

Pandacoin: A Peer-to-Peer Electronic Cash

Abstract. A purely peer-to-peer electronic cash system that does not rely on any central authority. This system uses the Proof-of-Stake (PoS) and Proof-of-Work (PoW) algorithms to process and confirm transactions on the network in a decentralised manner. To contribute to the security of the network under PoS, a user must purchase coins at-the-market and hold them present for a fixed duration of time in order to receive inflation rewards for their contribution. This algorithm prioritises healthy contributors to the network while encouraging a fair distribution curve. With decentralisation via nodes at the forefront of the network, malicious entities must purchase stake prior to their attempts, thus rewarding the existing users financially. With PoW, hardware specifically created for the SHA256D algorithm must be used to mine and distribute block rewards, thus further strengthening the network.

1. Introduction

The Pandacoin network serves as the fundamental core in a decentralised system that powers a digital currency with a significantly minor bar for entry for potential users. Attributing both SHA256D as a Proof-of-Work mining algorithm as well as Proof-of-Stake with up to 2.5% APY, this network is secured by real cost hardware and its stakeholders that hold stake within the network for a fixed period of time. Using both PoW and PoS hashing algorithms, Pandacoin can serve as a day-to-day digital currency fueling e-commerce spending in the ever-expanding digital economy. The Pandacoin digital currency can be used for any goods or services the user(s) see fit; removing the need for centralised and greedy services that thrive on crippling e-commerce innovation through overreaching hands and service fees. With two hashing algorithms distributing block rewards across the network, transaction fees on Pandacoin are deflationary with a 100% sum of transaction fee burn rate to serve as a counter; therefore the more users transact on the Pandacoin network, the sum of Pandacoin being removed from existence is increased.

2. Transactions

Using both Proof-of-Work and Proof-of-Stake consensus algorithms, transactions on the Pandacoin network are added into a memory pool and then hashed into a block at ten-minute intervals. At a block time of ten-minutes, with a maximum size of 1Mb, the network assigns a block reward to both stakeholders approving transactions using the Pandacoin Client and those offering energy-intensive hardware known as ASICs.

Furthermore, the hybrid nature of Pandacoin results in a decentralised system that removes the need for central authorities. Relying on two different consensus algorithms, with a mild bias on Proof-of-Stake, allows for the Pandacoin network to remain decentralised and free of the typical attack vectors found within single consensus algorithm networks. Leaning slightly more on Proof-of-Stake, a malicious entity would have to purchase a significant stake in the network at-the-market thus benefiting existing stakeholders in the process. Performing as a hybrid network, Proof-of-Work blocks are scheduled at a rate of one in every six blocks, removing the possibility of 51% attack risk as Proof-of-Stake handled the majority of transactions. Utilising two different consensus algorithms under an inflationary nature is often met with fair criticism that deters many from participating in the network under the risk of inflation devaluing the initial cost of entry. As a counter, transactions on Pandacoin are removed from existence, serving as a counter to the two inflationary consensus algorithms.

3. Purpose

The aspect of currency within Cryptocurrency has, for the most part, been lost in recent years as strong bullish sentiment and returns have displayed great promise to investors. While this is not particularly negative, it has led to problems in scaling and an increase in the cost of transacting on many networks. As a result, aspects of currency have been lost in favour of using Cryptocurrencies as a store of value. Pandacoin aims to reintroduce the aspect of currency under development of services that encourage the spending and distribution of the currency itself under a low fee that not only is affordable for everyday use, but rewards stakeholders as fees spent are removed from existence.

Utilising this, development of useful services and low barriers for entry are required. Stakeholders may consider the Pandacoin Client for their everyday use of the Pandacoin network, or a number of secure automated services on various platforms that allow the everyday transaction and payment for goods and services using Pandacoin. This means that, under the use of the Pandacoin network and the APIs of various social platforms, Pandacoin can be sent and received with only a username required.

With the implementation of Smart Contracts and Assets on Pandacoin, stakeholders and day-to-day users may create their own services on the Pandacoin network, allowing for individual communities with their own beliefs and demands to be present.

These examples of low barriers for entry into Pandacoin and use as a currency aims to display the simplistic, yet effective method of reintroducing the concept of digital currency back into the world. Users do not need to sign up for existing services or provide personal information to any central authority in order to access the Pandacoin network. In addition, SegWit and Lightning Network support on the network allows for immediate, safe transactions for goods and services for third-party vendors willing to accept Pandacoin. Opening the door to vendors, stakeholders, and newcomers just entering the Cryptocurrency sphere opens innovation and use to a worldwide demographic free of censorship and obstruction.

4. Conclusion

The rate of e-commerce spending continues to rise year-by-year with no signs of reduction. Cryptocurrencies continue to thrive into a trillion-dollar market, with only a fraction of that flowing into e-commerce spending. Pandacoin aims to be a Cryptocurrency that encourages the spending and use of the currency across the Internet, reaching a worldwide demographic. Removal of central authorities and allowing for the spending of a digital currency via multiple social platforms creates a fair distribution through people, and not just institutions dictating how currency can be used and spent.

Pandacoin features two consensus algorithms resulting in a significantly stronger decentralised network at the expense of inflationary rewards, with the destruction of all transaction fees aiming to counter that inflation and maintain value, rewarding the network for their participation in its security.

Decentralisation extends beyond consensus algorithms and into providing documentation and services to developers and users that wish to expand upon the Pandacoin network and form their own assets and communities via Smart Contracts. Developers may contribute to such decentralised services with the creation of their own services and frameworks that fit their needs and beliefs, allowing for the Pandacoin network to serve as the foundation to their creations.