WHITE PAPER OF SKYHIGH

2023

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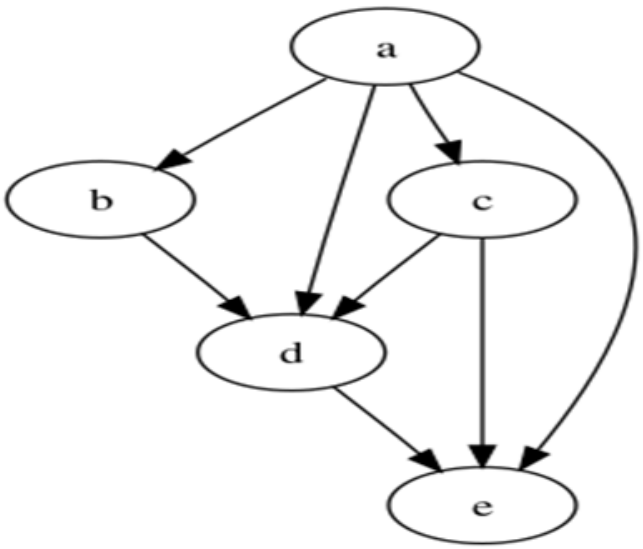
Skyhigh 0.1

Blockchain technology allows multiple computers (nodes) to reach an agreement without the need for a central authority. However, some big challenges prevent blockchain from being widely used in everyday life. One of these challenges is that transactions take a long time to settle in real-time, and the technology is not yet scalable enough to handle a large number of transactions efficiently. Although there have been improvements in reducing the time it takes to update records on ledgers, public blockchains are still slow.

Despite these challenges, there is hope for the future of blockchain technology. One way it could be used more widely in everyday life is through smart contract platforms. These platforms offer faster confirmation times compared to current public distributed ledgers.

The main obstacle that prevents the widespread adoption of blockchain technology is its slow speed, even though it provides trust and verification. However, efforts are being made to address the scalability issues. One such effort is the development of a new model called Skyhigh, which is based on Direct Acyclic Graphs (DAG). This platform aims to solve the persistent problems faced by existing public distributed ledger technologies. It sets itself apart from traditional block-based storage systems by using an improved version of DAG protocols.

Skyhigh has implemented a new protocol called the Push Protocol to ensure consensus among its users. This protocol will be integrated into the Skyhigh Chain framework and will be used by all applications built on top of it. The platform promises near-instant transactions with very low transaction costs for all participants in each exchange or trade. The mission of Skyhigh is to create a network that allows real-time transactions and ensures compatibility among transaction bodies worldwide.



WHY ARE WE MAKING SKYHIGH?

In the future, buying things will be easy and quick. Just picture a world where you can shop online from your computer at home or work, without having to wait in line to pay. That's exactly what Skyhigh is aiming for! They have come up with a special technology called DAG, which allows different forms of money to work together all around the world. This technology is also helping to build new and trustworthy systems for financial transactions.

Skyhigh is a new type of digital money that wants to be used by lots of different industries. They want to work with companies in areas like telecommunications, finance, and logistics. They have plans to create their own system called Smart Contract, which would let companies all over the world use, their technology. The Skyhigh Foundation is leading the way in the next generation of technologies that keep track of transactions. They want to make sure their transactions are very accurate and reliable, which will make them a big player in the global finance world.

Decentraland is a platform that encourages people to be creative and work together. It's a special kind of space that exists on the internet. It uses something called blockchain technology, which is like a big digital ledger. On this platform, users can make their own applications and programs, and it's all open for everyone to see and use.

SkyHigh
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ISSUES WITH BLOCKCHAIN

The world's financial system needs a big upgrade. Luckily, there's a solution called blockchain that can solve a lot of money-related issues. It's coming online this year and it's going to make the future look bright. Blockchain is a technology that can fix a lot of problems with our old-fashioned economic system.

Skyhigh believes that for blockchain to work well for everyone, it needs to be easy to use, transactions should be permanent and there shouldn't be any fees. Right now, other technologies have some limitations like slow confirmation times and high fees, so they can't meet these requirements just yet.

Issues of scalability:-

In current blockchains, all the computers called nodes have to check and save one block at a time. This takes a long time to complete. There's also a problem with the size of the chain. It can't keep growing forever, so it creates limitations. This leads to more and more performance issues over time. The network gets slower and slower as it processes more transactions until it reaches a point where it can't handle anymore. But there's hope! Skyhigh has come up with a new approach called parallel processing. It's like a breakthrough that can help solve these bottlenecks and make things run much smoother.

Fees:-

Fees are an important part of the blockchain system and they make it profitable. When you make a transaction, you have to pay a fee to the miners who process the transactions. The miners also get rewarded with new blocks as an incentive for keeping the system secure and preventing attacks.

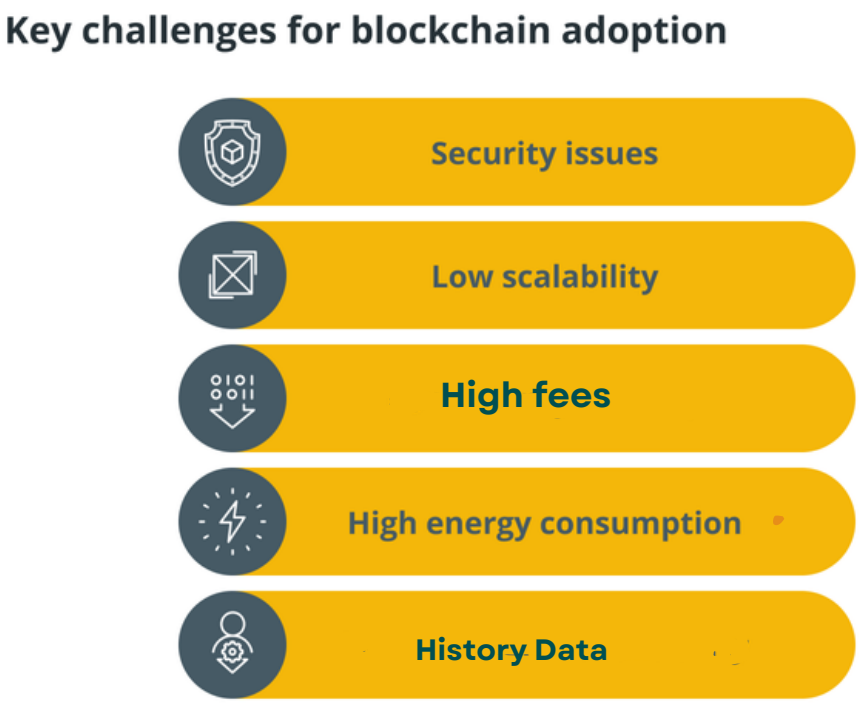
Skyhigh thinks that these high fees can discourage innovation on a blockchain that wants to grow and have lots of users. So, they are exploring ways to lower the fees or come up with alternative solutions as quickly as they can. They want to make sure that using the blockchain is affordable and accessible for everyone.

History Data:-

Blockchain is a secure and advanced technology that is used in various industries. But there's one limitation - it can only store information inside its blocks. It can't get data from external sources to verify transactions.

So, if we want to use blockchain in real-world applications, we need to find another way to store historical transactions along with the ones inside the blockchain.

Skyhigh thinks that we can add an extra layer to the blockchain to solve this problem. This layer could include functions like keeping accounting records that are always accessible, without having to rely on older versions. By doing this, we can make blockchain even more useful and practical for everyday use.

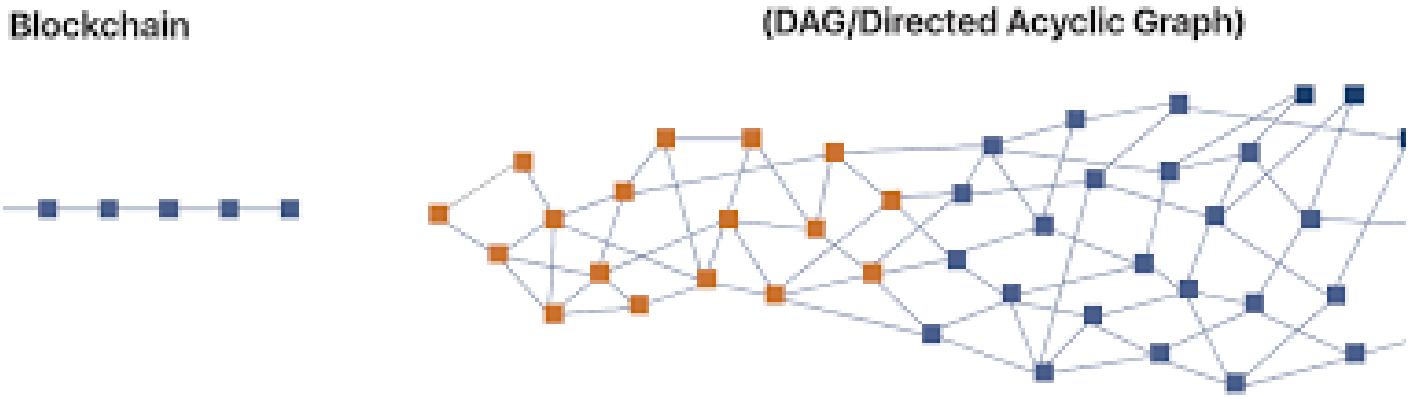


SOLUTION OFFERED BY SKYHIGH

The Skyhigh Foundation has released its latest whitepaper, which explains its project to build a new kind of blockchain using Direct Acyclic Graphs (DAG). Their goal is to make a blockchain that can handle a huge number of transactions per second and grow without limitations. This new blockchain, called the Skyhigh Chain, is an evolution of existing blockchain technology. Each validating node in the network can check transaction history and verify new transactions independently. This allows for high scalability with low fees, almost at no cost.

The Push Protocol, an additional layer, ensures that transactions are verified without needing approval from miners. It uses event blocks that refer to previous ones, creating "smart chains." This means that the increased number of transactions won't cause delays or bottlenecks in approval. The protocol also manages historical information on its own, without relying on external databases like Oracle Database. The event blocks store various data packages, including Smart Contracts and rewards for reputation management activities.

The Skyhigh Chain is designed to improve our society's processing infrastructure. It offers fast and secure methods based on DAG and manages historical information through Story Data stored on individual nodes' computers. Smart Contracts are enabled for different industries and sectors. With the Push protocol, the Skyhigh Chain will expand even further than before.



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TECHNICAL OVERVIEW

Introduction

Skyhigh has developed a platform called Skyhigh coin that can solve the scalability problems of blockchain technology. Their innovative distributed infrastructure, Skyhigh, processes data in real time and allows for efficient transactions and stories on the chain without delays or spamming. The unique aspect of this innovation is the use of story roots to track transaction history and see how they evolve. This provides valuable information about different types of transactions and their properties.

The Skyhigh Chain uses a high-level programming language called Scala to compile smart contract bytecode on their network. The network consists of three layers: the Core Layer, which handles transactions on a large scale; the Skyhigh ware layer, which supports Smart Contracts and other functionalities like node storage; and finally, an application interface for third-party developers to build applications using these features.

The Core Layer is crucial for reliable transactions within the Skyhigh ecosystem and serves as the technological backbone for information exchange. Despite its small size, it can process up to 500,000 Transactions per Second (TPS).

SKYHIGH CHAIN

The Skyhigh Consensus Algorithm:-

The Skyhigh Chain is implementing a new consensus algorithm based on DAG technology to improve performance and security. This algorithm, called the Consensus Algorithm (CA), aims to achieve the same level of agreement as existing blockchains, ensuring reliability even in the presence of faults. The Skyhigh Chain is a modern public blockchain that utilizes cryptography to enhance security and can process transactions up to 500,000 per second.

Unlike other networks that rely solely on nodes or user computers for transaction processing, Skyhigh uses functional programming languages for smart contracts and fully supports node communications. This approach ensures efficient and reliable execution of smart contracts.

The Skyhigh DAG is a creative and robust method of storing immutable information. This protocol establishes connections between event blocks, creating an interconnected system that stores various data, such as smart contracts or stories with values from past events. The Skyhigh DAG's structure is influenced by a central authority that governs how events and blocks are organized. Events from previous rounds receive more verifications as new events occur, enhancing the reliability of the system.
The LCA aims to be fully asynchronous and, when two identical transactions are requested (i.e., the double-spending issue), only one is validated at a time. The order between these tasks rests on top of an algorithm known as "The Master chain skyhigh ware layer" list, which helps arrange for more precision invalidation by using help from other nodes across the network.

Components Event Blocks

Storage event-Multiple data packages can be found within an Event Block. These data packages serve different purposes, such as transactions, smart contracts, history information, reputation management, and compensation.

The goal of the LCA (Local Chain Architecture) is to work asynchronously. When two identical transactions are requested, only one is validated at a time to avoid double-spending issues. The order in which these tasks are performed is determined by an algorithm called "The Master chain skyhigh ware layer" list. This algorithm leverages help from other nodes in the network to ensure precise invalidation.

Signature-

Each Event Block is signed by its creator, and the user's account or address is included with this signature.

More Than hash values of the previous event block:

To make it easier to connect Event Blocks, a lightweight block called the parent block is verified by a new Event Block. Similar to other Blockchain technologies like Bitcoin and Ethereum, where multiple computer nodes and miners collaborate in transaction clusters, each event can be verified by many entities. A new event block is created and connected to its parent through a hash, along with all the hashes derived from it. Therefore, any changes to data or blocks within that tree structure (Event ID) would affect all the nodes below it in some way.

Everything within this system is interconnected with the purpose of permanence, whether through modification date/time stamping or other means.

Flag Table

The Flag Table is a special table that stores information about the connection between different event blocks, called Architects. It contains two types of information:

1. Architect Index: This provides index information about each Architect. It helps identify and locate specific Architects within the table.

2. Connectivity: This indicates how each Architect is connected to other Architect applications. It shows the relationships and links between different Architects in the system.

Architect

The architect is a special type of event block that can see most of the blocks created in its path. The first candidate chosen as an Architect has the responsibility of making decisions on Finality and reaching a consensus with other events. This information is shared with everyone straightforwardly. Finality

Finality

Finality is the initial chain in the Demeter system. It's an important event block that completes its validation based on information provided by Architect at each stage. Once Finality finishes its job, it becomes part of the Master chain skyhigh ware layer along with other related event blocks. The Master chain skyhigh ware layer is used for validating, maintaining, and updating the entire network structure.

Master chain skyhigh ware layer

Skyhigh is an advanced technology for securely storing data. It can be used on top of Bitcoin or Ethereum if you have some cryptocurrency to invest in. Skyhigh offers features like payment processing, and smart contracts, and gives you access to real-time information about your company. By adding a new stateful block to the creative flow and connecting it with its parent through the Push protocol, high-speed processing is achieved.

All the blocks in this protocol are interconnected. They form a chain called "The Master chain skyhigh ware layer," which is created by linking different pieces together.

HOW IT WORKS?

The Master chain skyhigh ware layer is like the strong backbone of a blockchain system. Its main job is to validate and confirm events over time. It plays a crucial role in preventing issues like double-spending or malicious attacks where incorrect blocks are created to deceive the system. The Master chain skyhigh ware layer also helps in determining the order of event blocks that happen at different times. It gives more importance and priority to the events that occurred earlier. At the heart of the Master chain, the skyhigh ware layer is two important components called Finality and Chronos, which ensure the smooth functioning of the system.

$$\text{Architect}(i) = \sum_{j=0}^{n-1} \frac{(N-1)}{d_G(i,j)}, i \neq j$$

Skyhigh is a system made up of inter-connected blocks, and each block has an Architect associated with it. The connection between two Architects can be divided into three categories: super majority (more than half but less than two-thirds), shared majority, and minority connections with other sets on their respective tables. When designing a pBFT (Practical Byzantine Fault Tolerance), the information from the Flag Table is used to determine which Finality will be chosen. The selection of Finality is based on consensus reached among the event blocks within the Architect set, taking into account execution speeds to decide what happens next.

The Finality Event Block plays a crucial role in the Architect series. It generates information that helps connect existing event blocks in the Master chain skyhigh ware layer. This small yet significant block has an important position in the completion process. Its main function is to check the validity of rounds by verifying the information of parent nodes before moving forward to new blocks or confirming connections between them. The algorithm for designating Finality and Architect can be found within the event block itself, as well as in all its ancestors.

The Skyhigh Chain ensures the synchronization of our Master chain skyhigh ware layer when a new block is generated, but it operates asynchronously when it comes to descendant blocks. This means that descendant blocks cannot be linked together in the same way as parent blocks due to limitations imposed by the system architecture of this programming model. This prevents any mutation or deletion within the chains at any point during the transaction.

Once the Finality is determined and the Master chain skyhigh ware layer is created, all events can be agreed upon through consensus. Each event block's creation will also become known with this system in place because it relies on timing management to come together correctly. Each event block is assigned a Finality timestamp to be properly tracked. The time between events doesn't matter as long as they all have the same consensus, which will use whichever event has the latest metropolis height - and no one else.

PROCEDURE

The Skyhigh Algorithm is a type of blockchain technology designed to be straightforward and easy to understand. In this system, every node can create new events at the same time, unlike other blockchains such as Bitcoin where all users need to agree. This simple messaging protocol is sufficient to establish BFFs (Best Friends Forever). Whenever a node sends or receives messages, it ensures that the event blocks are organized in order by connecting new ones after the previous events have taken place or been verified. This ensures that events are complete and in the correct sequence, no matter where the nodes are located in the world

```
Consensus Algorithm
Loop
parallel procedure 1
    create a new block on each Node
parallel procedure 2
        Find Atropos (all_block, finality, architect)
        Main Chain (MC, finality, architect)
end Loop
```

```
procedure Find finality (all block, finality, architect)
    finality[]
    heap architect
    heap Lookup
    for each architect c
        traverse architect c
        if find finality_path then
            finality[c]++
end procedure
```

"The algorithm to find the Finality event block is simple and quick. First, use Architect of a specific time for you to identify what type of events are going on at that given moment."

The Skyhigh Algorithm is a better way to create a secure Master chain skyhigh ware layer for verifying blocks. It involves finding two important components called Finality and Architect, which can be challenging at times. Once the Skyhigh chain is complete, it will be even more dependable because it ensures that blocks are always within their designated time limits. This prevents fork attacks from occurring on either side.

```
procedure Master_Chain (MC, finality, architect)
        heap MC
        heap architect
        heap MC. Last_block
        traverse Lookup
        // optimistic MC_path between former and finality
            if find MC_path then
                MC append set of list
end procedure
```

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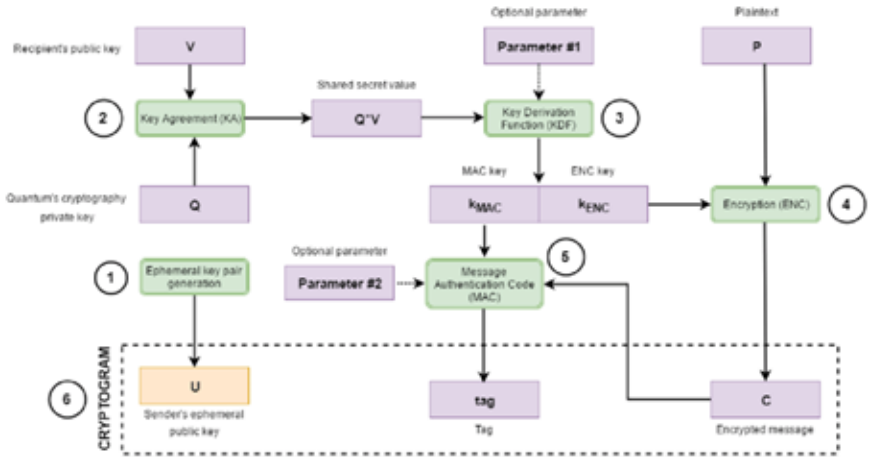
ELLIPTIC CURVE ENCRYPTION TECHNOLOGY

Skyhigh's technology has a focus on safety as one of its main features. The company will use the ECC cryptosystem to guarantee secure transmission of data between signatures and nodes. This system utilizes a short key size, enabling fast computations for signing. By applying ECC's highly efficient algorithms to cryptography, Skyhigh ensures strong security measures.
OutPut- You can use elliptic curve encryption to keep your data safe in a short amount of time. It offers the same level of security as RSA 1024-bit keys and 160-bit key length, but it's easier to use on computers and software. Choosing the right encryption method brings many advantages. Skyhigh's new algorithm will make it possible to use hardware and software wallets, enhance security features for current users of ECC codes, and provide more options in choosing what type of code they want.



RESPONSE TO ATTACKS

The Skyhigh Protocol may face attacks from harmful groups trying to make money or disrupt the system. In this explanation, we will discuss a few potential attack scenarios and how they plan to defend against them.

SYBIL ATTACK

A potential attack on the Skyhigh network could involve an attacker creating numerous nodes to gain control. However, in systems like Delegated Proof of Stake (DPOS) and Proof of Stake (POS), it's impossible for external forces or malicious hackers within your computer system/server space to influence your voting power. This attack is not feasible because each node has only one vote, and all members' votes must align correctly to validate transactions.

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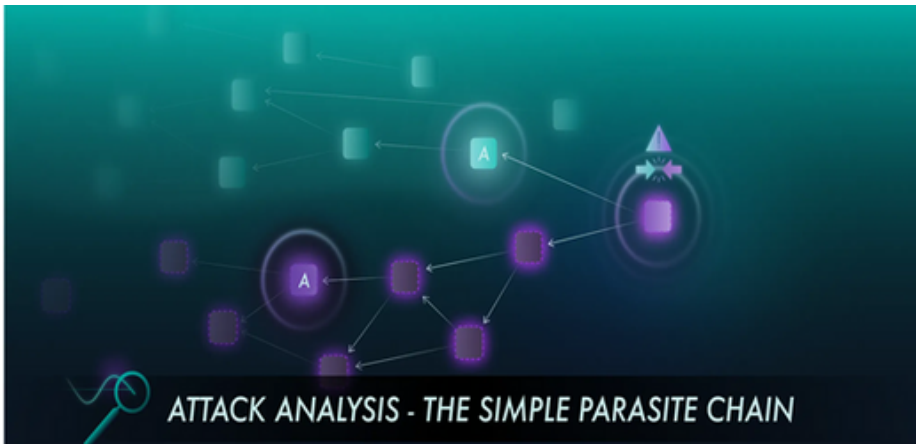
PARASITE CHAIN ATTACK

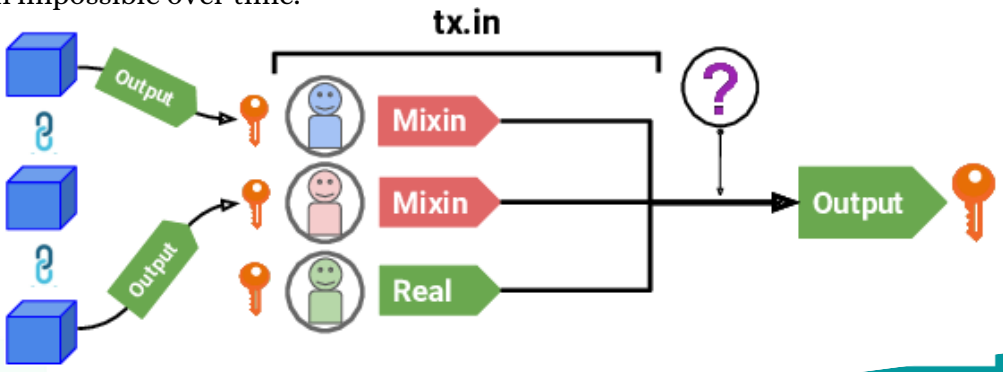
Skyhigh is a cryptocurrency protocol that uses DAGs (Directed Acyclic Graphs) to build a strong defense system. It was created by Finality and Architect, with inspiration from the sister goddesses in mythology who work together as a team.
The main role of the Master chain skyhigh ware layer, which is formed during the 1st birthdays under the MtGox trading platform GMB Whale Price Auction lots, is to verify each event block. Its important task is to prevent any double-spending and ensure smooth operations.



TRANSACTION FLOODING

To deter malicious attacks, the Skyhigh chain has decided to introduce a small transaction fee. This fee serves as a barrier that prevents users with ill intentions from engaging in harmful activities. However, implementing this fee will create challenges for the technical teams working on Skyhigh in the future.

Decentralized autonomous organizations, like Skyhigh, are designed to empower the nodes within their network. Contributors who actively participate by processing transactions or providing guidance are rewarded consistently. Any malicious attempts to disrupt the network would require a significant investment from an attacker, making such attacks progressively more difficult or even impossible over time.



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Register-Based VM-

Most existing cryptocurrency platforms utilize stack-based virtual machines (VMs), like Ethereum's Ethereum Virtual Machine (EVM). Stack-based VMs execute instructions efficiently by utilizing the stack data structure. Compared to register-based machines, stack-based VMs are faster and more efficient because they don't require additional memory that would occupy space in your computer's RAM.

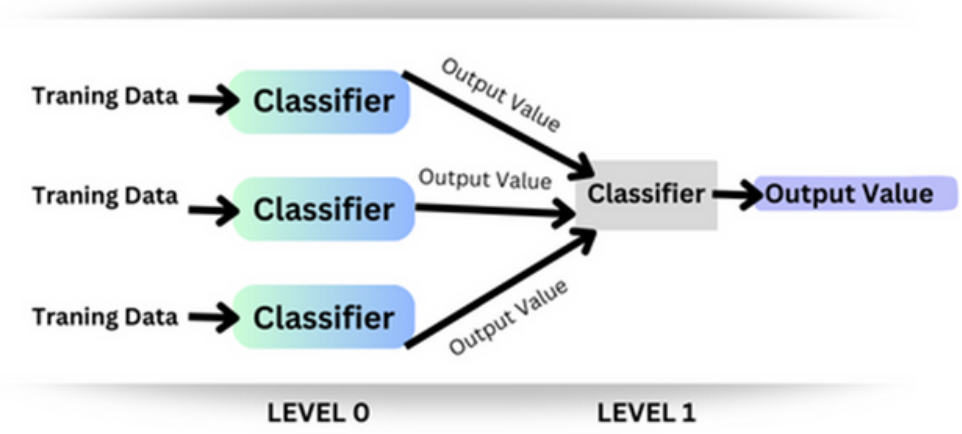
To address the issue of machine storage in Directed Acyclic Graph (DAG), event blocks become costly. The Skyhigh Virtual Machine (SVM) aims to solve this problem by introducing register-based virtual machines. These VMs significantly reduce capacity and enhance processing speed. They can save up to 50% on OPCODE execution costs per publication. This reduction improves overall performance and increases the VM's capabilities, resulting in reduced code size and faster processing, particularly beneficial for graphics-intensive tasks.

Stack-based model

The stack is a fundamental data structure. In a stack-based virtual machine, the stack is used to perform operations quickly and efficiently, even on devices with limited memory like smartphones or tablets. With just four simple commands, we can push values onto the stack (POP) and remove them by popping off the topmost level of the stack.

The stack-based model of computer memory is widely used because of its advantages. In this model, you don't need to explicitly provide information about your operands. As soon as they enter a function, they are automatically processed. This allows us to calculate and utilize the remaining values on top of the stack. It's like performing calculations and getting results immediately, similar to floating-point calculations in some cases.

For example: When we call POP, we retrieve another piece of data from the stack. When we calculate and push values, we receive performance results, similar to how floating-point calculations work.
LOAD A: Store Local Variable A to Stack
LOAD B: Store Local Variable B to Stack
ADD: Add the two values
STORE C: Store operation result to Local Variable C



Register-based model

Apart from the conventional machine that relies on a stack, register-based virtual machines are also employed. In this case, there are no PUSH or POP instructions; rather, commands must include operands for specific ADD operations. As a result, the code appears shorter compared to the previous version since it avoids the need for lengthy instruction chains that require memory access from higher levels, which is typical when using stacks.

ADD AX, BX, CX; Adds AX with BX and stores to CX.

Unlike a stack, the addresses of operands such as AX, BX and CX must be explicitly stated when using register-based virtual machines. In addition to no overhead from pushes or pops in this type of machine code (which are necessary for stacks), it is also faster because there's just one line instead of many lines like with other types
Register-based models offer the ability to enhance performance, a capability that is not achievable with stack-based approaches. To illustrate, consider a scenario where you need to perform the same calculation twice using a register model code. In this case, the model can optimize the code by storing and reusing a single value, resulting in faster overall execution speed. Register-based virtual machine models are more intricate compared to stack-based ones because they require a specific location for the operand in the OPCODE. The contrast in size between these two virtual machines allows for a reduction in codebase, simplifying the process of testing different ideas or features without the risk of introducing bugs to production servers.

Secure, Powerful VM with Turing-completeness

Turing Completeness is crucial for the success of any decentralized application (DApp). However, achieving it often leads to decision-making challenges. To address this issue, Ethereum introduced gas as a solution to unlock the full potential of smart contracts. Unlike Bitcoin, Ethereum allows for Turing complete contracts with faster transaction processing on its blockchain network.

The Ethereum Virtual Machine (EVM) is responsible for executing contracts, but it currently relies on hard-coded gas prices within the code. This poses a significant problem as making flexible changes requires a irreversible fork in the blockchain, preventing the creation of cost-effective programs such as simple scripts. This means that the execution of certain operations depends on whether they have been paid for, even if you successfully execute your transaction without issues.

Neglecting the flexibility of Skyhigh's design could jeopardize its profitability. The Skyhigh Virtual Machine (SVM) offers endless possibilities for attacking nodes due to its limited authority node and user-friendly instruction sets. However, these attacks have minimal impact on execution costs or the overall consequences if a specific component is targeted.

Many people believe that blockchain technology is only beneficial for banking, unaware of its broader applications. One of the most popular uses today is in digital security and verification, ensuring that your data remains safe from hacking threats.

Verifying smart contracts on the EVM comes with its own set of challenges. Some projects, like Bitcoin, address these limitations by either removing Turing completeness or providing templates for large numbers to enable formal validation. However, the absence of outcome functionality makes DApp implementation difficult.

The SVM serves as a comprehensive solution, offering both security and Turing completeness. With its core functions such as external code linking and library support, developers have complete freedom to build their applications on the Ethereum platform. This versatility positions the SVM as a crucial component in establishing an ecosystem for DApps. It can function independently or alongside other contracts as components within the Smart Contract infrastructure of the future.

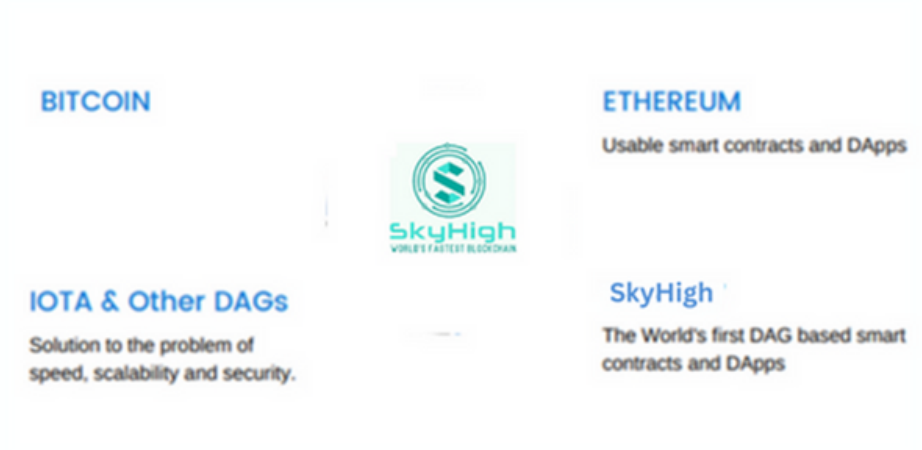
STRUCTURE OF SKYHIGH CHAIN

Skyhigh Chain is an innovative blockchain structure that incorporates essential data elements such as hash values and signatures. A distinctive feature of Skyhigh's design is the inclusion of stories, and interactive components capable of storing various information, including smart contracts or indexing services for smart contracts on other blockchains like Bitcoin.

Within the Skyhigh chain's event block data structure, the previous block's value is represented by a hash. The transactions, each filled with specific values, form the list of transaction blocks. The Smart Contract contains information about the Smart Contract created by the account.

The Story serves as a data structure responsible for tracking the distribution history of any object. The information stored within the Story is dynamic and constantly changes, thus determining its value, which we refer to as the "Story." Additionally, the Story has now been expanded to include inheritance properties, allowing for the possibility of duplicate storage. However, our algorithm prevents such duplications automatically. You have full control over what gets included in each event block using your keys.
You may be familiar with the concept of the **"Skyhigh chain."** It is a groundbreaking method that ensures the safety of your cryptocurrency by employing encryption, smart contracts, and a three-tiered architecture. This approach includes externally owned accounts controlled by private keys, as well as contract codes that store control code and story information. Through this additional layer of security, Skyhigh chain effectively safeguards against theft.
Accounts can be categorized into two types: externally owned accounts and contract accounts. Externally owned accounts have a public address controlled by a private key, allowing them to initiate approved transactions involving transaction-level tokens to other addresses. On the other hand, contract accounts execute predefined instructions when necessary, triggered by another contracted account called by an external party. However, contract accounts cannot initiate calls to other accounts unless they have been first invoked themselves.

A Smart Contract comprises a pre-programmed set of conditions that must be fulfilled for the contract to execute. Once these conditions are met, the contract is automatically executed and generates transactions on behalf of users. However, these transactions require manual approval by operators who meet specific criteria. The Smart Contract also stores certain data related to the creation of a story, including elements like a timestamp, which are essential for storage purposes within its dedicated story space.

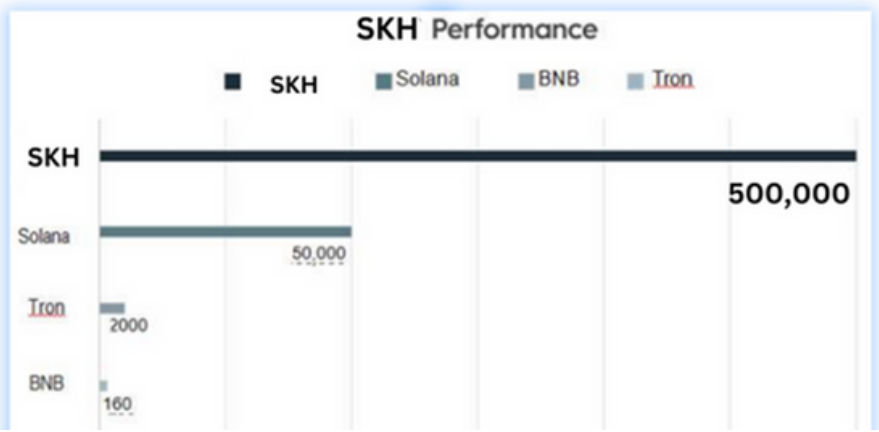


A distributed application, also known as a DApp, operates across multiple nodes on the SkyhighChain. Leveraging the resources of the Skyhigh Network, DApps can ensure reliability and safety in their operations, thanks to security features such as encryption through Transaction Verification Code (TVC). These applications also offer seamless execution of contract code on widely-used browsers like Firefox and Chrome, adhering strictly to W3C standards to prevent compatibility issues. By supporting the development of a free web ecosystem through transparent blockchain technology and a highly interconnected environment, we can collectively build new infrastructures.

Additionally, AI plays a crucial role in facilitating efficient changes in business processes by acting as a broker or central control authority. It extends its services beyond national borders, assisting in the expansion of revenue streams for companies. The Skyhigh Chain is specifically designed to address scalability challenges. It stores data within a tamper-proof structure, utilizing Merkle trees for efficient space management and rapid transaction processing speed. Every component has been optimized down to the smallest detail, resulting in an atomically efficient system. Within the Skyhigh Network, Skyhigh provides environments that enable Smart Contracts to conduct transactions using Stories information. The headnotes are stored in their respective root Stories each time new blocks are generated.

PERFORMANCE OF SKYHIGH CHAIN

The Operational Research for Optimization algorithm implemented in the Skyhigh Chain tackles the challenge of scalability by significantly increasing block speed. While third-generation blockchain technology has shown improvements in performance compared to previous versions, block creation can still be slow. Skyhigh Chain, a third-generation blockchain technology, offers a scalable solution that can be widely implemented across various domains and industries. With high reliability, scalability, and transaction speeds of up to 500 thousand per second, Skyhigh Chain creates a secure environment for data storage with STORAGE STREAMS. Certified partners, such as Skyhigh, collaborate under one umbrella to provide tailored services to operators like yourself, including the option to store Stories or historical records according to your preferences, ensuring consistent and reliable performance.



The new Skyhigh Chain is the ideal solution for those seeking fast and secure transaction processing. This innovative blockchain technology enables nodes to simultaneously verify multiple transactions and validate their authenticity within seconds. As each node collaborates with other networks across different platforms, including Skyhigh, Bitcoin, and Ethereum, remarkable processing speeds can be achieved. The Skyhigh Protocol has been designed to process and verify blocks asynchronously, enabling efficient utilization of network resources. Verification tasks can be executed on separate nodes worldwide without the need for them to be aware of each other's work or results, enhancing overall network efficiency.

Skyhigh aims to enhance block propagation speed, enabling each event block to expand up to 100KB, which is sufficient to process the event blocks managed by the Lowest Common Ancestor (LCA). For instance, considering a transaction size of 260 Bytes, a single event block can accommodate 440 transactions. If it takes 0.1 seconds to create an event block, each node can generate seven to ten event blocks per second. Assuming 100 nodes participate and there is an infinite number of transactions per second, each node will asynchronously and simultaneously create seven to ten event blocks. The Skyhigh protocol adds and verifies a new Master chain skyhigh ware layer whenever 2/3 of all participating nodes reach the same number of event blocks. With 100 nodes available, the estimated number of event blocks created and verified per second should be around 700 to 1000.

By processing approximately 700 to 1000 event blocks, Skyhigh can achieve over 500,000 transactions per second (TPS). However, the network latency may impact the actual TPS achieved.

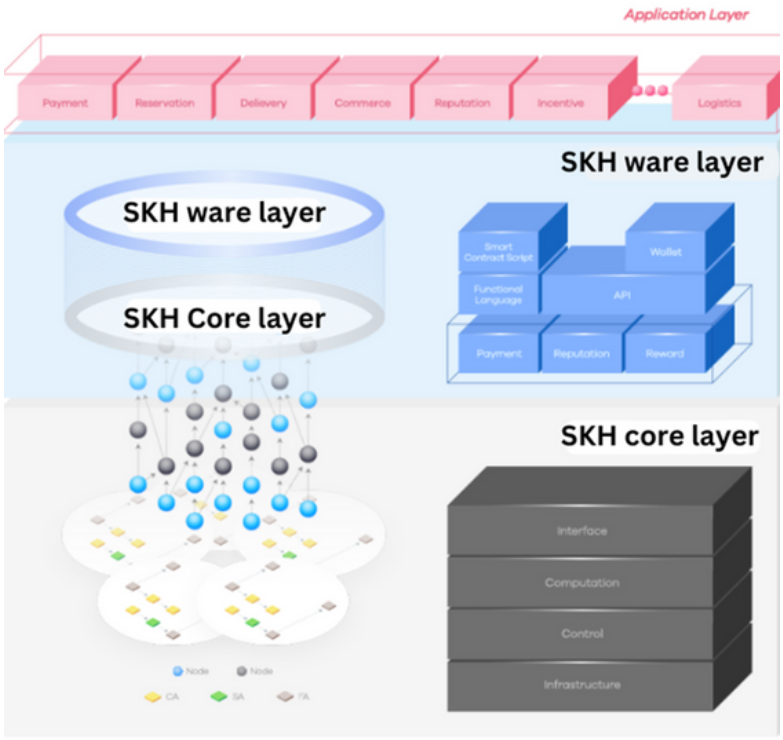
It is believed that the time complexity of O(N log(N)) in the Skyhigh algorithm provides significantly faster performance compared to algorithms with time complexity of O(N^2). Both time complexities, O(N^2) and O(N log(N)) can influence the performance speed, where "N" represents the number of nodes involved.

n square = n * n
n Log N = n * log(n)
n*n vs n * log(n)
n vs log(n)

If n=10, nlog(n) ~ 2.3
If n=100, nlog(n) ~ 4.6
If n=1,000, nlog(n) ~ 6.9
If n=10,000, nlog(n) ~ 9.21
If n=100,000, nlog(n) ~ 11.6
If n=1,000,000, nlog(n) ~ 13.8

MULTIPLE LAYERS OF SKYHIGH

Utilizing Skyhigh, Skyhigh provides a two-tiered system known as the Skyhigh Ware Layer, designed to accommodate different types of applications. The Skyhigh Core Layer handles crucial functions such as payment processing, reservations, deliveries, commerce, and reputation management. Additionally, the Skyhigh core layer serves as the foundation for deploying essential chain technologies within the Skyhigh ecosystem, guaranteeing trustworthy transactions and smooth information sharing.



Infrastructure

Infrastructure Skyhigh's blockchain serves as the essential foundation for this ecosystem, offering enhanced functionality compared to other blockchains through the utilization of Skyhigh Chain. This decentralized environment captures and settles data on blockchain transactions, facilitating everyday activities such as bill payments and flight bookings.

The Infrastructure layer of Skyhigh maps and stores information regarding transactions, Smart Contracts, and comprehensive transaction history across various application areas including Payments, Reservations, Deliveries, Commerce, and Reputation. It also encompasses the computation layer, which includes values representing previous event blocks. Within the infrastructure layer, data related to transactions and Smart Contracts is stored in data blocks, forming a historical record of executed events and reputation points that influence future interactions with other users in the system.

By understanding the underlying processes of online interactions with potential customers, one can benefit from Eventual Values (EV) or substantial gains by renting out resources like parking spaces at their business. The Master chain skyhigh ware layer of events is created and stored, forming an index. Event blocks within each application are indexed based on their relationship status, whether they are directly or indirectly connected to the Master chain skyhigh ware layer's event list. This unique architectural design flaw is developed on top of blockchain technology, incorporating user-friendly products such as watches.

The infrastructure layer ensures seamless and reliable data transfer among entities above it. It provides operational capabilities to fulfil necessary tasks, such as transferring event blocks and verifying the authenticity of physical equipment to rectify any potential errors accurately. The Video Transmission and Receiving System verify data transfer speed and other parameters to check for errors. It also incorporates flow control mechanisms to prevent frame loss while transmitting video frames over the internet or between locations with weak connection speeds (using TCP). Moreover, it handles collisions that may occur during transmission, allowing users to not only view the sent message but also see how it appears on the recipient's screen.

Skyhigh aims to ensure a commission-free network while preserving the strengths of its Skyhigh chain system, including high uptime and quick response times.

Control -

The control layer is where the magic happens. It takes the compiled data from our Infrastructure and transforms it into something valuable.

The control layer plays a vital role in Smart Contracts. It ensures the accuracy of specific operations for a given transaction, such as calculations and reliability assessments, by using reliable information. This step is crucial when writing your smart contract code in the future. The control layer also verifies other activities performed by both layers.

To ensure smooth data flow across networks, the control layer serves multiple functions. It assigns routes for information transfer between systems, ensures that only one copy of each piece of information travels through each segment in transit (controlling the flow), and terminates connections that are no longer necessary or required by protocols at either end. This helps prevent congestion during the transfer process.

Moreover, even block data is divided into packets and then reassembled after being transferred. A routing algorithm assigns logical addresses to determine the optimal communication route between sender and receiver. This ensures seamless delivery with minimal latency between the two parties.

Computation-

The Skyhigh layer is responsible for receiving transactions, smart contracts, and historical data from various applications. This process involves analyzing the received traffic and classifying each block based on the services it provides, such as transaction or reward management. TCP/UDP protocols are used, along with interfaces between different components within this architecture, to facilitate the process.

The computational system's layers collaborate to ensure the accuracy and orderly transfer of data. Multiple communication channels distinguish reliable transfers from unreliable ones, ensuring impartial operational processing. This approach optimizes overall network efficiency while offering scalability to meet your business needs. The first level of communication checks for errors by ensuring that all relevant information is successfully transmitted before moving to lower levels. Event records are organized into batches based on their type, making it easy for brokers to access them.

Interface-

By establishing an interface layer, applications can access the Skyhigh Chain. The management and supervision of accounts are integral to this network, ensuring the authority of nodes is limited or certified. As a result, transactions undergo proper verification before execution, involving participating networks and wallet addresses associated with Skyhigh Coin.

The Skyhigh Core and its ware layers within the Skyhigh Chain communicate through various interfaces, including TCP/IP channels. Transaction data is sent over DBMS-oriented connections in Linux Kernel environments exclusively for verification purposes. This secondary layer manages the interactions of all applications and maps their verified information to be transmitted through operational computational workflows.

The Interface layer serves as the control structure for each of our layered systems, ensuring synchronization and maintenance. It facilitates the combination of data from event blocks, makes necessary adjustments in dialogue channels between application units (including termination), and manages account settings required by the operated ware layers across different nodes. The ultimate goal is to ensure a smooth transition of information flows through all levels as seamlessly as possible.

SKYHIGH WARE LAYER

The Skyhigh Ware layer offers open-source APIs, Smart Contract scripts, and other resources for different decentralized applications (dApps). The Skyhigh token, which is utilized within this layer, serves as a fundamental element for conducting transactions. It enables users to make payments and receive payments based on their reputation score or transaction history within the Skyhigh ecosystem. This applies to all participants, including consumers, firms, and producers.

Middleware- The Middleware of Skyhigh's chain consists of protocols and APIs that establish connections between decentralized applications (DApps), primarily built with Smart Contracts using the functional programming language Scala. It includes e-wallets that support payments in local currencies as well as international payments through credit cards or bank transfers, similar to platforms like Paypal. The Middleware also incorporates a reputation management system on a blockchain network, where users can rate each other based on their past interactions, enabling them to explore new opportunities and earn reward points before they even occur.

The architecture of Skyhigh's Middleware platform is structured into modular layers for key services. This modular design facilitates easy modification, expansion, and integration with new modules related to Smart Contracts in future software updates. It also ensures a seamless experience by integrating with existing payment services, such as payment gateways (PGs), to conveniently utilize Skyhigh's service offerings. A native/web client SDK, similar to other software development kits, is provided to seamlessly integrate Skyhigh into any environment. At its core, Skyhigh offers a range of products that have been designed and developed by our dedicated team.
The development language layer in Skyhigh consists of a high-level functional programming language and other languages. This layer aims to simplify the development of Smart Contract services, allowing users to create their smart contracts or translate existing byte code compilations into Skyhigh Script if they prefer not to handle source code files directly.

The service layer encompasses payment, reputation, and reward services. Initially, clients can utilize an SDK that provides external modules for secure communication between IOS or Android devices, thanks to the Skyhigh development language and SVM (Skyhigh Virtual Machine) in subsequent stages.

The Skyhigh API layer serves as the foundation infrastructure for our service applications developed within the Skyhigh environment. This independent level enables connections and expansions with other cryptocurrencies, opening up additional areas for exploration.

Within this system, specific modules are dedicated to Smart Contracts processing and blockchain management. The transaction processing capabilities of the Skyhigh API layer include advanced mechanisms to detect and anticipate suspicious payment activities conducted through domestic payment gateway companies or card-issuing banks, ensuring systematic prevention against fraudulent transactions.

The SVM layer provides a common infrastructure that facilitates DApp development and supports various services across all environments. It plays a significant role in exposing our service ecosystem.

The Skyhigh communication layer ensures fast, transparent, and reliable communication with the blockchain. By separating the messaging abstraction from the physical implementation, developers with diverse coding skills can work simultaneously, allowing them to focus on creating successful products without the need for extensive coding expertise in any specific area.

Smart Contract production tools

The Skyhigh chain offers a Smart Contract script editor that enables you to write and code contracts using any programming language of your preference. This platform provides advanced features that make it incredibly convenient for developers seeking smart contract functionality on the blockchain. The SVM (Skyhigh Virtual Machine) compiles Scala into bytecode, offering Turing completeness—a capability previously only available with Ethereum's native Virtual Machine (EVM). This means that transactions can be processed by the built-in protocol while maintaining fast processing speeds.

Skyhigh wallet

The Skyhigh Wallet is a groundbreaking decentralized blockchain-based e-wallet solution, designed to cater to all users. With this innovative platform, you can securely store your coins and efficiently manage multiple accounts in one convenient place, simplifying transactions. The native client seamlessly works across web browsers and supports smartphones, ensuring accessibility regardless of the device you use to access the internet. The versatility of this e-wallet allows for seamless integration into various aspects of life, whether it's processing payments at home or work or shopping online.

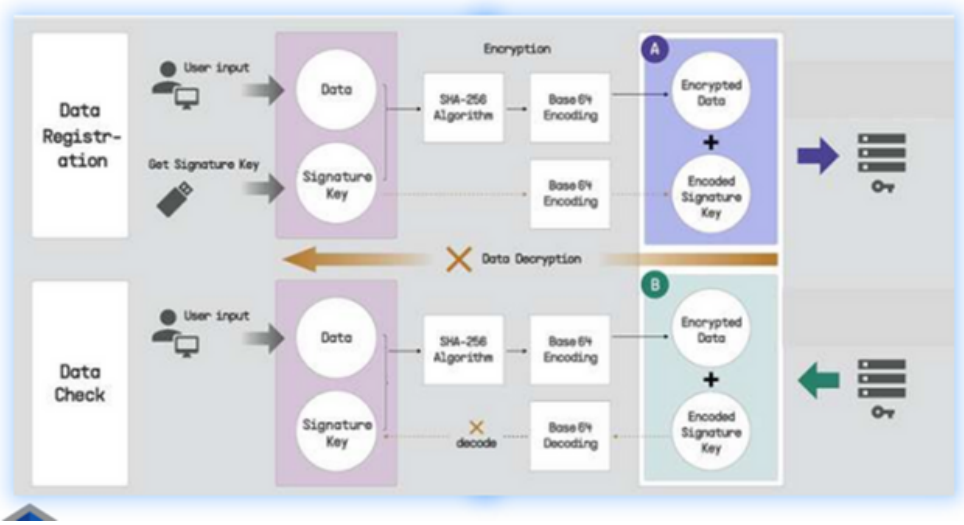
The wallet management component offers a revolutionary way for businesses to easily and securely integrate their e-commerce systems with any blockchain. The service provides features such as QR code scanning, enabling instant transaction entries once quantities are inputted into the app. It is compatible with iOS, Android, and web platforms, offering a unified experience.

The multi-address management component of this e-wallet service prioritizes the safety of your funds through rigorous pre-checks and protections. Even if one account were to be compromised, rest assured that it would not affect other parts or operations of your wallet. The security of your account type is crucial, allowing users to maintain privacy and control over their transactions.

For example, if someone wishes to use a money transfer service solely for a specific transaction without revealing additional personal information, they can simply provide the necessary deposit details to receive funds. In this way, even if your e-Wallet encounters a leak or compromise during its journey through our networks, the impact is minimized.

The address verification component plays a crucial role in verifying the authenticity of e-wallet addresses by linking them to owner information. This process adds an extra layer of difficulty to falsification attempts and enables modifications to adapt to changes in the service environment. Encryption and decryption methods are employed to ensure the security of wallet addresses and associated services.

Moreover, the transaction component empowers users to send and receive various cryptocurrencies on the Skyhigh network, expanding its functionality beyond just Skyhigh coins.



SKYHIGH WARE PROTOCOL

Transaction protocol - The transaction protocol of the Skyhigh Chain is perfectly suited for the food delivery industry. Participants can effortlessly provide consumers with top-notch goods and services, all while ensuring prompt delivery through the power of blockchain technology. This cutting-edge solution guarantees efficient order fulfillment, allowing businesses to thrive in the competitive market. Experience seamless transactions and elevate your food delivery operations with Skyhigh Chain's robust platform. Trust in our secure and reliable system to revolutionize your business today.

SkyHigh
WORLD'S FASTEST BLOCKCHAIN

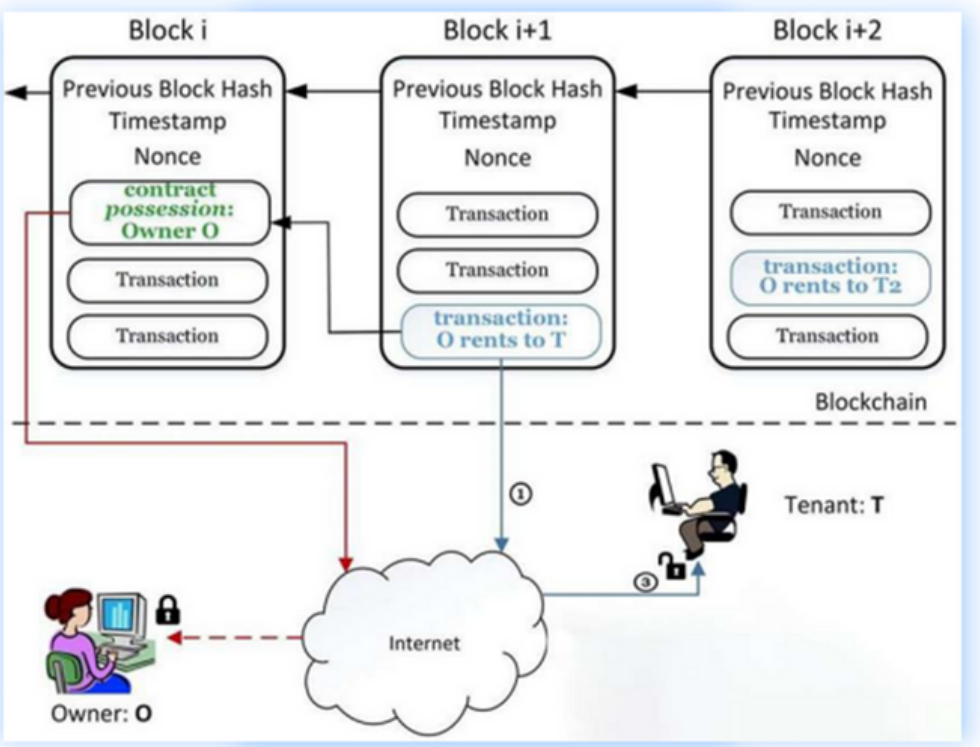
Smart Contract protocol

Smart Contracts are a groundbreaking approach to conducting business. These digital codes facilitate, verify, and execute contract requirements online, eliminating the need for physical documents and third-party intervention. With Smart Contracts, every aspect of an agreement is encoded, leaving no room for interpretation. This results in better outcomes at significantly lower costs compared to traditional methods.

The advantages of utilizing Smart Contracts are numerous. They enable the exchange and secure transfer of value without the involvement of intermediaries. Brokers, attorneys, and notary publics are no longer necessary for your transactions, as everything occurs directly on a distributed ledger. This eliminates the typical delays associated with traditional business processes.

The concept of vending machines is a brilliant idea for the future of business. This technology operates similarly to an automatic teller machine (ATM), where the desired output is provided once specific conditions are met. Vending machines can function automatically based on pre-programmed rules, without the need for human intervention. In the case of Skyhigh vending machines, users can input money and select items from an onboard menu or touchscreen display. Skyhigh coins are then sent to complete the transaction. The other party can collect their purchase in exchange for providing collateral, mitigating any potential default risk, although such risks are virtually non-existent.

The Skyhigh Chain is a smart contract protocol that facilitates transactions between participants based on industry-specific conditions and requirements.



Skyhigh Contango presents an investment opportunity to participate in the future of cryptocurrency. The CONTROL Smart Contract not only securely stores your funds but also records every transaction and fulfilled contract, allowing us to share captivating stories that enhance your investment experience. Trade with confidence across various devices and applications through our seamless integration with major trading platforms.

SkyHigh
WORLD'S FASTEST BLOCKCHAIN

Story protocol

The Reputation protocol in the Skyhigh ecosystem serves as a method to gauge the reliability and trustworthiness of each participant. It analyzes the data and responses from all individuals involved and establishes criteria for rewarding those who excel in specific areas, such as delivering packages promptly, with additional monetary incentives or influence. This protocol ensures that individuals who consistently perform well are acknowledged and incentivized accordingly.
The reputation score is determined by considering each evaluation criterion along with its weighted value, which is then divided by 'n' to calculate an average.

Skyhigh's reputation protocol brings stability, reliability, and accuracy to the chain by providing a robust measure of each participant's reputation. This measure can be accessed whenever necessary by either party to establish a greater sense of trust and confidence in conducting business with one another.

Traditionally, determining the reliability of a company has been a challenging task. However, with the aid of new technologies, we can now assess the reliability of businesses through their reputation scores. A scale ranging from A to D defines different levels of reliability. Additionally, weightings are assigned to ensure that more significant criteria carry greater importance than less valuable ones. When calculating the updated value for an evaluation criterion, the weighted values and their corresponding levels (with A being the most sensitive) are divided accordingly.

Reward protocol

With Skyhigh, you have the opportunity to earn tokens for your evaluations. All participants are incentivized to engage in valuable behavior on the platform, fostering a reliable ecosystem that rewards honest feedback and excludes any malicious actors or scammers. Smart Contracts come into effect when activities occur within our Reward protocol, based on the number of transactions involved.

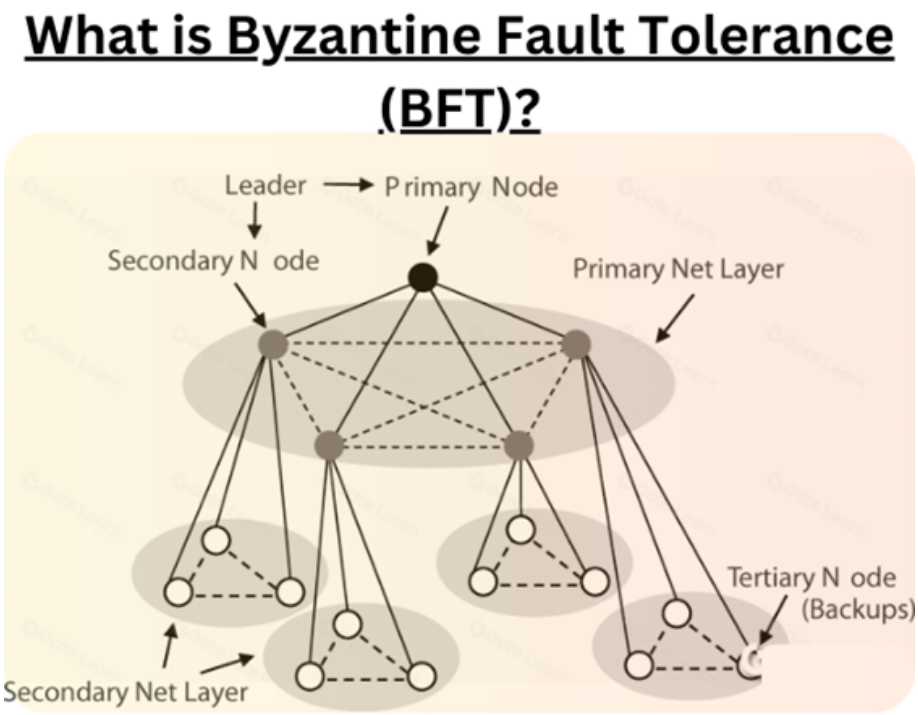
For instance, let's consider you own a restaurant and wish to cultivate customer loyalty. You can reward them with discounts for being loyal users of your service. This way, they can enjoy their food from a trusted source without exploring alternative options.

Once the conditions for Reward usage are established, Smart Contract holders will receive tokens as a form of recognition. These rewards may include experience points or improved search rankings. In the Skyhigh ecosystem, transaction tokens are specifically designed to be earned by users who generate a high volume of orders and reviews. Imagine a world where restaurants are rewarded for maintaining a strong reputation. Through specific protocols, these establishments can utilize transaction tokens to cover advertising costs, which can be obtained from transactions conducted at their locations or through direct purchases on the hosting application's website.

In this specific example, the intention is for consumers to receive transaction tokens through a reward contract when they write high-quality reviews or achieve a significant number of orders and meet specified spending thresholds.

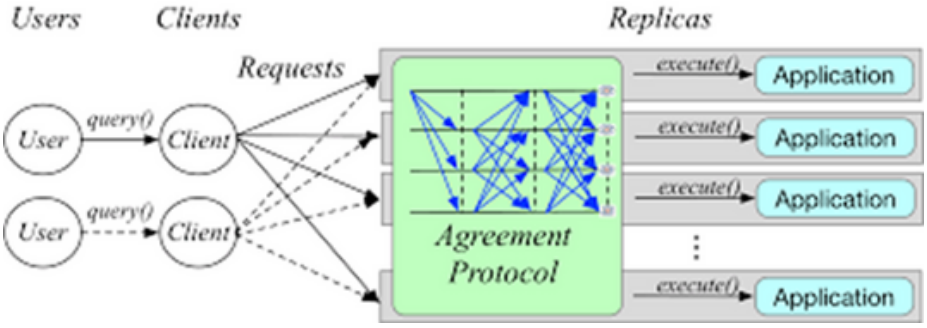
BYZANTINE FAULT TOLERANCE(BFT)

Byzantine Fault Tolerance (BFT) is a critical concept in distributed computing and consensus algorithms. It refers to a system's ability to maintain its correct operation and reach a consensus among nodes, even in the presence of malicious or faulty components. In a Byzantine fault-tolerant system, nodes can communicate and exchange information despite some nodes behaving in arbitrary, Byzantine, and potentially hostile ways. The primary objective is to ensure that the correct nodes can still agree on a consistent outcome, regardless of the deceptive behavior exhibited by a certain number of faulty nodes. BFT is crucial for ensuring the integrity and reliability of decentralized networks, such as blockchain systems, where trust and consensus are paramount for maintaining a robust and secure infrastructure.



BFT AsyncSync Environment Circle Diagram

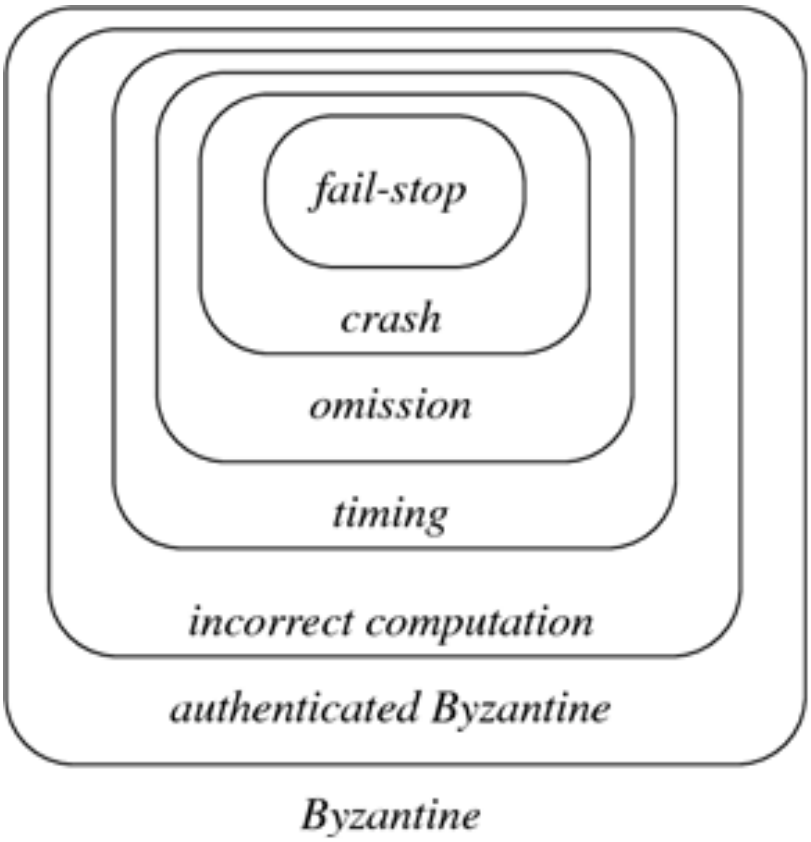
BFT (Byzantine Fault Tolerance) Async Sync Environment Circle Diagram is a visual representation used to illustrate the behavior of a distributed system in the context of Byzantine fault tolerance. The diagram showcases the different states of nodes or participants in the system during asynchronous and synchronous phases. In the asynchronous phase, nodes operate with no strict timing or coordination, which can lead to uncertain message delivery. In contrast, the synchronous phase enforces a specific time bound for message transmission, ensuring reliable and predictable communication. The circle diagram visually depicts how the system transitions between these two phases and highlights the critical boundaries where Byzantine faults may occur, helping to design robust fault-tolerant protocols in distributed systems.



Types of Byzantine Failures

There are two categories of failures: fail-stop and arbitrary. Fail stop nodes will shut down when they reach a certain point, while an arbitrary system failure can happen for various reasons like power interruption or human error.

- An error occurred when the result was not reflective.
- Provide the wrong answer
- The response that intentionally misleads
- Give different results based on what part of the system you are interacting with



Advantages of BFT (Byzantine Fault Tolerance)

1. Resilience to Malicious Nodes: BFT ensures the system remains functional even when some nodes act maliciously or fail, making it highly robust against attacks or failures.

2. Guaranteed Consistency: BFT ensures that all correct nodes agree on the same outcome, even in the presence of faulty nodes, leading to strong consistency in the distributed system.

3. High Fault Tolerance: BFT can tolerate a significant number of faulty nodes, making it suitable for critical applications where reliability is paramount.

4. Decentralized and Distributed: BFT can be implemented in a decentralized manner, providing fault tolerance without the need for a central authority, and enhancing the system's scalability and resilience.

5. Enhanced Security: BFT's resilience against Byzantine faults provides better security against malicious attacks, preventing unauthorized manipulation of data or actions within the system.

6. Predictable Performance: BFT's synchronous phase ensures a known time frame for message transmission, leading to predictable and stable performance in the system.

7. Consensus in Adverse Conditions: BFT functions effectively even in adverse network conditions, including message delays, packet loss, and network partitions, maintaining reliable operation.

8. Suitable for Permissioned Blockchains: BFT-based consensus algorithms are commonly used in permissioned blockchain networks due to their strong fault tolerance and predictable performance.

9. Auditable Transactions: BFT allows for transparent and auditable transactions, ensuring that all actions and decisions within the system can be verified by all participants.

10. Global Consensus: BFT ensures that all nodes in the system reach a global consensus, enabling uniformity and coherence across the distributed network.

How BFT (Byzantine Fault Tolerance) works?

1. Node Proposal: The process begins with one node in the network proposing a value or a transaction. This proposing node is known as the "leader" or "primary."

2. Sending Proposals: The leader broadcasts its proposed value to all other nodes in the network.

3. Voting Process: Each receiving node (including the leader) independently evaluates the proposed value and casts its vote on whether to accept or reject it. This voting step ensures that each node expresses its opinion on the proposed value.

4. Counting Votes: The nodes count the votes they receive from other nodes. In BFT, a specific threshold of votes is required for a value to be accepted as the chosen value. This threshold is typically calculated based on the total number of nodes in the system.

5. Consensus Decision: If the proposed value receives enough votes to meet the required threshold, it is accepted as the chosen value or decision. All correct nodes now agree on this chosen value.

6. Faulty Node Handling: In the presence of faulty nodes, Byzantine fault tolerance ensures that the chosen value is unaffected by any malicious behavior or faulty information provided by these nodes. By employing voting and consensus mechanisms, BFT can tolerate a certain number of Byzantine-faulty nodes without compromising the system's overall reliability and correctness.

7. Confirmation: Once the consensus decision is reached, all nodes execute the agreed-upon value or transaction, ensuring that the distributed system remains in a consistent state.

8. Continued Consensus: BFT protocols often require multiple rounds of voting and consensus to handle ongoing proposals and maintain the system's fault tolerance even in dynamic environments.

BFT– Understanding the Consensus Algorithm

Why use BFT?

BFT (Byzantine Fault Tolerance) is a consensus algorithm used in distributed systems to achieve agreement among nodes even in the presence of malicious or faulty nodes. It addresses the Byzantine Generals' Problem, which deals with the challenge of reaching consensus in a distributed network where some nodes may behave dishonestly or fail unpredictably. Here's why BFT is widely used and preferred in certain scenarios:

1. Resilience to Faults: BFT is designed to handle a substantial number of faulty or malicious nodes while still achieving consensus. This makes it highly resilient in environments where node failures or attacks are common.

2.Enhanced Security: By tolerating Byzantine faults, BFT provides better security against malicious nodes attempting to manipulate the consensus process or compromise the integrity of data in the system.

3. Strong Consistency: BFT guarantees strong consistency in the distributed system, ensuring that all correct nodes agree on the same decision or value, even in the presence of faults.

4. Decentralization: BFT can be implemented in a decentralized manner, eliminating the need for a central authority or single point of control. This property aligns well with the principles of blockchain and other decentralized systems.

5. Predictable Performance: BFT's synchronous phase ensures a known time frame for message transmission, resulting in predictable and stable performance, which is crucial for applications where timing is essential.

6. Permissioned Blockchains: BFT-based consensus algorithms are commonly used in permissioned blockchains, where known participants are allowed to validate transactions and participate in the consensus process.

7. Critical Applications: BFT is well-suited for critical applications such as financial systems, supply chain management, healthcare, and any scenario where data integrity and reliability are of utmost importance.

8. Auditable Transactions: The transparency of BFT allows for auditable transactions, making it easier to verify the correctness of decisions and actions taken within the distributed system.

9. Adverse Network Conditions: BFT remains effective even in adverse network conditions, such as message delays, packet loss, or network partitions, ensuring the system's availability and correctness.

.

While BFT offers numerous advantages, it's essential to consider that no consensus algorithm is universally superior. BFT is best suited for environments where fault tolerance, security, and strong consistency are paramount requirements. However, in different scenarios, other consensus algorithms, like Proof of Work (PoW) or Proof of Stake (PoS), maybe more appropriate depending on the specific use case and desired system characteristics

Why so many messages?

Message-heavy algorithms are caused by the number of multicast messages required for each phase of a three-phase protocol multiplied by each replica.

Why so many replicas?

In BFT (Byzantine Fault Tolerance), having many replicas is crucial to ensure fault tolerance and reliability in the distributed system. The number of replicas is determined by the need to tolerate a certain number of Byzantine-faulty nodes without compromising the overall consensus. To achieve this, the BFT algorithm typically requires a minimum of 3f + 1 replicas, where f represents the total number of faulty replicas.

The reason for having 3f + 1 replicas is as follows:

1. Resilience to Faults: With a sufficient number of replicas, the system can tolerate up to f faulty replicas and still maintain consensus. This redundancy ensures that even if a portion of the replicas is compromised or acting maliciously, the remaining non-faulty replicas can reach an agreement.

2. Majority Voting: BFT relies on majority voting to reach a consensus. Having 3f + 1 replicas allows for a majority of non-faulty nodes to overpower any malicious or faulty nodes, ensuring that the correct decision prevails.

3. Security against Byzantine Faults: Byzantine faults can be particularly challenging to handle, as faulty nodes may behave arbitrarily. Having a significant number of replicas enhances the security of the system, making it harder for attackers to control a majority of the replicas.

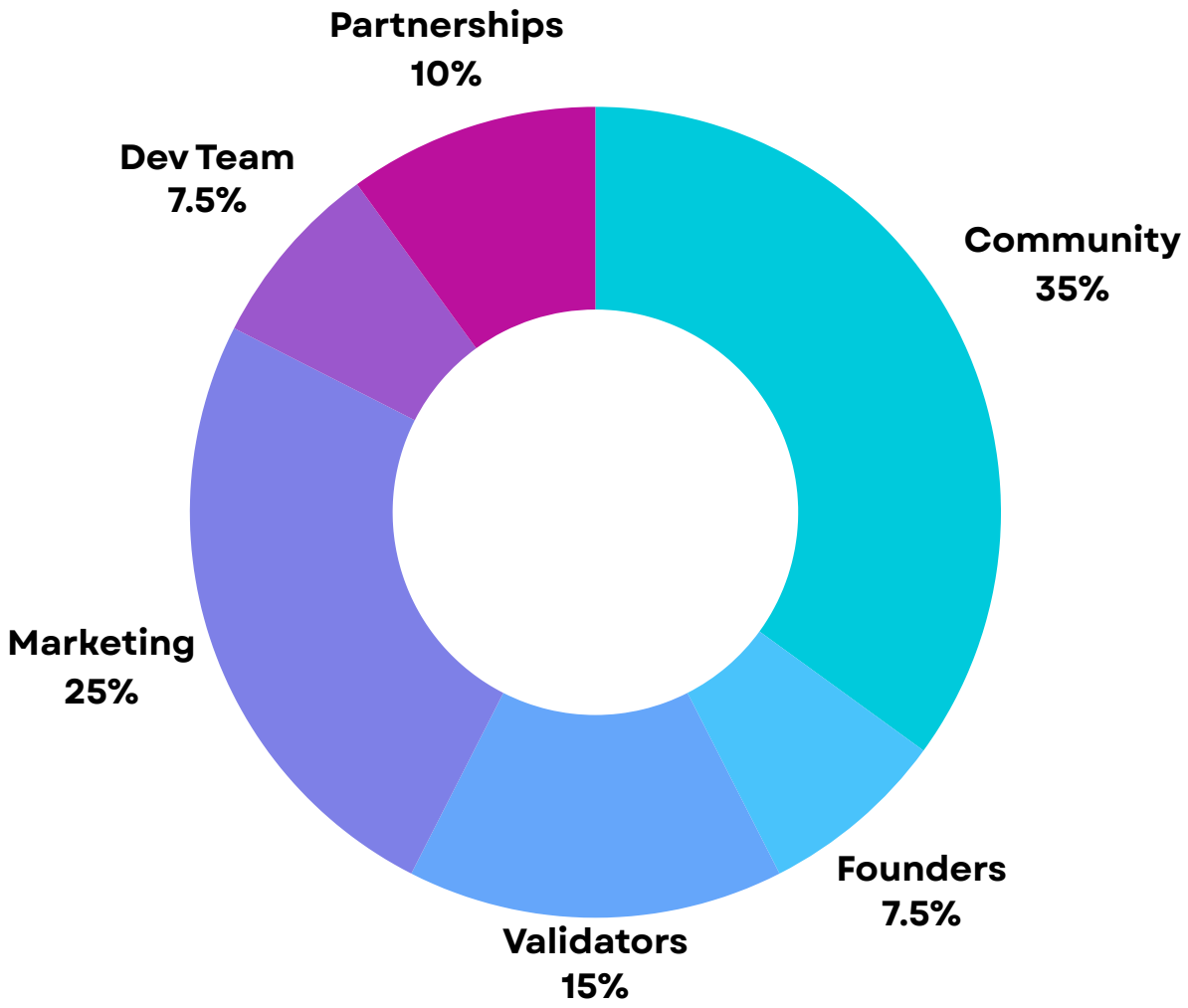
4. Diverse Perspectives: More replicas offer a broader set of perspectives during the consensus process, increasing the likelihood of detecting and filtering out faulty or malicious behaviors.

While having many replicas in BFT is beneficial for fault tolerance and security, it's important to strike a balance and consider the trade-offs. Adding too many replicas can increase message complexity and impact system scalability. Therefore, the number of replicas should be carefully chosen to meet the desired fault tolerance requirements while maintaining reasonable communication overhead.

SUPPLY

Max Supply - 100 Million SKH | It Would Take Decades For Max Supply To Be in Circulation | Ecosystem Would Dwell on The Native Token SKH as The Gas Fees. Proof-of-Stake Consensus: Validators of the Chain Are Rewarded With Newly-Generated SKH.
Burning Mechanism: 30% of the Sum of Transaction Fees in each block is verifiably burnt while 70% is rewarded to the Validators of the chain
Total Supply - 50 Million SKH Distribution Solely Depends on The Demand; We Can't Push Supply Which Market Doesn't Need.

TOKENOMICS



SkyHigh
WORLD'S FASTEST BLOCKCHAIN

Skyhigh Staking Model
Skyhigh
March 1, 2023

1 Staking

1.1 Commonconstants

Symbol	Description	Value	Formulae
s_d	Secondsperday	86400	24*60*60
e	Epochlengthinseconds		
s_y	Numberofsecondsinayear	31536000	

Symbol	Description	Value	Formula
p_{min}	Minimumlockupperiod(14days)	14days	$14*s_d$
p_{max}	Maximumlockupperiod(365days)	365days	s_y

Symbol	Description	Value	Formulae
r_d	Daily rewards **SKH**	534,247	
r_s	Rewards **SKH** Per Second	6.183414352	r_d/s_d
p_{max}	% of rewards earned for staking, regardless of a lockup or not	30.00%	
$r_{s_{base}}$	rewards earned for staking per second, regardless of a lockup or not	1.855024306	$r_s * p_{max}$
$r_{s_{lock}}$	rewards earned for staking per second, locking up tokens	4.328390046	$r_s - r_{s_{base}}$
S	Estimated Current Staking	6000000	$pa * p_{max}$
pa	Annualized % Network Estimated Staking Rewards	14.01%	$r_t * 365/S$
pa_{base}	Annualized Base % rewards (no lockup)	4%	
pa_{lock}	Annualized Max reward % (12 months)	9.81%	$pa - pa_{base}$
pa_{total}	Total annualized % rewards 14%	$pa_{base} + pa_{lock}$	equal to pa
pa_{diff}	Difference between Max reward % (12 months) and Base rewards	9.81%	$pa_{diff} = pa_{lock}$

Symbol	Description	Value	Formulae
ps	Per second rate of change of annualized rewards	0.0000004442556459441%	pa_{total}/s_y
ps_{lock}	% additional rewards per second lockup (12 months)	0.0000003109789521609%	pa_{lock}/s_y
ps_{base}	Base % rewards per second (no lockup)	0.0000001332766938%	pa_{base}/s_y

Variable lockup period

Symbol	Description	Value	Formulae
$pa_{lock}(t)$	Estimated staking rewards per annum for t seconds lockup		$pa/s_y * t$
$pa(t)$	Totalestimatedstakingrewardsperannumfortsecondslockup $pa/s_y * t + pa_{base}$		
$ps_{lock}(t)$	Persecondrateofchangeofannualizedrewards $pa_{lock}(t)/s_y$		
$ps(t)$	Persecondrateofchangeofannualizedrewards		$pa(t)/s_y$

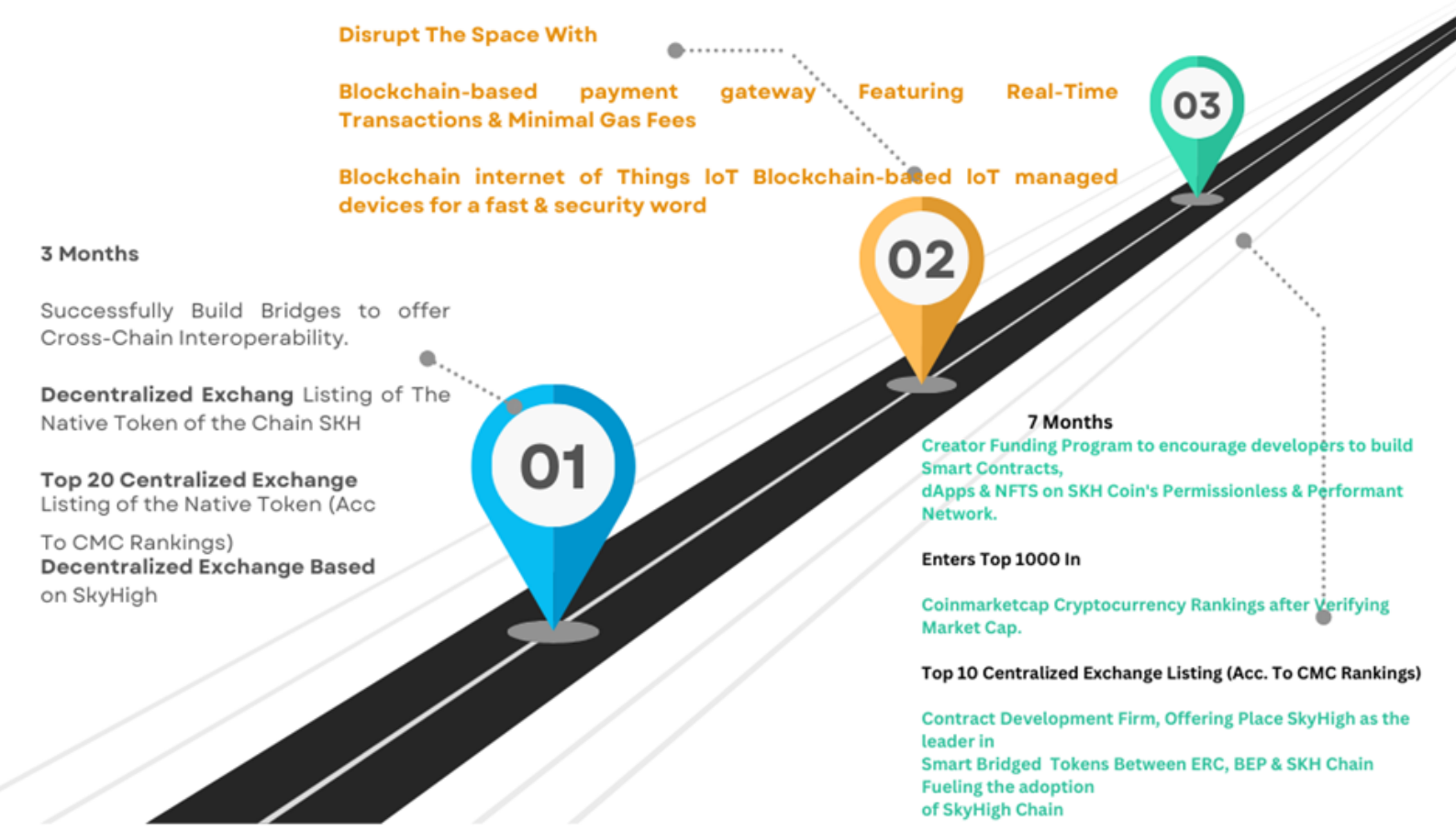
Symbol	Description	Formulae
$ps(t)$	Total % rewards per second for t second lockup	
st	number of tokens staked	
t	Staked seconds (total staking time in seconds)	
e	Epoch length in seconds	
r_{lock}	Total reward (lockup) earned so far:	$ps_{lock}(t) \times st \times t$
r_{lock_e}	Reward (lockup) per epoch:	$ps_{lock}(t)t \times st \times e$
r_{base}	Total reward (base) earned so far:	$ps_{base}(t) \times st \times t$
r_{base_e}	Reward (base) per epoch:	$ps_{base}(t) \times st \times e$
r_{all}	Total reward (base+ lockup) earned so far:	$[ps_{base}(t) + ps_{lock}(t)] \times st \times t = ps(t) \times st \times t$
r_{all_e}	Total reward (base+lockup) per epoch:	$[ps_{base}(t) + ps_{lock}(t)] \times st \times e = ps(t) \times st \times e$

Penalty

Penalty: Slashed rewards are calculated based on number of SKH withdrawn, such that base reward earned bythat staking shalfofthebase%rewardsrate

Symbol	Description	Formulae
ws	Number of SKH to withdraw	
r_{lock}	Total SKH rewards earned so far through lockup	
r_{base}	yield Total SKH rewards earned so far through base	
$pe(t)$	yield	$ws/st \times (r_{lock} + r_{base}/2) = ws/st \times p$
	ratio of withdrawal amount over the total staked (ws/st)	
$pe_s(t)$	Penalty per per second	$ps_{lock}(t) + ps_{base}/2$
e	Earnings after withdrawal Spenalty:	$r_{all} - pe$

Process RoadMap



SkyHigh
WORLD'S FASTEST BLOCKCHAIN

OUR TEAM

Co-founder
Amit Arora, Co-founder at Skyhigh

Amit Arora, a dynamic and visionary entrepreneur, embarked on his business journey in 2003 with a marketing venture based in New Delhi. His relentless pursuit of excellence led him to establish a successful manufacturing business specializing in soft toys from 2008 to 2012, showcasing his ability to identify and capitalize on market trends. Amit's entrepreneurial spirit didn't stop there; he ventured into the real estate business from 2013 to 2019, where he once again demonstrated his knack for building and growing businesses in diverse industries.

In 2019, Amit pivoted towards the digital realm, exploring the nuances and opportunities within digital marketing. This exploration was a prelude to his deep dive into the blockchain industry, where he has been at the forefront of creating innovative solutions. Amit's journey through various sectors has not only honed his business acumen but also established him as a global business leader and a sought-after speaker. His experiences across different markets and technologies have equipped him with a unique perspective, making him an influential voice in the world of business and innovation.

CONCLUSION

Skyhigh has been actively developing a decentralized blockchain platform that addresses the blockchain trilemma by being leaderless, scalable, and secure while remaining compatible with the Ethereum Virtual Machine (EVM). Their innovative protocol, called Push, is designed to achieve practical Byzantine Fault Tolerance within distributed networks. In the Push protocol, each node operates its own local block DAG (Directed Acyclic Graphs), which significantly reduces the time required for transaction finality (TTF). By incorporating a Proof of Stake (PoS) model with DAG, the Push protocol not only enhances performance but also strengthens security. This trustless system leverages participants' stake as their validating power. To ensure a consistent order of event blocks and transactions, the Push protocol utilizes layers of graphs and concurrent knowledge. It optimizes DAG storage and processing time by dividing the local history into checkpoints known as epochs. Skyhigh, a blockchain platform based on the Push protocol, is characterized by its security, scalability, lack of a central leader, openness, Byzantine Fault Tolerance, and fast transaction finality. The Push protocol is specifically developed for distributed ledgers that prioritize logical time ordering rather than relying solely on blockchains.