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What Is Solana Blockchain? The Confusing Term, Explained

The Solana have turned into one of the most widely-discussed topics of 2021, and the buzz doesn't seem to fade in 2022.And many people are curious about the Solana blockchain, do you know them?

In this article, we're taking a closer look at the Solana blockchain and everything you should know about it.
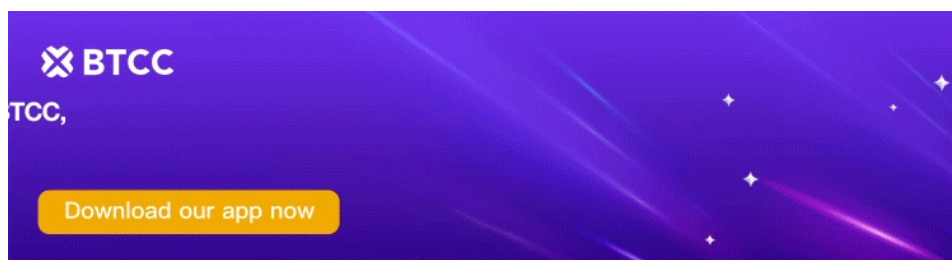
What is Solana?

Solana is a open-source and public blockchain that supports smart contracts, including [NFTs](#) and various distributed applications (dapps). The native of Solana's blockchain is SOL token, which provides network security and means to transfer value through mortgage.

Solana was founded in 2017 by Anatoly Yakovenko and Raj Gokal, current board member and chief operating officer of Solana. Yakovenko is now the CEO of Solana lab. he has a background in system design and hopes to apply his knowledge to the new blockchain paradigm to achieve faster processing speed.

Quick Facts:

- Solana is a proof-of-stake cryptocurrency with smart contract functions, including DeFi dapps and NFTs.
- Solana has a theoretical throughput of 65000 transactions per second at almost zero cost.
- The vigorous development of DeFi and NFT space has pushed up the cost of Ethereum, leading cryptocurrency users to seek other options, such as Solana.
- Solana has always been the center of controversy in the cryptocurrency industry because skeptics claim that its trading speed is only because the chain sacrifices decentralization.

The founder's goal is to create a brand-new blockchain that can be extended to global adoption. At that time, the transaction speed of the blockchain was limited to about 15 transactions per second, which was somewhat inferior to the capacity of visa and MasterCard to process about 65,000 transactions per second. Yakovenko and Gokal are trying to create a new blockchain to meet the needs of global scale.

Solana now has the theoretical peak capacity of 65000 transactions per second, and has become one of the most used blockchains today due to its speed and low transaction cost. Like almost all blockchain systems today, Solana is still very new and not without controversy.

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What is Solana Blockchain?

Solana operates in a hybrid agreement of proof of **stakes** (POS) and a concept Solana called proof of history (POH). Proof of interest is an algorithm that allows the blockchain to maintain accurate information among all its participants.

What is Proof-of-Stake?

Cryptocurrency owners pledge or "equity" to the validator through equity certificates. The validator is a computer running blockchain software, which has its own copy of the blockchain. These validators are equivalent to miners in the blockchain who work to prove, such as bitcoin.

Instead of competing with other computers to complete complex puzzles, such as proof of work, the validator is selected to add the next trading block according to the size of its bet (how many coins they promised to the network), how long they bet, and some other criteria.

Its purpose is to measure the commitment level of network participants and reward their dedication.

Compared with circulation supply, the larger the equity, the more dispersed and secure the network.

What is Proof-of-History?

Historical proof is a way to prove that the transaction sequence is correct and discovered by the right leaders. Solana's blockchain is divided into several periods in which the validator will ingest the transaction and generate a block. In this system, in order to save time, leaders will be selected before each period.

A node (or validator) is selected as the "leader" of a period of time according to the number of sol held through the equity certification mechanism. Each validator is responsible for continuing to calculate or count the passage of time, which is called the historical proof sequence, and the next transaction block of the period in which they are selected.

History Shows How it Works

- ValidatorA is assigned to slot 1 and takes 5 seconds to find the next block.
- ValidatorB is assigned to slot 2 and takes five seconds to find the next block, which is equivalent to 10 seconds.
- Validator C is assigned to the third slot and takes five seconds to find a block. In the end, a total of 15 seconds passed.

Each validator needs the same time to complete this process. We know that validator C is assigned to slot 3. Since each block requires the same time, we know that slot 3 should start in 10 seconds. Therefore,validator C cannot start before or after the statistical time reaches 10 seconds.

Because the statistical table of time lapse can be seen by all validators, and the leader of the slot is selected in advance, everyone knows when the leader should start. If a fourth validator(validator D) is selected as the leader of the fourth gear, all parties will know that validator D is only allowed to start in 15 seconds.

The Reason to Use Proof-of History

This system reduces latency and increases throughput because the slot head can flow transactions to other validator in real time, rather than waiting to fill the whole block and send it at one time.

Since the validator keeps the count of time, they can mark each incoming transaction with time or historical proof value, so other nodes can correctly sort transactions within a block, even if they are not flowing in chronological order. Then, other nodes can verify these transactions when they come in, rather than reviewing the transactions of the whole block at one time.