

Bitcoin Silver (BTCS) Technical Whitepaper

July 26th, 2024

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Introduction

Bitcoin Silver (BTCS) is a Bitcoin fork designed to offer enhanced security, faster transaction times, and a robust framework for future development. This document outlines the technical specifications and architecture of BTCS, targeting developers and technical stakeholders interested in the deeper aspects of the project.

1. Blockchain Architecture

1.1 Core Specifications

- **Blockchain Type:** Layer 1
- **Consensus Mechanism:** Proof of Work (PoW)
- **Hash Algorithm:** SHA256
- **Block Time:** 300 seconds (5 minutes)
- **Maximum Supply:** 21,470,000 BTCS
- **Initial Security Fund (ISF):** 470,000 BTCS
- **Prefix:** "B" / "bs1"

1.2 Ports

- **P2P Port:** 10566
- **RPC Port:** 10567

2. Consensus and Security

2.1 Proof of Work (PoW)

BTCS uses a PoW consensus mechanism with the SHA256 hashing algorithm, similar to Bitcoin. This method ensures decentralized consensus and security through computational work.

2.2 Difficulty Adjustment

- **Adjustment Interval:** Every 96 blocks
- **Mechanism:** The difficulty level self-adjusts to ensure a consistent block generation time, mitigating the risk of malicious activities and network instability.

2.3 Maturity and Block Expiration

- **Maturity:** 200 blocks
- **Block Expiration:** Implemented to enhance security and prevent potential double-spending attacks.

3. Mining and Supply

3.1 Block Reward

- **Initial Reward:** 50 BTCS per block
- **Halving:** Occurs every 210,000 blocks, similar to Bitcoin, to control inflation and ensure a gradual supply release.

3.2 Mining Supply

- **Total Movable BTCS:** 21,470,000 BTCS
- **Circulating Supply:** 672,650 BTCS as of July 26th, 2024

4. Network Performance and Scalability

4.1 Block Time

BTCS features a 5-minute block time, which is faster than Bitcoin's 10-minute interval, facilitating quicker transaction confirmations.

4.2 Scalability Solutions

- **Layer 2 Solutions:** Integration of the Lightning Network is on the roadmap, aiming to enhance transaction throughput and reduce fees.
- **Future Proposals:** Exploring additional Layer 2 and sharding solutions to further improve scalability.

5. Technical Features and Innovations

5.1 Security Enhancements

- **Initial Security Fund (ISF):** 470,000 BTCS reserved to counteract and recover from potential attacks.
- **Variable Difficulty PoW:** Adaptable difficulty to maintain network integrity.

5.2 Network and Protocol Enhancements

- **Open-Source Protocol:** Ensuring transparency and fostering community trust through auditable code.
- **Anti-Scam and Anti-Dumping Measures:** Implemented to protect the network and its users from fraudulent activities.

6. Future Developments

6.1 Roadmap Highlights

- **Lightning Network Implementation:** Enhancing transaction speed and scalability.
- **Smart Contracts:** Investigating potential integrations to extend functionality beyond simple transactions.
- **Decentralized Finance (DeFi) Integration:** Enabling BTCS to participate in DeFi ecosystems for lending, borrowing, and earning interest.

7. Technical Community and Governance

7.1 Community-Driven Development

- **Governance Model:** Decisions are made with community input, ensuring that the development aligns with the users' needs and the network's best interests.
- **Transparency and Accountability:** Regular updates and open communication channels with the community.

Conclusion

Bitcoin Silver (BTCS) is committed to advancing the original Bitcoin framework with enhanced security, faster transactions, and continuous development. This technical whitepaper provides a detailed overview of the core features, consensus mechanisms, and future developments of BTCS. Join us in revolutionizing the blockchain space and building a secure, scalable, and innovative digital asset platform.

For more information, visit our website at <https://mrvistos.github.io/bitcoinsilver>.