



The decentralized technology of confidential information flow.

Whitepaper 1.0

Table of contents

Introduction	3
Problem	3
Solution	3
Plater Network role	4
Plater protocol	4
Smart Contracts	5
Main features	5
Plater Information Flow System	7
Consensus algorithm	7
Governance and consensus roles	8
Token overview	9
Investment opportunity	10
Vocabulary guide	11
References	13
Disclaimer	15
Summary	15

Introduction

The present White Paper aims to introduce and explain the idea behind Plater Network project and the company itself.

These days the data flow through the Internet. People send their messages, documents, files, but also sensitive and confidential information that needs to be delivered fast to the receiver. However, a current system governed by centralized authorities may be unfair concerning regular people. At Plater Network this problem has been observed and the idea came up how it can be improved with the use of blockchain technology and decentralized network.

Problem

As being said, a lot of people around the world are exposed to the risk of losing, intercepting, and manipulating their data. It is caused by the centralized nature of a network the almost everyone uses for data transfer. What is the meaning of centralized network? In the simplest words, it is a platform governed by a single authority that is responsible for all the information that flows through this network. As an example, the most popular social media platforms may be mentioned. Every message that is sent using one of these platforms can be accessed by the owner of network, or person who will get this access (i.e., hacker, third-party entity, stuff). Therefore, the data transfer is not as secure as it could be.

Solution

The most reasonable, and currently the most reliable solution for the aforementioned problem is an exclusion of third-party entities from the process of data transfer. It can be achieved by implementing a distributed network, so that users of this network may send their information

directly, between each other. This kind of platform ensures privacy, highest security, and surveillance-resistant features for its users.

Plater Network role

At Plater Network Company this problem was observed and the idea of solving it came up quickly. The main idea is based on the use of blockchain technology, its algorithms, and the greatest liquidity. Plater Network aims to provide highly secure, fraud-resistant, and cost-effective platform for the direct information flow. The company goal is the contribution to shaping a better future to increase freedom of speech.

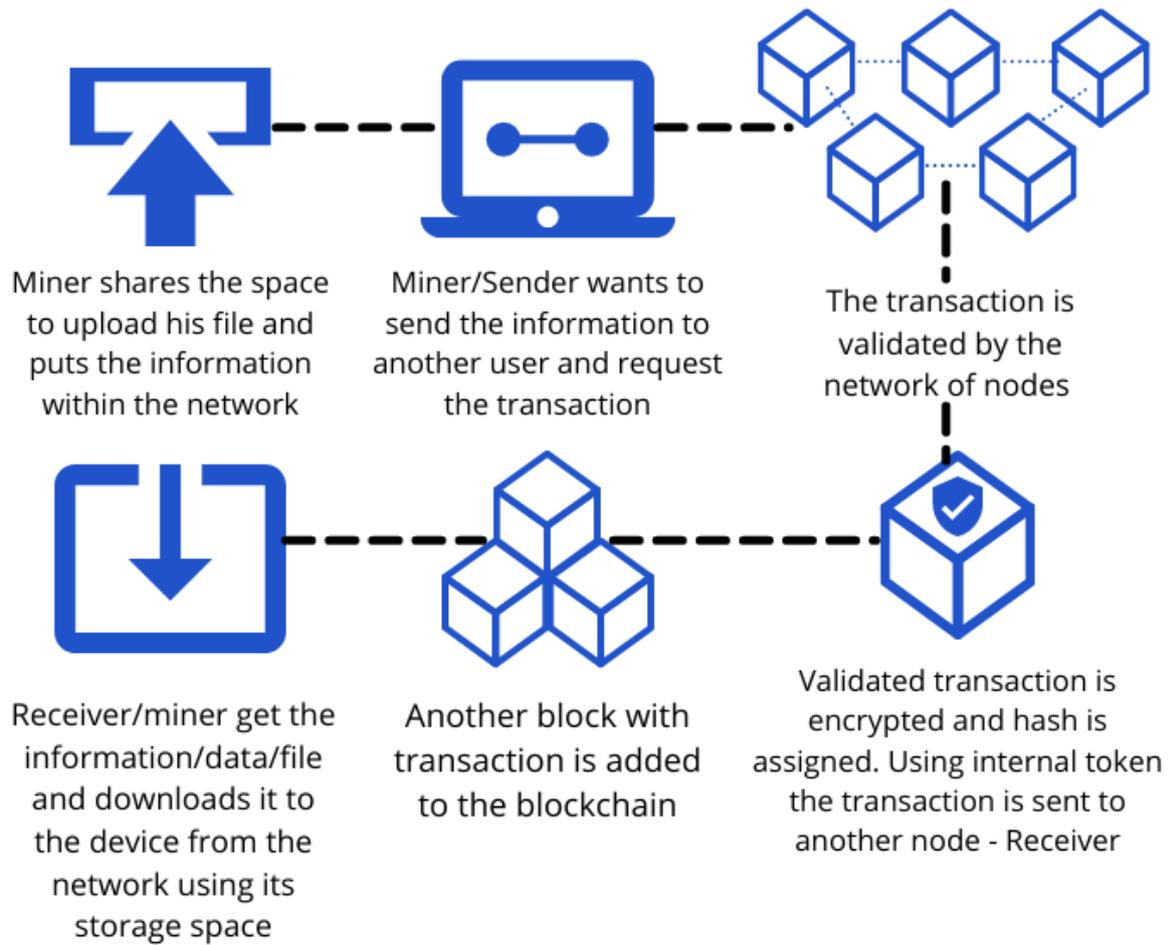
Plater Protocol

The core solution is the protocol responsible for secure data transfer. It will be available in a form of software to be downloaded for the computer of a user. It enables nodes to contribute to the network. They may upload and send files, documents, and information directly to the other users of the network. The concept of distributed (decentralized) technology is to create a diffused net of connections between the users that are connected directly instead of being linked through the single authority (as it takes place in the centralized network).

Plater Protocol will be based on an Ethereum blockchain which provides good liquidity and programming language – Solidity, that accelerates the work. It will use two consensus mechanism: Proof-of-Stake and Proof-of-Capacity to ensure the greatest functionality and strong security basis. The concept of a Plater Protocol will work as follows:

User 1 of the network decides to send the information to user 2. User 1 uploads files (documents, information etc.) to the network. Thanks to the plotting and mining, the storage is secured and cannot be used in other purposes than data transfer. Nodes have unique addresses. Therefore, the transaction can be requested. The validator accepts the request, and the transaction can be settled.

It gets encrypted to ensure the highest security, and the information hash is assigned. User 2 successfully receives the information directly to his claimed hardware storage and then maybe safely opened locally on the device. Please see the diagram below for better understanding of the functionality.



Smart contracts

Ethereum Smart Contracts allows to store and secure data within a blockchain network. While shaping and designing these sets of rules, the most important features and functionality was taken into consideration. Hence, Plater Smart Contracts should restrict particular behaviour to provide the highest security and accelerate the entire process of information flow.

Main features

The main features of Plater Network Protocol were described to give a better overview of the benefits that users can enjoy from using these services.

Peer-to-peer network

The use of distributed network enables users to directly send data, files, and documents between each other. This means that information sent is not stored in any physical place but held by each network user (node). Each file has its unique cryptographic hash. When a user from requests to share/receive data the network finds the nodes holding a perfect match to the unique hash or hashes and the transaction is successful.

Permanent and immutable

Usage of a decentralized network across multiple users provides immutable and permanent transaction because when the transaction is approved (validated by other users of the network) the data cannot be changed.

Surveillance and censor resistant

The core objective of Plater Network is to exclude third-party services from personal transactions as it takes place now. It will help to send confidential information without any influence or interference of out-of-network entities and improve the reliability of the information.

Fast and secure

The transactions are highly secure and time-effective. Transactions are quickly verified by the other nodes. Then, additionally linked to the previous block and secured with 256-bit key encryption and

tokenization, which makes it almost impossible to hack or manipulate. Because the transactions are being settled between nodes the whole process is very fast.

Open source

All the information and documentation give a clear overview of the technology and enables other people to use it without any restrictions. All the new updates and changes will always be publicly available. Plater's open-source software will be always public and accessible to everyone. It increases transparency, scalability, and expansion of the network.

Cost effective

The company will charge a small fee for using its software. However, Plater Network guarantees the best price on the market and all the charges have algorithmic nature. The token which will give access to the network. It may be acquired through the exchange or by staking.

Plater Information Flow System

Plater Information Flow System (PIFS) is an internal technology being developed by Plater Network for secure and direct file sharing. It was abandoned to use popular Interplanetary File System, to increase and improve the liquidity and scalability of transactions. It will be an innovative and next-generation file transferring system that is about to change the future. Plater Information Flow System provides the ability to settle the transactions that are requested by users of the network.

Consensus algorithms

Two algorithms will be used in creating the Plater Protocol and the Plater Information Flow System. Both were described below.

Proof-of-Stake

Proof of Stake (PoS) concept states that a person can mine or validate block transactions according to how many coins he or she holds. This means that the more token or altcoin owned by a miner, the more mining power he or she has [1].

Proof-of-Capacity

Proof of capacity (PoC) is a consensus mechanism algorithm used in blockchains that allows for mining devices in the network to use their available hard drive space to decide mining rights and validate transactions. This is in contrast to using the mining device's computational power (as in the proof of work algorithm) or the miner's stake in the cryptocurrencies (as in the proof of stake algorithm) [2].

Governance and consensus roles

Sender

A node that addresses the information to another user of the network. Senders can upload their files using our internal Plater Information Flow System (PIFS), which also enables data storage within the network.

Receiver

A network contributor receives the information sent by addressee. Receivers get the information after transaction settlement and verification of both nodes: sender and receiver. The information will be encrypted. It ensures that the receiver node is the only one peer in a network that has the access to the data sent together with the transaction.

Validator

Nodes that are responsible for validating the transaction. They secure the chain by staking Plater Token (\$PLATER). When the validator node approves the transaction, it is settled, and information can be sent between the peers.

Plotting

When you plot your hard drive or create the plot files, you are producing nonces. This is slightly different from the Bitcoin nonce in that it is generated from the plot file. You will continually hash your data including your particular ID until you have solved the nonce.

Each of the nonces will contain 8,192 hashes and these are bundled together into a number of pairs that are termed “scoops”. In total there will be 4,095 scoops that will each be assigned that unique number. Below is a graphical example of the scoops [3].

Mining

One of the results of the calculation will be the scoop number. This scoop number will be between 0 and 4,095. The resulting scoop number and the corresponding nonce will be used to calculate a unit of time called the “deadline”.

This will be completed for all of the nonces that are on your hard drive and you will then select the shortest deadline. This minimum deadline is the amount of time that will pass since the last block was created until you can produce a new one.

If the deadline that you are able to produce is shorter than those of the other miners, then you are allowed to create the new block and you will be entitled to the block reward [3].

Storage nodes

The storage node’s role is to store and return data. Aside from reliably storing data, nodes should provide network bandwidth and appropriate responsiveness. Storage nodes are users of the

network that wish to upload the files to the platform. Because no data are restricted, each user may become a storage node by giving its own hardware storage space. In return for their service, nodes are rewarded.

Token overview

Plater Token (\$PLATER) will be used to access the network provided by the company. It is a digital asset of Plater Network. It may be acquired through one of the cryptocurrency exchanges, by stacking (more information above in the Proof-of-Stake section), and by mining (please, look above in the 'Mining' subpoint, under 'Governance and consensus roles' section) Currently listed on the exchanges in a form of an IDO (Initial Decentralized Exchange Offering). However, \$PLATER has a genuine investment value.

Investment opportunity

A blockchain is getting noticed in the world, even by regular people. More and more companies are preparing to implement blockchain-based solutions into their current services. Many new start-ups entirely rely on decentralized technology and grow in unbelievable quick time. Plater Network is also a part of this group. It is one of the companies that decided to make the most of blockchain technology to provide the real solution that solves a worldwide problem. Cryptocurrencies and tokens market rockets rapidly and continues to expand its cap. According to the Market Sand Markets (n.d.), the cryptocurrency market may reach USD 1.40 billion in 2024, growing at a CAGR of 6.18% during the forecast period. It is a great opportunity, and Plater Network will not stop. Many industries that can be improved by the Plater solution. File sharing is just the beginning while many partnerships, improvements, and betterment may be executed in the future [4].

Vocabulary guide

Blockchain

Based on a peer-to-peer (P2P) topology, blockchain is a distributed ledger technology (DLT) that allows data to be stored globally on thousands of servers – while letting anyone on the network see everyone else's entries in near real-time. That makes it difficult for one user to gain control of, or game, the network [5].

Hashes (Cryptographic Hash Functions)

A cryptographic hash function is a mathematical function used in cryptography. Typical hash functions take inputs of variable lengths to return outputs of a fixed length. A cryptographic hash function combines the message-passing capabilities of hash functions with security properties [6].

Protocol

A protocol, in computer science, is a set of rules or procedures that govern the transfer of data between two or more electronic devices. This protocol helps in establishing how, in order for computers to exchange information, the information must be structured and how each party will send and receive it [7]

Consensus mechanism

A consensus mechanism is a fault-tolerant mechanism that is used in computer and blockchain systems to achieve the necessary agreement on a single data value or a single state of the network among distributed processes or multi-agent systems, such as with cryptocurrencies. It is useful in record-keeping, among other things [8].

Solidity

Solidity is a core programming language of Ethereum Blockchain.

Ethereum

Ethereum (ETH) is a digital asset and cryptocurrency of Ethereum Foundation.

Smart Contracts

A smart contract is a self-executing contract with the terms of the agreement between buyer and seller being directly written into lines of code. The code and the agreements contained therein exist across a distributed, decentralized blockchain network. The code controls the execution, and transactions are trackable and irreversible.

Smart contracts permit trusted transactions and agreements to be carried out among disparate, anonymous parties without the need for a central authority, legal system, or external enforcement mechanism [9].

Proof-of-Stake

The Proof of Stake algorithm uses a pseudo-random election process to select a node to be the validator of the next block, based on a combination of factors that could include the staking age, randomization, and the node's wealth [10].

Proof-of-Capacity

Proof of capacity (PoC) is a consensus mechanism algorithm used in blockchains that allows for mining devices in the network to use their available hard drive space to decide mining rights and validate transactions. This is in contrast to using the mining device's computational power (as in the proof of work algorithm) or the miner's stake in the cryptocurrencies (as in the proof of stake algorithm) [2].

Mining

Crypto mining means gaining cryptocurrencies by solving cryptographic equations through the use of computers. This process involves validating data blocks and adding transaction records to a public record (ledger) known as a blockchain [11].

Token

Tokens are digital assets that constitute a unit of value issued by an organisation [12].

Initial Coin Offering

An Initial Coin Offering (or ICO) is a method for teams to raise funds for a project in the cryptocurrency space. In an ICO, teams generate blockchain-based tokens to sell to early supporters [13].

Initial Decentralized Exchange Offering is a method of selling tokens using the internet platform of decentralized exchange (being controlled by no authority).

References

[1] Jake Frankenfield, (August 2019), *Proof of Stake*, retrieved from:

<https://www.investopedia.com/terms/p/proof-stake-pos.asp>

[2] Adam Hayes, (September 2020), *Proof of Capacity*, retrieved from:

[https://www.investopedia.com/terms/p/proof-capacity-cryptocurrency.asp#:~:text=Proof%20of%20capacity%20\(PoC\)%20is,mining%20rights%20and%20vali date%20transactions.](https://www.investopedia.com/terms/p/proof-capacity-cryptocurrency.asp#:~:text=Proof%20of%20capacity%20(PoC)%20is,mining%20rights%20and%20vali date%20transactions.)

[3] Coinbureau Editorial Team, (March 2018), retrieved from:

<https://www.coinbureau.com/education/proof-of-capacity-explained/>

[4] Market Sand Markets, (n.d.), *Cryptocurrency Market (...) Global Forecast to 2024*, retrieved from:

<https://www.marketsandmarkets.com/Market-Reports/cryptocurrency-market-158061641.html#:~:text=The%20cryptocurrency%20market%20was%20valued,6.18%25%20during%20the%20forecast%20period.>

[5] Lucas Mearian, (January 2019), *What is blockchain? The complete guide*, retrieved from:

<https://www.computerworld.com/article/3191077/what-is-blockchain-the-complete-guide.html>

[6] Jake Frankenfield, (February 2020), *Cryptographic Hash Functions*, retrieved from:

<https://www.investopedia.com/news/cryptographic-hash-functions/>

[7] Genesis DevCon, (December 2018), *What are blockchain protocols and how do they work?*

Retrieved from:

<https://medium.com/@genesishack/draft-what-are-blockchain-protocols-and-how-do-they-work-94815be5efa7>

[8] Jake Frankenfield, (July 2020), *Consensus mechanism (Cryptocurrency)*, reviewed by Julius Mansa,

retrieved from:

<https://www.investopedia.com/terms/c/consensus-mechanism-cryptocurrency.asp#:~:text=A%20consensus%20mechanism%20is%20a,systems%2C%20such%20as%20with%20cryptocurrencies.>

[9] Jack Frankenfield, (October 2019), *Smart Contracts*, retrieved from:

<https://www.investopedia.com/terms/s/smart-contracts.asp>

[10] Binance Academy, (December 2020), *Proof of Stake explained*, retrieved from:

<https://academy.binance.com/en/articles/proof-of-stake-explained>

[11] Casey Crane, (October 2020), *What is crypto mining? How cryptocurrency mining works?*

Retrieved from:

[https://sectigostore.com/blog/what-is-crypto-mining-how-cryptocurrency-mining-works/#:~:text=Cryptocurrency%20Mining%20Explained,ledger\)%20known%20as%20a%20blockchain.](https://sectigostore.com/blog/what-is-crypto-mining-how-cryptocurrency-mining-works/#:~:text=Cryptocurrency%20Mining%20Explained,ledger)%20known%20as%20a%20blockchain.)

[12] Sheba Karamat, (June 2018), *What is a token?* Retrieved from:

<https://coinrivet.com/guides/what-are-cryptocurrency-tokens/what-is-a-token/>

[13] Binance Academy, (November 2020), *What is an ICO (Initial Coin Offering)?* Retrieved from:

<https://academy.binance.com/en/articles/what-is-an-ico>

Disclaimer

This paper is for general information purposes only. It does not constitute investment advice or a recommendation or solicitation to buy or sell any investment and should not be used in the evaluation of the merits of making any investment decision. It should not be relied upon for accounting, legal or tax advice or investment recommendations. This paper reflects the current opinions of the authors over the topic covered. The opinions reflected herein are subject to change without being updated.

Please bear in mind that Plater Network Protocol is still under development!

Summary

Many things to be done, to be achieved, and to be improved. As mentioned before, at Plater Network the main objective is a contribution to shaping a better future. Though it is a very beginning of this journey, it is awaited to see the first results and changes that Plater Information Flow System, Plater Protocol, and in general Plater Network company will bring to the world. It is time to end the era of concerns about vulnerable data and information.

Thank you for reviewing our White Paper 1.0