sends a message and a "DataStore" request with a specific "amount" of SIN coins to the wallet address SINBurnAddressForRegisterxxx. When Alice broadcasts the "DataStore" request, the chosen and / or selected Infinity Nodes check if Alice has permission to perform the operation. This goes through several checkpoints like data size, timeout etc. Infinity Nodes refuse the transaction if permission is not granted.
- If permission is granted, the nodes log the "DataStore" request sent by Alice, then Bob can download it later.
- Bob must prove that he is the recipient by using his private key to download the information associated with Alice's "DataStore" request by signing the message and then broadcasting it over the network.

What is a "DataStore" request with "SINCORD"?

In the same way that the SINOVATE network broadcasts financial transactions, the SINCORD function uses the same type of transaction for "DataStore" requests.

Each time a user performs a "DataStore" request, the following metadata is recorded and saved in a LevelDB type database manager. The metadata consists of the following information:

- Identification number (ID) of the transaction,
- HashKey of the transaction linked to the blockchain,
- Size of the data file,
- Duration of data storage (or delay before expiration) that is equivalent to generated block number,
- The list of IP addresses of Infinity Nodes selected for storing the data.

VII.5.e. Transaction fees related to the "DataStore" request

The "Register" transaction fees have a common basis for all users. These fees are as follows:

- Network fees: Each transaction costs (minimum by default) 0.1 SIN for the transfer of data of a size of 1 MB and for 7 days of storage,
- Storage fees: 0.1 SIN for 1 additional MB,
- Delay fees: 0.1 SIN for 7 days of additional storage.

The sum of 0.1 SIN is arbitrarily chosen here and will be going through an RSV to decide its price according to the market, the price of the SIN coins according to other currencies and infrastructure. Once Alice has chosen the price to pay and save the data, the Infinity Nodes disseminate the metadata and engage the warranty. It must also send a TX_BURN_DATA transaction associated with the "DataStore" request and whose charges are equivalent to a standard transaction. This transaction contains the information necessary for Bob to receive the data successfully. (See Section 7.3.7)

To verify that the data is stored for the specified time, five Infinity Nodes are loaded for this action. This is called Proof-of-Storage (PoSt).

VII.5.f. Proof-of-Storage (PoSt)

It is the responsibility of the five randomly selected and / or assigned Infinity Nodes to verify that the data is stored until the time limit expires. The highest ranked Infinity Node agrees to pay the network charges:

- Node A sends a random number (RN) to node B,
- Node B responds with a hash (RN, data size),
- Node A verifies the reply of node B:
  - If OK, the data is checked, no action taken.
  - If KO, an alarm to 4 other nodes is created to check and ban node B if necessary.

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VII.5.g. Proof-of-Data-Integrity (PoDI)

The IDS allows users to prove the integrity of that data in addition to sending and storing data files administered by blockchain. Individuals, businesses, and governments need to be confident that the data they receive is genuine.

SINOVATE will use Proof of Data Integrity (PoDI) to resolve this issue. For example, when Alice decides to send data to Bob, she should create a TX_BURN_DATA transaction. This transaction is then included with the following information in a subsequently mined block and thus recorded in the main SIN blockchain as follows:

1. <Bob's Public Key> ⇒ known from Alice and required to send data to Bob.
2. <OP_RETURN> ⇒ the number of SIN coins allocated to the transaction that will be burned. This amount depends on the chosen data storage time and in which "layer" the latter will be located (MINI, MID, BIG)
3. <SMALLDATA> ⇒ the hash or cryptographic signature of the file in question (used as PoDI)

When the transaction and the data files are sent from the user wallet interface, they are both broadcast over the network. The hash data file is stored on the blockchain, and the actual data is saved to the chosen Infinity Nodes layer. The immutability of the hash data file proves that no one is authorized to modify it, and the data sent from Alice to Bob is genuine, complete, and reliable.

VII.5.h. Sum-up of SINOVATE Cloud 3.0 with IDS and its features

The IDS solution empowers users of the SINOVATE network. This is a highly secure method of sending and storing data. It is also possible to track the time at which the data was transferred. SINOVATE plans to develop services such as the possibility of "selling" disk space beyond Infinity Nodes. Stored data will no longer be deleted from Infinity Nodes or the expiration period will be extended as the Transaction fees are reduced. The role of votes by RSV is essential to decide on these realities.

Later, the SINOVATE InfiniteChain which will be completely separated from the main SIN chain will be the complete solution to the constant trilemma facing many blockchains. It will be essential to optimize the decentralization, security, and scalability of the blockchain in proportion to the increase in users of SINOVATE services.

IDS: SINOVATE Cloud 3.0

SINOVATE contributes to the improvement of storage services by providing:

- **Speed** with a peer-to-peer networks optimized for data transmission
- **Scalability** with more Infinity Nodes
- **Security** with encryption and decentralized redundancy of stored data
- **Democracy** with the most attractive price-quality ratio for the rental of storage spaces and their management

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VII.6. InfiniteChain : SINOVATE Multi-Ecosystem

Completely separated from the SIN blockchain, InfiniteChain will be a new blockchain built on the Infinity Nodes of the BIG tier. This chain is based on a Proof-of-Stake (PoS) consensus algorithm associated with the PoB mechanism. All blocks created by the Infinity Nodes BIG tier are transferred and relayed to all nodes in the network. Users can thus benefit from the high speeds, flexibility, and liquidity of this structure. The main blockchain SIN and the InfiniteChain are both closely related. The InfiniteChain offers additional functionality that allows users to create their personalized asset tokens or sidechains that can be a specific data file or physical asset, effectively monetizing proof of ownership.

VII.6.a. Relationship between the SINOVATE Main Chain and the InfiniteChain

As described above, the InfiniteChain will be used to create personalized tokenized assets that can be attributed to countless physical assets or digital data files in the real world. For example, a symbolic asset can be assigned to confer ownership of a valuable work of art, as described previously. Only the holders of these assets then have access to these assets.

VII.6.b. Transactions and Blocks

Only the transaction type "Devise" is accepted and ensures the stability and proper functioning of the InfiniteChain. Here are some details on the "Devise" transaction:

- Unique Identity of "Devise" - In the new system, each "Devise" has a unique identity. Today the SIN coin has a CurrencyID 100000. The new SIN InfiniteChain (SSIN) coins have a CurrencyID 100001. The user of the new system can create a new "Devise" (creation of assets) with an ID greater than or equal to 100002.
- New standard name - DEVISE_TX - To "separate" the transaction in the main network and the InfiniteChain, a new transaction standard is present in the network: DEVISE_TX.
- New OP_DEVISEID / OP_CHECKDEVISE - OP_DEVISEID is a number representing the unique identity of a "Devise" on the network. OP_CHECKDEVISE is used to make sure: The "Devise" is the same as the previous transaction and the Transaction is FALSE if the "Devise" relationship is incorrect.

Each network user receives two versions (type) of the main blockchain SIN and the infinite chain SIN. The system checks the blocks received before connecting to the local blockchain. Here are the block validation conditions:

- The main blockchain SIN - If the second transaction of block N in the mainnet is a "Coinbase" transaction, the system controls all the blocks up to N-21 of the SIN InfiniteChain and checks both the amount and the user who burned coins in the SIN InfiniteChain.
- SIN InfiniteChain - If the first transaction of the block in the SIN InfiniteChain is a "Coinbase" transaction, and the block is the first block linked to block N-21 in the mainnet, and there is a user who has burned coins to create an asset at block N-21, the block is considered "valid".

VII.6.c. Creation of Tokens and Digital Assets with SINOVATE

Today, you can take advantage of blockchain technology to transfer physical goods by creating symbolic assets. This is a useful tool for seamlessly exchanging and storing legal ownership of assets on a large, immutable distributed "ledger". Each symbolized asset will therefore have an associated value depending on what it represents in the real world. It is easy to transfer ownership from one peer to another without any future litigation or fear of the records being maliciously tampered with. It offers potential new business markets that were not then possible with traditional centralized technology or infrastructure. SINOVATE plans to offer symbolization of assets in the future according to the objectives set in the roadmap. It will be facilitated by the SIN InfiniteChain network part.

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VIII. Specifications of Blockchain SINOVATE

VIII.1.   General Information (01/2021)

Name: SINOVATE

Coin ticket: SIN

Consensus algorithm: X25X

Bloc generation time: 2 minutes

Blockchain size: 2.1 GB

Adjustment difficulty algorithm: LWMA

Governance: RSV - Revolving Sovereignty Votes

Solution against 51%: LWMA & ReorgFork 55 (fork rejection)

Burnt coins for Infinity Nodes per Tier: 100,000 – 500,000 – 1,000,000

Circulating supply: Self-Regulated Circulating Supply

Pre-Mine/ICO/IEO: No

P2P Port: 20970

RPC Port: 20971

DAO Treasury: 10%

Use cases: IDS Incorruptible Data Storage, Cloud 3.0, SINCORD, Mailing system, DataStore, PoSt, PoDI, SDV, InfiniteChain

Proof-of-Work

12.5 SIN (divided by 2 each year in September)

Infinity Nodes

MINI: 560 SIN

MID: 838 SIN

BIG: 1,752 SIN

Total per block: 3,162.5 SIN

DAO receives 10%: **316.25 SIN**

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VIII.2.　　SINOVATE Wallets

The SINOVATE Core Qt Wallet or for mobiles for IOS and Android platforms can be downloaded from the official Github repository or from the link below:

Wallets: [Mobile et Desktop Wallets](#)
Miners: [GPU Mining Software for AMD et NVIDIA](#)
Pools: https://sinovate.io/x25x-algo-miners-pools/
Guides: https://docs.sinovate.io/

The SINOVATE Github repository is often updated (multiple daily active "commits") from the Blockchain genesis block. It is also useful to leverage the support and development of Bitcoin to add value to the SINOVATE project and foster the growth of the blockchain.

[SINOVATE GITHUB](#)

VIII.3.　　SINOVATE Blockchain Explorer

SINOVATE creates its own **[EXPLORER](#)** web to ease the exploitation of blockchain information by developers and customers. The personalized SIN explorer can allow doing the following tasks:

- To view all time-stamped blocks since the launch of the blockchain,
- To trace all the sent and received transactions,
- Investigate each wallet address created by the network,
- Monitor total hash rate and network difficulty,
- Consult the first 200 portfolio addresses (distribution of SIN coins),
- Know how many Infinity Nodes are active,
- To know how many SIN coins have been burnt to know the supply in circulation at time t,
- And see current ROI statistics (how many days until the initial investment is paid off by Infinity Nodes annuities).

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IX. Monitoring of Technological Development

The development of SINOVATE will initially depend on the growth in the number of users. The platform is designed to expand rapidly under the influence of economies of scale on the demand side and cross-network effects. SINOVATE intends to use the potential increase in SIN's transaction volume and its scalability to develop functionalities to further improve the experience of network users. In addition, there are plans to expand the business model by forming partnerships to connect different ecosystems.

SINOVATE uses "sandbox" test environments to experiment and test new features and ideas. Both sandboxes and testnet simulate market and network conditions. This is a beneficial process where the primary SIN code protocol can be tested extensively before the official releases. The technological evolution of SINOVATE involves SINOVATE Improvement Proposals (SIP). For example, the description of SIP01 is presented as follows:

SIP 01: "on-chain" data for monitoring Infinity Nodes:

The list of SIN nodes can be easily pulled from the blockchain using the immutable address to burn tokens. In the "Coinbase" Tx of block N, pay the "winner" of block N + 1 from the list of winners:

BIG SIN (X) : 0.001000352 (352 is the number of votes for X in the block N+1)

MID SIN (Y) : 0.000500367

MINI SIN (Z) : 0.000100768

In the validation step of block N, add the following verification:

1. Extract the "on-chain" infinitynode list (L) and verify the payment from the "Coinbase" for the BIG SIN (A), MID SIN (B), MINI SIN (C) ===> A, B, C must be in list L,
2. Users can then check the "winner" of A, B, and C who are paid in block N-1 (like X Y Z).

A node coming online after an evolution:

1. Load the "missing" block data from other nodes (where in block N): + for each block, checkpoints 1 and 2,
2. Obtain the list of winners of the other nodes ([N-20 to N + 20]) + of the N + 1 block, then all the checks are carried out (1 2 and 3).

Benefits of this solution:

- The data (metadatas) are on the chain: immutability,
- There is no need to change the block header (like Dash's DIP03 deterministic node), so the ability to stay compatible with Bitcoin,
- The miner of block N cannot influence negatively because it is not his decision (miner of decision-making block N-1),
- Attackers must have two pools and mine two blocks consecutively if they want to negatively influence the network. The probability of such an action is therefore minimal,
- The network is secure and verifiable,
- Users can check the list of winners of the next block payment and that (X, Y, Z) is compatible with the consensus of the network to add or not the block (possibility of "ban miner"),
- The SIN nodes control and validate the mined block. If a miner cheats, the SIN nodes form a consensus to ban him from the network.

The SIP01 is like the DIP 03 of DASH technology but adds variants which make SINOVATE a unique technology. Ultimately, this system solves the problem of all Masternode networks and creates a miner called "trustless".

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X. SINOVATE Cryptonomics

As it stands, around 5,000 types of cryptocurrencies (coins and tokens) are officially recognized, active or dormant, with different structures and models. It is interesting to know what influences the value of a particular coin or token. The cryptocurrency or the first layer token (SIN) of the main chain of SIN is discussed in detail below.

X.1. What is Cryptonomics?

Applied to Blockchain technology, coins (or tokens) are used to represent something or value in the real world. These can be tangible goods, services, data, information, company shares, voting rights, etc.

"Cryptonomics" is a term formed by fusing "crypto" and "economics". It is the term used to study the standard of quality of a coin to determine if it has underlying value, a high potential adoption rate, investor interest and long-term sustainability. In other words, it helps potential coin holders decide what will impact that coin's value, its real-world utility, and longevity. "Cryptonomics" is a broad subject, which includes several components. People who wish to invest and perhaps participate in the growth of a coin are advised to study their "Cryptonomics" in detail.

X.2. What are the consequences of SIN value?

When considering a coin's quality standard, participants or potential investors should consider different aspects of its structure or model. It is essential to study aspects such as coin allocation, business model, team, and community which is in-line with Metcalfe's theory.

X.3. Allocation of SIN Coins

Coin allocation refers to how coins are distributed immediately after the launch of a blockchain. It also includes how new coins are rewarded and awarded over the life of the chain. The community should be transparently informed about where funds are held and how those funds are used. For example, some core teams hold custody of a development and marketing fund. Previously launched under the name SUQA in 2018, the first SIN coins were fairly distributed through the mining activity to community members. There was no ICO (Initial Coin Offering) or pre-sale of the coins.

Metcalfe's law theory

"The more people there are in the network, the more valuable the network will be."

SINOVATE will see its network grow indefinitely for more storage and therefore more value.
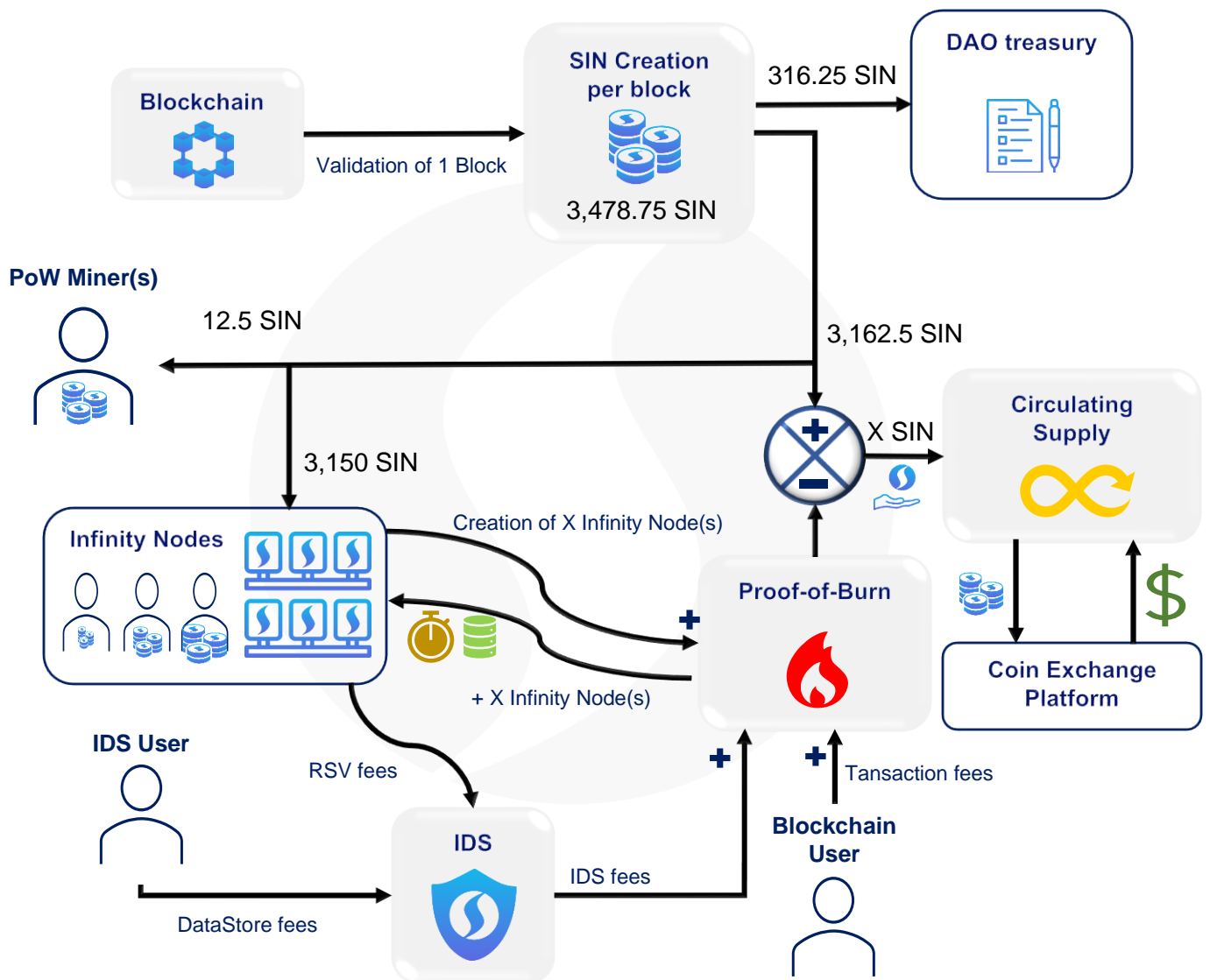
X.4. Economy Model

SINOVATE has innovatively designed, tested, and implemented a variety of products and services in its decentralized network protocol. In addition to helping streamline processes for other third-party entities, the SINOVATE project is working to become one of the most reliable, adaptable, secure, transparent, efficient, and effective decentralized networks in the Blockchain technology space.

The project also has a solid and constantly evolving business model to differentiate SINOVATE from other Blockchain-based projects in the market. Here are some economic characteristics of the SINOVATE model:

- All transaction costs are irreversibly burned, including governance voting and decentralized cloud storage. The PoB mechanism increases the deflationary aspect of the SIN coin ecosystem. The more users join the network, the fewer SIN coins will be available, which will lead to certain scarcity. In other words, there is deflation of the circulating supply if the network usage is high enough, the creation of coins by the consensus algorithms will be less than the amount burned in fees.
- The Infinity Nodes are responsible for tailor-made functionalities and secure the network. All three levels of Infinity Node Owners regularly receive rewards for managing and monitoring their nodes for 12 months and thereby storing confidential data files. All SIN used to create the infinity nodes are burnt. Due to the PoB mechanism, holders of Infinity Nodes are committed to running their nodes for their entire lifespan thereby acting on the regulation of inflation of the circulating supply.
- The IDS solution allows users to send and store encrypted data files for specific time periods. This is an essential element for the mass adoption of the SINOVATE network powered by the Infinity Node layer. Unlimited encrypted data storage and unlimited burnt transaction fees are the main goals of SINOVATE's business model.
- The RSV Governance is based on Infinity Nodes where voting is a transaction whose costs are also eliminated by PoB.
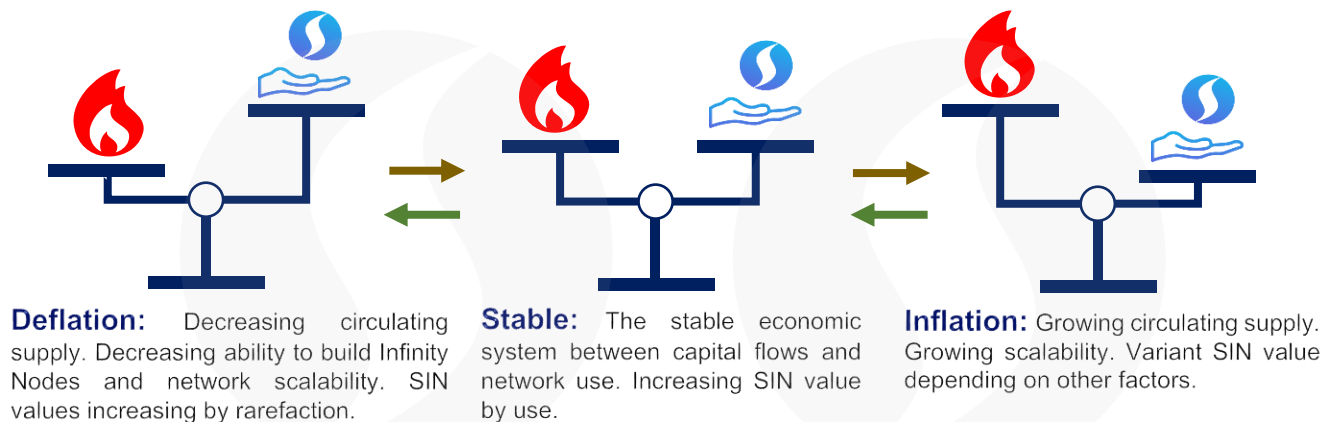
In the future, SINOVATE team plans to improve the above features and implement new ones that will attract more users. Below are diagrams depicting the mechanisms of SINOVATE Cryptonomics, mandatory for mass adoption below.

Cryptonomics of SINOVATE

Blockchain

Validation of 1 Block →

SIN Creation per block

3,478.75 SIN

316.25 SIN →

DAO treasury

3,162.5 SIN

PoW Miner(s)

← 12.5 SIN

3,150 SIN

Infinity Nodes

Creation of X Infinity Node(s)

+ X Infinity Node(s)

X SIN

Circulating Supply

Proof-of-Burn

IDS User

RSV fees

DataStore fees →

IDS

IDS fees

+ Tansaction fees

Blockchain User

Coin Exchange Platform

Supply Regulation of SINOVATE

OFFER   DEMAND

Deflation: Decreasing circulating supply. Decreasing ability to build Infinity Nodes and network scalability. SIN values increasing by rarefaction.

Stable: The stable economic system between capital flows and network use. Increasing SIN value by use.

Inflation: Growing circulating supply. Growing scalability. Variant SIN value depending on other factors.

Towards Deflation: Increasing capacity for creating Infinity Nodes and increasing IDS / blockchain usage.
Towards Inflation: Decreasing capacity for creating Infinity Nodes and decreasing IDS / blockchain usage.

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X.5. Branding

Forgotten by some Blockchain projects, branding is necessary to attract the attention of users, investors, and potential contributors. It can be the crucial difference between people's interest in a project and their lack of interest in it.

The SINOVATE team believes that branding is essential when the project is technically sound and legitimate, the fact of having renamed SUQA in SINOVATE at the beginning of 2019, has considerably improved the professional image of the project.

X.6. Community

Whatever the final application, a blockchain project would be nothing without a community, it is a fact. This is one of the most critical aspects that add value and influence on a blockchain network. Each voluntary community member can propose improvements in a constructive manner and influence the direction in which progress is taking place.

SINOVATE has a thriving and enthusiastic community made up of many people eager to see the project to succeed. It is in the interest of the whole project that the community is respected, heard, and encouraged to bring added value to the SINOVATE network in collaboration. Ultimately, they are the users of the services and products offered by the technology.

X.7. Legal Compliance

SINOVATE undertakes to remain in compliance with the law and to be registered with legal institutions. It is essential to be transparent, credible, and accountable as much as possible to increase user adoption.

X.8. Primary and Secondary Layer of the Ecosystem

In the Blockchain cryptocurrency ecosystem, different types of coins are available. They can be classified into two groups based on their function and underlying structure. These groups are:

Layer 1 - Coins such as Bitcoin are generated and used by the main chain. Layer 1 coins are classified as Layer 1 coins with a primary blockchain.

Layer 2 - parts such as the ERC20 are used for custom services on a layer built above the main chain. SINOVATE is delighted to be able to offer users the ability to create coin assets on the upcoming SIN InfiniteChain Blockchain.

X.9. SIN Coin

A cryptocurrency that does not pass the Howey test is considered a security token. The SINOVATE Infinity Nodes infrastructure, RSV and the use of IDS qualify SIN as a service coin, with the legal memorandum provided by the legal team of SINOVATE DAO.

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X.10. SINOVATE DAO Team

The SINOVATE team is made up of experienced, talented, and passionate people who want to bring added value to the SINOVATE network, fully decentralized, to the Blockchain ecosystem in the broad sense of the term. Since SINOVATE's inception, the team has grown to include a wide range of skills and perspectives. There is a common ethic for achieving the goals set in the roadmap. https://sinovate.io/team/
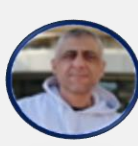
Innovation Department

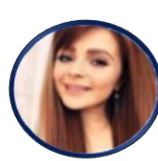| Cryplander	Xtdevcoin	Giaki3003	Hardwarewise	BEET	Samet	MIP
Tamer Dagli	Xuantan Nguyen	Giacomo Milligan	M. Atif Karaogul		Samet Basturk	
Operation Manager	*Lead R&D Developer, BIG DATA Specialist*	*Lead Core Developer*	*Qt Frontend/Backend Developer and Manager*	*Blockchain Developer and Networking Guru*	*Lead Web Developer*	*Mobile Developer*
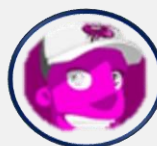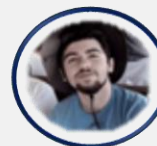
Marketing Department

CryptoWayne	Jayden (Mikey)	Remy131	Francheska	Dim	Nick (Viridris)
Wayne St Ledger	Jayden Hoen	Rémy Bonnieu	Sofya Geller	Dimitris Kats	
Lead Marketing	*Video Specialist*	*Lead Quality and French Ambassador*	*Russian Ambassador*	*Video Guru*	*Russian Marketing and Community Manager*

Christopher P. Thompson	Zeus	Vladimir Fredd	Misa	Eduardo Farid	Tjadams00
Author and Content Creator	*Greek Ambassador*	*Russian Ambassador*	*Vietnamese Ambassador*	*Spanish Marketing and Community Manager*	Tim Adams *USA Ambassador*
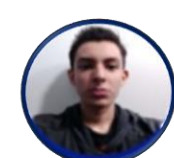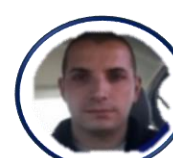
Advisors

Baris Ertul	Quentin Herbrecht	Amit Kaushal	Nick Moore	Eugeny Kuzakov	Aleksandr (LarriNavkin)	Brieuc Berruet
Advisor	Advisor	Blockchain Advisor and Author	SME Blockchain and CX expert	Technical Advisor and Pool operator	Technical Advisor	Supporter

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XI. Applications and Services with SINOVATE

Blockchain technology is a large, distributed ledger that may impact the way individuals, businesses and governments conduct their day-to-day activities. There are countless potential use cases, some realized and others unforeseen. All of them will increase the efficiency, reliability, and profitability of operations in a wide range of areas. For example, the unique characteristics of the Blockchain (immutability, transparency, security) will be an invaluable tool for the storage, sending, and retrieval of confidential documents. Many businesses crave better ways to protect their data and information from malicious activity.

Cloud storage is growing rapidly and is the most promising business of the future. Digital data and its exploitation are becoming the oil of the 21st century. As we have seen in the previous sections, the SINOVATE network is evolving to offer useful products and services to third parties for use in the real world. It can currently be used in conjunction with existing systems and processes to bring advanced technology to many industries.

For example, decentralized cloud storage, finance, medicine, insurance, education, and administration sectors will be able to use SINOVATE as a better alternative, and at a lower cost!

XI.1. Family Affairs

SINOVATE IDS is using distributed nodes where all data is stored and distributed to servers and computers operating around the world, with no central point of failure. Family affairs can easily use the infrastructure as follows:

- SINCORD messaging will allow full end-to-end encryption of conversations within the framework of inheritance without storing any data inside any server.
- Proof of inheritance will transfer the funds inherited from users to their heirs safely and silently without any risk.

XI.2. Finance

While many aspects of the financial industry have modernized rapidly in recent years, countless FinTech companies appear to be questioning the systems in place. These new digital companies have for some adopted the Blockchain to free themselves from the obstacles of existing processes and structures.

Despite technological advances in the financial industry, it is evident that many processes still rely on archaic technology. For example, many derivatives and other financial instruments are still, at the end of the day, contracts on paper. The mortgage sector and other parts of the industry are heavily dependent on fax technology. Fax machines are still widely used by IT departments across the industry.

SINOVATE plans to revolutionize the way confidential documents are sent, stored, and managed around the world. It will have a large impact on the system in place.

Manage your financial accountability with SINOVATE

The documents stored on the SINOVATE Blockchain are fully secure and easily accessible by their owners. Each document can be compared with a local copy to always prove its authenticity and ownership. Additionally, the document and metadata can be shared by the data owner. This will allow auditors to sample and verify the assets of financial institutions. Metadata can be searched and indexed, and proof of the underlying assets can be provided without question.

The SINOVATE network IDS significantly reduces the cost of document backup and storage. Financial institutions do not have to worry about specialized storage databases to store all the data previously

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collected. This will allow them to focus more on their future operational activities, instead of allocating resources to safeguard documents. The IDS solution ensures that all stored documents are completely secure and private, even in the event of an economic collapse or natural disaster.

XI.3. Medical Sector

Modern medicine faces a wide range of challenges and issues that need to be addressed quickly. They are very diverse and can be distinguished as follows:

1. Early diagnosis of diseases,
2. The rejection of new technologies because of conservative views,
3. Lack of communication between specialists in different fields,
4. In some cases, the impossibility of a rapid consultation with several specialists due to the lack of information easily accessible and shared between the experts who need it,
5. Specialists are limited to the data they can access on centralized databases and
6. The aging of the population makes it essential for experts to access, collect statistics and manage data to best treat and anticipate health problems.

Managing the medical world with SINOVATE

After a thorough analysis of the current state of telemedicine, the SINOVATE team is confident that its Blockchain-based services and products will complement the positive aspects of healthcare service delivery. At the same time, it will overcome some of the negative aspects and obstacles described above.

SINOVATE will provide a global solution to the way medical files are sent, stored, and accessible in a decentralized manner. Data files will be stored in a transparent, immutable, and secure manner for later retrieval by designated parties, such as patients, doctors, or drugstores. The SINOVATE network will keep a single version of patient medical records without the risk of fraudulent activity. In addition, parties may be assigned different levels of authorization. For example, patients, doctors, and hospitals will be able to edit medical records, while drugstores and insurers will only be able to read and suggest changes. Each interaction is verifiable, transparent, and secure, and will be recorded as a transaction on the main SINOVATE chain.

The goal of SINOVATE is to bring added value to the world of medicine by solving several problems that arise there. SINOVATE offers a complete Blockchain-based solution, comprising the main SIN chain and the IDS function which will result in the creation of a decentralized system for medicine improving the overall healthcare quality received by patients. General medicine can benefit from a higher overall level thanks to better logistics tools for storing and handling data which will allow the following actions to be taken:

- Expanding the availability of patient medical records,
- Improving the quality of treatment and providing it more efficiently and
- Facilitate access to authorized third parties to consult files.

Here are some of the goals of SINOVATE concerning the medical sector:

- Develop the IDS function so that patients and other authorized parties can access medical records anytime, anywhere and
- Research new technologies for the creation of new services related to the medical world.

XI.4. Insurance

Like the two developed cases, uses in Finance and for the medical sector, the insurance sector will also benefit from the use of the SINOVATE Blockchain to improve services and solve certain problems. Like other industries, insurance deals with challenges due to the restrictive nature of existing

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IT systems and technologies. When managing reimbursement requests, you must check and treat a whole series of different documents. This process is currently a cumbersome method involving multiple parties and significant overhead.

SINOVATE offers the insurance industry a secure method to prove the authenticity, ownership, and age of data files or documents. It will go a long way in fighting fraud and preventing risks. It will remove the obligation for trusted third parties to check whether documents are true or not. The SINOVATE Blockchain can be used as an immutable ledger of time-stamped insurance documents. The IDS function will certainly help streamline practices in the insurance industry.

Manage our insurance with SINOVATE

As noted above, proof of authenticity of documentation helps fight insurance fraud and helps eliminate as much risk as possible. SINOVATE resolves many aspects of fraudulent activity by making it easy for insurers to take advantage of the secure, reliable, and enduring nature of its data file-sharing system. Once the system is active, insurance companies will be able to transparently access all the data needed to prevent fraud.

The SINOVATE network ingeniously offers a revolutionary alternative to the software that insurers currently use to automatically spot red flags. As is often the case, today's systems can only spot red flags if they have adequate data to compare the disaster. Insurance companies cannot take information from others, that is why the innovative design IDS function will help to solve this problem. All data will be stored in one place, as a single version, on the SINOVATE network. It will be more convenient for insurers to compare data and prevent potential fraud. The SINOVATE solution will make it easier for insurers to compare compensation claims with similar claims made in the past. This method will prevent "padding", a fraudulent method used by agents or insurance companies to pay less than what is required.

XI.5. Administrative Services

Proving the authenticity and ownership of documents is of vital importance in the public sector. Different government departments are too dependent on centralized or paper-based systems that can benefit blockchain. The different degrees of infrastructure related to the administration of taxes, inheritances, pensions, cadastral, etc. can have a significant impact on a global scale.

SINOVATE wants to offer products and services that will improve the way governments send, manage, and store private documents. It will be extremely useful to prove the validity of the documents. Stored documents are available securely and can be retrieved later at any time.

Managing Administrative Services with SINOVATE

The IDS feature provides a basic set of tools to deal with the obsolescence of storage media, hardware, applications, and service dependent data. It will also include records, calendars, and other documents for easy integration with hierarchical storage management systems, which will allow the separation of temporary and permanent records on the most suitable storage medium (i.e. - say online, offline). The IDS function will also provide the essential visualization and batch export capabilities necessary for any preservation or migration. This can be required or requested from internal or external parties.

XI.6. Educative Services

Once again in this area, the IDS function will help streamline processes and transfer operations from existing systems. All data can be safely stored on the SIN Blockchain for later retrieval. Educational institutions will no longer need to adhere to human-intensive methods to send, store or authenticate documents. Universities, colleges, and e-learning platforms will be able to exploit the IDS feature in multiple ways (immutability, security, high accessibility) to protect against fraud, loss, or damage.

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In addition to many other realized and unforeseen use cases of the SINOVATE network, the education sector will need to use SIN coins to pay for the main SIN chain services. In the long term, this will add value to the network and increase the credibility of the SINOVATE project in the sphere of e-learning.

XI.7. Legal Services

Costs will be required to maintain the data storage network and facilitate its operation for all users. With SINOVATE, it is important to note that the costs will be much lower than the costs incurred by using the old systems. An advantage over a fee policy, rather than a free one, is a deterrent for malicious actors to spam the network with significant transactional traffic. Hence, it will prevent the swelling of blocking chains and poor performance. Using SINOVATE will significantly reduce potential legal costs, such as jury fees and other litigation. As part of the General Data Protection Regulations (GDPR), SINOVATE will ensure its customers comply with standards reducing charges and other costs, and thus, organizations may incur expenses in Research or other sectors.

SINOVATE, therefore, guarantees to its users that the services and products offered will operate smoothly and efficiently. It will be important for public and private sector organizations to consider what the SINOVATE network offers and how it can help smooth, organize, and clarify processes in a safe way. Ultimately, this may eventually lead to global recognition and massive adoption of SINOVATE.

XI.8. Environmental Management

Take just a minute to look around the room you are in to notice how many things are still in print today like books, magazines, flyers, files, etc. In the digital age, every person in the United States of America uses an average of 340 kg of paper each year (which adds up to 85 billion kg per year for the entire population). Awareness manifests in this paper in many forms that are beyond comprehension. Beyond the national stage, businesses and governments rely even more on paper-based products. Nearly 4 billion trees worldwide are felled for paper each year, which is about 35% of all trees cut.

Reduce your carbon footprint with SINOVATE

Aiming to stop all paper consumption would be an impossible task. Paper-based products are very popular and are a convenient resource in many ways. SINOVATE strives to reduce the amount of paper produced by promoting its innovative method of data transfer and storage. The IDS function, which is intended to be universal and deployed for all, will have a significantly positive impact on reducing paper consumption given its wide applicability and will thus contribute to environmental protection. This reduction in the footprint of storage can also be increased by the decentralization of storage locations which, instead of being centralized in remote locations, can be as close as possible to renewable energy production centers and reduce transfers' distance. Finally, reducing the risk of security breaches and management costs will allow companies to reduce their carbon footprint linked to their activities.

SINOVATE will be one of the first to make the world greener and better by reducing our carbon footprint on the storage of our data.

XI.9. Business Creation and Fundraising

This area will describe more potential real-world use cases for the SINOVATE network, especially regarding the asset creation tool. Safety wedges are described as wedges tied to an asset. They are sometimes referred to only as STOs or "Security Token Offerings" if they are used for fundraising. Unlike many other types of cryptocurrency, the regulation applicable to security coins has been clearly defined, with security coins having a wide range of use cases such as company stocks, financial derivatives, local currencies, securities, property, basic products, items in video games, loyalty coupons, and "Stable Coins" (coins indexed on FIAT).

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XII. Commercial Strategy

To optimize competitiveness and economic sustainability, SINOVATE has a solid business strategy to grow and prosper in the technological world of cryptocurrency and blockchain. It is vital for SINOVATE to position itself and describe how the processes are carried out to achieve the desired objectives. We are talking about the following actions:

- Attract users who appreciate, research, and implement SINOVATE blockchain solutions in their daily lives,
- Strengthen the performance and accessibility of the development platform to implement ever more advanced, tested, and audited code,
- Improve the visual appeal of the official website, core portfolio UI and marketing materials,
- Differentiate SINOVATE from other competitors on the market through innovative and unique technical solutions,
- Clearly state the achievements of future goals,
- Keep users / investors informed and involve them in the decision-making process,
- Make full use of social media platforms to communicate progress and plans.

SINOVATE is focused on developing products and services that best serve the growth and long-term viability of the decentralized cloud storage industry. With a leading, intuitive platform, users will not have to sign up for multiple platforms to meet their cloud storage needs. SINOVATE Blockchain Storage Application offers a wide range of features and solutions that will benefit individuals, businesses, and governments around the world.

SINOVATE's ambition is to take advantage of the fact that the digitization of the connected world generates ever-increasing needs in Cloud storage (See the evolution of the market above), the target market is still in its infancy and SINOVATE wishes to establish itself in outgoing solutions and services for beginners and advanced users, pro or individuals. It is essential to attract institutional investors and companies that share SINOVATE's core values, including safety, integrity, and regulatory compliance.

Cloud Market Evolution
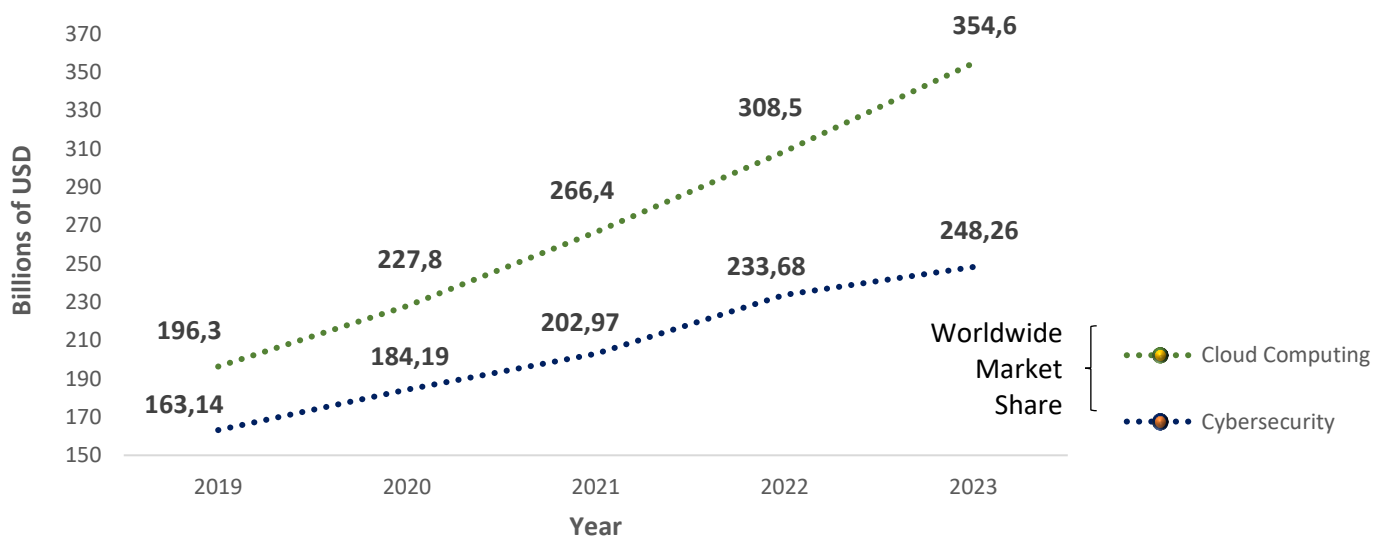
XIII. Marketing Strategy

From the start, the SINOVATE project has sought to clearly define its mission, vision, and values. An official website is currently online to allow all interested parties to easily review what SINOVATE is striving to achieve and to build a competitive advantage in its field, decentralized cloud storage, within the Blockchain universe. It is a clean, comprehensive, well-organized, and professional website where visitors can navigate through a multitude of documents. According to research, 70-80% of the marketing campaign is delivered through news distribution channels, and the official SINOVATE website accounts for 80-90% of this information load. For example, it presents the ideology behind SINOVATE, the SINOVATE team, the goals of the roadmap, and the links with other relevant communication channels. Above all, the SINOVATE team values transparency and honesty, so it is essential that critics, end-users, contributors, and investors have transparent access to authentic and useful information about the project.

XIII.1. Marketing Components

Over time, a growing number of projects and businesses have discovered the importance of social media as a powerful marketing tool to connect with potential clients and investors. SINOVATE is aware of the countless opportunities offered by these channels and has positioned itself to gain the greatest possible exposure on social media to market the project. These networks provide potential visibility to millions of people who are free to participate as they wish anywhere in the world. Without falling into complacency, the marketing team should refrain from overestimating the project. Reporting on progress is essential while maintaining a delicate balance between promoting a growing community and stimulating interest. SINOVATE focuses on social media feeds to transparently report on progress and engage with end-users. SINOVATE project welcomes warmly users to request technical assistance, preferably via the official Discord server or another network if necessary.

XIII.2. Social Media

To effectively communicate the vision and scope of the project, SINOVATE leverages all well-known social media channels. They help immensely in keeping the growing community informed and engaged in code development, current affairs, and other operational activities. The SINOVATE team actively uses all social media platforms to establish friendly and transparent relationships with the community.

Website . **Discord** . **Telegram** . **Bitcointalk** . **Twitter** . **Facebook** .**Linkedin**. **Team**.**YouTube.** **Reddit**

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XIII.3.   SWOT Analysis

STRENGTH

Confirmed experiences in the field of blockchain

Experienced team and advisors with enhanced documentation

Cautiously developed budget and model

Strong support for the community and long-term vision

Diversified use cases

WEAKNESS

Low capital budget

Young business

Small community and support to be strengthened

OPPORTUNITIES

The cryptocurrency market is booming with a new and growing economy

A position in a rapidly expanding cloud market whose needs are intensifying

An opportunity to be educational and useful to all populations

Growing innovation and technological possibilities

THREATS

The market meets financial expectations rather than technological ones

Many countries and governments do not see cryptocurrency as a solution for the future

Visibility on the market absorbed by large caps

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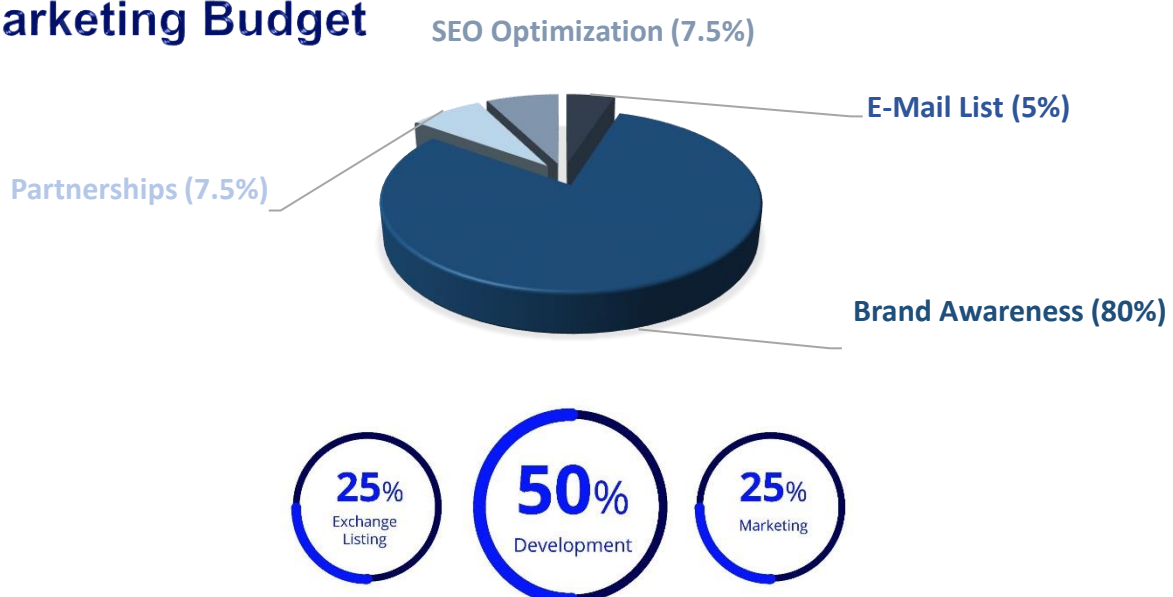
XIV.   Transparency and Financial Statement

Since the start of the SINOVATE project, transparency has always been a priority. It is essential for SINOVATE to regularly update the community on development progress, financial activity, plans, and support in real-time. This pure transparency has led to colossal support from the community, which continues to bring added value to the SINOVATE network. As the cryptocurrency ecosystem is sometimes subject to scandals of scams and fictitious projects, SINOVATE knows that transparency is the mother of virtues here and thus strives to shed full light on its activities, and more particularly financial.

Here are some examples of how SINOVATE is transparent:

- Governance model - Anyone can see the outcome of the votes that shape the future of the network. A democratic voting system is used to encourage users to say what is next or how things are going.
- Monthly financial statements are made available to anyone who wants to know how SINOVATE spend funds for marketing and development.
- Weekly reports and monthly reports - Every week and every month, the SINOVATE team publishes report announcements on each communication channel. Updates on code development, community growth metrics, and progress are some of the topics to keep the community update.
- Announcements - All major and minor news regarding progress and future strategy is regularly posted on social media channels.
- Code Development - All past and current SINOVATE code development is open source and accessible from the official Github repository account. Anyone can view, study, and suggest improvements to the underlying code of the SINOVATE network.
- Roadmap - like other Blockchain projects, there is a roadmap that involves setting goals to be achieved, whether short or long term. It keeps the community interested in what should be published soon.

SINOVATE provides for a development royalty of 10% for each block. In the interest of optimal transparency, financial clarification is an essential aspect of the SINOVATE project. Financial Statement The costs of building and maintaining the project are calculated by the team.

Marketing Budget

- SEO Optimization (7.5%)
- E-Mail List (5%)
- Partnerships (7.5%)
- Brand Awareness (80%)

- 25% Exchange Listing
- 50% Development
- 25% Marketing

XV. Innovation Roadmap

As part of the development and business operations of SINOVATE, the official SINOVATE website presents a roadmap showing what we have achieved including the innovations we will bring in the future. Ongoing and upcoming roadmap goals are presented with percentage completion bars. SINOVATE considers this to be a better way to inform the community about the progress made in terms of the schedule, instead of posting tentative launch dates due to the custom coding process.

Roadmap of SINOVATE: https://sinovate.io/roadmap

XV.1. Step 1 - 2019

The first step was the rebranding and implementation of the first Infinity Nodes layer architecture and defined the basic infrastructure to enable additional functionality and capabilities. The Infinity Node layer is integrated into the PoW chain.

Introduced functionalities:

- Infinity Nodes
- X25X Algorithm
- RSV 1.0

XV.2. Step 2 - Q4 2020

Step 2 will focus on the network infrastructure with further reforms of the SIN protocol by adding important new features. This helps restructure the network and block data format to increase data capacity limits and allow for greater scalability.

Introduced functionalities:

- Deterministic Infinity Nodes 1.0.

XV.3. Step 3 - 2021

It is at this point that the largest nodes in the SIN network will begin to process and store data securely to offer new features and capabilities of the IDS protocol. At present, many of the concepts presented in the following sections are in the research, design, or testing phase, and we will release further technical details in due course. In addition, this step will aim to improve the service characteristics of the nodes and allow the addition of new specialized third party private and public nodes in the next step.

Introduced functionalities:

- IDS Step-1,
- DataStore,
- SINCORD,
- PoS4, Custom SIN Proof-of-Stake Consensus,
- IDS Step-2 (Private networks and creation of third-party public nodes from users) and
- Proof-of-Inheritance (Legitimate blockchain inheritance process quickly and easily)

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XV.4. Step 4 - 2022

This step will allow businesses to connect to the SINOVATE network at improved speeds to enable its use from separate private nodes and networks to data centers joining the public network or a mixture of both. SINOVATE will release RSV 2.0.

XV.5. Step 5 - 2023 and more

This step will focus on creating an application layer based on the Infinity Nodes framework to significantly increase the capabilities and possibilities of the SIN chain as well as the development of the InfiniteChain. The architectures developed and explored are digital markets and asset creation, data storage markets, and smart contract capability, with decentralized applications all running on the Infinity Nodes infrastructure.

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XVI.   Last Words

SINOVATE is very confident about the prospects of the project. We campaign for the platform to continue to grow to become one of the most trusted, respected and used blockchains. There are many projects aimed at revolutionizing the way blockchain technology will influence the daily lives of individuals, businesses, and governments around the world. A talented and experienced team, alongside the growing community, will continue to design and implement truly innovative blockchain solutions to develop ever more efficient and secure services.

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