Token Standards

In this section, we will delve into the various token standards supported on the Sei blockchain. Understanding these standards is crucial for developers as they form the foundation of many decentralized applications. Sei offers support for native TokenFactory tokens, ERC standards, CW standards, IBC and facilitates interoperability between these token types.

Sei Token

The Sei token is the native token of the Sei blockchain, serving multiple roles within the ecosystem.

- Base Denom
- :usei
- (cosmos) andwei
- (evm)
- Decimals
- :6
- (cosmos) and18
- (evm)
- Fee Token
- : Used to pay transaction fees on the Sei network.
- Governance Token
- : Used to participate in governance decisions affecting the network.

Decimals Overview

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On the Cosmos side, the Sei token has 6 decimals, while on the EVM side, it follows the standard 18 decimals.

TokenFactory

TokenFactory allows for the creation of tokens that are natively integrated into the bank module of the Cosmos SDK. This integration means balances are available through native bank queries, unlike CW20 or ERC20 tokens which require querying the smart contract directly.

- Why is it Recommended?
- : It provides a more efficient way to manage tokens, leveraging the native capabilities of the Cosmos SDK for improved performance and ease of use.
- How to Create viaseid
- CLI
- : Tokens can be created using theseid
- command-line interface.

Inter-Blockchain Communication (IBC)

IBC is a protocol that enables communication and asset transfers between different cosmos chains, enhancing interoperability and enabling cross-chain applications and liquidity.

- Channel Info List
- : Channels are used to establish communication paths between blockchains. Each channel has a unique identifier and specific configurations.* IBC Channel Info Registry(opens in a new tab)
- Contributing to the IBC Registry
- : IBC relayers can add new channels by making pull requests to the IBC registry.

Fungible Tokens

Fungible tokens are digital assets that are interchangeable with one another and are not unique. Sei supports both ERC20 and CW20 fungible token standards.

- ERC20
- : The ERC20 standard defines a common set of rules for fungible tokens on EVM-based blockchains. These tokens can be transferred, approved, and queried using standard functions.
- CW20
- : The CW20 standard is the Cosmos equivalent of ERC20, providing similar functionalities for tokens on Cosmos-based blockchains.
- Interoperability and Pointer Contracts
- : Pointer contracts enable interoperability between ERC20 and CW20 tokens, allowing for seamless interaction between the two standards.* Pointer Contracts Documentation(opens in a new tab)

- Pointer Contract Registry
- : A registry that keeps track of pointer contracts to facilitate interoperability.

NFTs

Non-fungible tokens (NFTs) represent unique digital assets. Sei supports both ERC721 and CW721 standards as well as their counterparts with royalties (2981).

- ERC721
- : The ERC721 standard defines the structure for non-fungible tokens on EVM-based blockchains. Each token is unique and cannot be exchanged on a one-to-one basis like fungible tokens.
- CW721
- : The CW721 standard is the Cosmos equivalent of ERC721, providing similar functionalities for NFTs on Cosmos-based blockchains.
- Interoperability
- : Similar to fungible tokens, NFTs can interact across different standards using pointer contracts.
- Pointer Contract Registry
- : A registry for tracking pointer contracts specific to NFTs.
- CW2981 & ERC2981 (Royalties)
- : These standards define royalty mechanisms for NFTs, ensuring creators receive a percentage of sales.