



Ethereum Token Standards

What are ERC Standards?

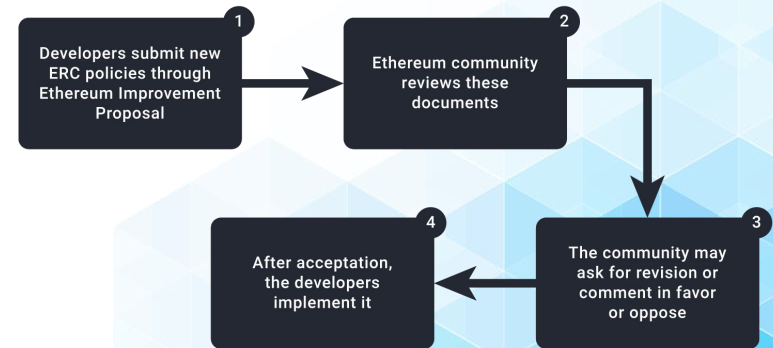
A document called an "Ethereum Request for Comments" (ERC) is created by smart contract programmers who use the Ethereum blockchain platform. They lay out the principles that Ethereum-based tokens must follow in this document.

The Ethereum community reviews these papers using a method known as the "Ethereum Improvement Proposal (EIP)."

After going through the EIP (Ethereum Improvement Proposal) process, the Ethereum community approves some of these reports, finalizes them, and developers adopt them.

An Ethereum Improvement Proposal (EIP) is a design document that informs the Ethereum community or describes a new function for Ethereum, its systems, or its ecosystem.

CREATION PROCESS



Different ERC Standards

<ul style="list-style-type: none">■ Token standard for fungible tokens.■ Functions for balance and transfer.	ERC 20	<ul style="list-style-type: none">■ TransferPreSigned allow a user to pay gas fees in form of token or delegate transfer of tokens to a third party.	ERC 865
<ul style="list-style-type: none">■ Protecting users from accidental token transfers by making token transactions like Ether transactions.	ERC 223	<ul style="list-style-type: none">■ Partial ownership standard allows user to divide the asset and trade it in fungible parts.	ERC 981
<ul style="list-style-type: none">■ Standard defines NFT or non fungible tokens that are unique and are neither divisible or interchangeable with same type of token.	ERC 721	<ul style="list-style-type: none">■ Upgradeable token contract standard allows to bring in new functions after being deployed.	ERC 1067
<ul style="list-style-type: none">■ Allows shared ownership of NFTs.	ERC 864	<ul style="list-style-type: none">■ A multi token standard which allows the user to build and manage multiple tokens from the same contract.	ERC 1155

What are ERC-20 Standards?

ERC-20 tokens are a collection of similar tokens with the same set of properties. They adhere to the ERC-20 standard, which establishes a set of guidelines for the development and management of fungible tokens.

The use of ERC-20 tokens allows for the development of micro-economies with liquid markets for a variety of applications.

Fabian Vogelsteller proposed the ERC-20 Standard in November 2015 that implements an API for tokens within smart contracts.

It includes features such as the ability to move tokens from one account to another, as well as the ability to see an account's current token balance and the overall availability of the token available on the network.

Its other features include approving the use of a certain amount of token from one account by a third-party account.

Trading ERC-20 Tokens

ERC-20 tokens may be exchanged on a variety of websites, including:

- Centralized exchanges
- Decentralized exchanges
- Automated liquidity pool, which can facilitate smooth token swapping by utilizing automated market making algorithms to decide the price of purchasing ERC-20 tokens.

ERC-721 Standard

Each ERC-721 token is associated with its own collection of properties and values.

Being one of a kind increases the value of ownership, particularly in the case of highly sought after tokens.

The ERC-721 protocol is a standard that must be implemented for any smart contract that produces ERC-721 tokens.

NFTs can be interacted with using a variety of features, including:

- Identifying the ERC-721 token's owner address
- Approval of an ERC-721 token transfer. Each address to which we want to transfer must be accepted before the transfer can begin.
- Checking an ERC-721 token's accepted addresses.
- ERC-721 Token Transfer.

Trading ERC-721 Standard

ERC-721 tokens can be exchanged for other tokens or ether in the same way that ERC-20 tokens can.

Automated market-making algorithms are not applicable since all ERC-721 tokens have unique properties.

At the moment, the agreed method of trading them is to auction or exchange them on NFT-specific peer-to-peer marketplaces. The most famous of such marketplaces is OpenSea.

This generates new economies for digital collectibles, as well as remarkable figures for a new form of assets.

ERC-1155 Standard

ERC-1155 is a multitoken Standard which can create and control multiple tokens of different type on the same contract.

ERC-1155 supports both fungible and non fungible tokens.

Features:

- ERC-1155 standard allows large transfers of the tokens included in a smart contract.
- ERC-1155 can create one or more fungible tokens and non-fungible tokens within the same contract.
- ERC 1155 token is capable of detecting the interface of a token.
- ERC 1155 standard specifies functionality to verify the transfer.

ERC-721 Vs ERC-1155: Comparison Table

Basis of Comparison	ERC-721	ERC-1155
Token Creation	Only one token in a single contract	Multiple tokens in a single contract
Limitation	Can only create NFTs	Can create both Fungible and Non Fungible Contracts
Cost	Expensive	Cheaper
Ease of Use	Allows single operation for each transaction	Allows multiple operations in a single transaction
Storage Requirement	More	Less
Efficiency	Low	High

What are EIPs

- Ethereum Improvement Proposals (also known as EIPs) are standards that introduce new features or processes for Ethereum Blockchain.
- Through the EIP process, network upgrades and applications are discussed and developed for Ethereum.
- An EIP can be created by anyone.
- **Importance of EIP**
 - EIPs play a pivotal role in governing changes on Ethereum.
 - Network update consists of a collection of EIPs that Ethereum nodes must implement.