Staking

Staking is a fundamental aspect of the Sei blockchain, enabling network security and consensus through a delegated proof-of-stake (dPoS) mechanism. By participating in staking, both validators and delegators play a critical role in maintaining and securing the network, ensuring its long-term stability, performance, and success. PoS chains rely on staked economic value rather than computational power, leading to a more energy-efficient and scalable system. Engaging in staking allows developers and users to contribute to the health and growth of the Sei ecosystem and participate in governance decisions by voting on proposals.

In a dPoS system, token holders secure the network by delegating their tokens to validators. Validators produce new blocks and validate transactions. In return for their support, delegators earn a portion of the staking rewards. A validator's weight is based on the number of tokens delegated to them plus their own stake.

The Sei protocol incentivizes validators and delegators with staking rewards from gas fees and inflation rewards from newly minted Sei. New Sei is minted and released to validators and delegators at a fixed percentage per year. At the end of every block, fees and inflation rewards are distributed to validators and their delegators proportionally to their staked amount. Validators typically keep a portion of rewards as commission and distribute the rest to delegators. Users can view a validator's commission rate on the Sei App or by querying the validator information on-chain.

How to Stake

Staking on Sei can be done through the Sei App, via the seid CLI, or even through REST or RPC calls.

- Sei App
- :Staking(opens in a new tab)
- seid CLI
- :seid tx staking [command] [flags]
- REST/RPC
- :GET/POST /staking/*

Key Concepts

Delegation

Delegating tokens to a validator allows you to earn a portion of the staking rewards. By delegating, you add to the validator's total stake, which helps secure the network.

Delegators

Delegators are users who stake their Sei tokens to a validator, contributing to the validator's total stake. Delegators earn a portion of the transaction fees as staking rewards. Staked Sei remains under the control of the delegator and cannot be traded freely during the staking period.

Un-delegation

Un-delegation is the process of withdrawing your staked tokens. This involves a 21-day un-bonding period during which the tokens are not earning rewards and cannot be transferred. After the un-bonding period, the tokens are returned to your wallet and are available for transactions.

Re-delegation

Re-delegation allows you to move staked tokens from one validator to another without undergoing the un-bonding period. When re-delegating, the tokens are instantly moved, but the new validator is barred from further re-delegations for 21 days to ensure stability and prevent abuse. Each account can re-delegate a maximum of 7 times simultaneously, with a re-delegation not considered complete until the 21-day period is up.

Bonding

Bonding is the process of committing your Sei tokens to a validator. This can be done through delegation. The tokens are locked and contribute to the validator's stake, starting to earn rewards immediately.

Un-Bonding

Delegators can un-bond or un-stake their Sei tokens, initiating a 21-day period during which the tokens do not earn rewards and cannot be transferred. After this period, the tokens return to the delegator's wallet and become available for transactions. Users can re-delegate to another validator instantly without waiting for the un-bonding period to end.

Slashing

Running a validator is a big responsibility. Validators must meet strict standards and constantly monitor and participate in the consensus process. Slashing is the penalty for misbehaving validators. When a validator gets slashed, they lose a portion of their stake as well as a portion of their delegator's stake. Slashed validators also get jailed, or excluded, from consensus for a period.

Slashing occurs under the following conditions:

- Double Signing
- : Signing two different blocks with the same chain ID at the same height.
- Downtime
- : Being unresponsive or unreachable for a period.
- Missed Votes
- : Missing votes in consensus.

Validators monitor each other and can submit evidence of misbehavior. Once discovered, the misbehaving validator will have a portion of their funds slashed and will be jailed.

Common Questions

What happens if my validator gets slashed?

If your validator gets slashed, a portion of both the validator's and your staked tokens will be forfeited. This penalty encourages the selection of reliable validators and active monitoring of their performance.

Can I lose my staked tokens?

Yes, if the validator you have staked with gets slashed for misbehavior, you will lose a portion of your staked tokens.

How are staking rewards calculated?

Staking rewards are calculated based on the total amount of Sei staked and the validator's performance. Rewards are distributed proportionally to the amount staked by each delegator.

Can I change my validator without un-bonding?

Yes, you can use the re-delegation feature to move your stake from one validator to another without waiting for the un-bonding period to end.

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