What Is ERC-20 and What Does It Mean for Ethereum?

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The popular cryptocurrency and blockchain system Ethereum is based on the use of tokens, which can be bought, sold, or traded. Ethereum was launched in 2015, and since then it has become one of the driving forces behind the popularity of cryptocurrency. In the Ethereum system, tokens represent a diverse range of digital assets, such as vouchers, IOUs, or even real-world, tangible objects. Essentially, Ethereum tokens are smart contracts that make use of the Ethereum blockchain.

KEY TAKEAWAYS

- The popular cryptocurrency and blockchain system known as Ethereum is based on the use of tokens, which can be bought, sold, or traded.
- One of the most significant tokens is called ERC-20, which has emerged as the technical standard used for all smart contracts on the Ethereum blockchain for token implementation.
- Plenty of well-known digital currencies use the ERC-20 standard, including Maker (MKR), Basic Attention Token (BAT), Augur (REP), and OmiseGO (OMG).

What Is ERC-20?

One of the most significant Ethereum tokens is known as ERC-20. ERC-20 has emerged as the technical standard; it is used for all smart contracts on the Ethereum blockchain for token implementation and provides a list of rules that all Ethereum-based tokens must follow.

ERC-20 is similar, in some respects, to bitcoin, Litecoin, and any other cryptocurrency; ERC-20 tokens are blockchain-based assets that have value and can be sent and received. The primary difference is that instead of running on their own blockchain, ERC-20 tokens are issued on the Ethereum network.

ERC-20 Defines a Common List of Rules

As of October 2019, more than 200,000 ERC-20-compatible tokens exist on Ethereum's main network. The ERC-20 commands vital importance; it defines a common list of rules that all Ethereum tokens must adhere to. Some of these rules include how the tokens can be transferred, how transactions are approved, how users can access data about a token, and the total supply of tokens.

Consequently, this particular token empowers developers of all types to accurately predict how new tokens will function within the larger Ethereum system. This simplifies the task set forth for developers; they can proceed with their work knowing that each and every new project won't need to be redone every time a new token is released, as long as the token follows the rules. This compliance is also necessary; it ensures compatibility between the many different tokens issued on Ethereum.

Fortunately, the vast majority of token developers have fallen in line with ERC-20 rules, meaning that most of the tokens released through Ethereum initial coin offerings are ERC-20 compliant.

Plenty of well-known digital currencies use the ERC-20 standard, including Maker (MKR), Basic Attention Token (BAT), Augur (REP), and OmiseGO (OMG). If you are planning on purchasing any digital currency that's issued as an ERC-20 token, you must also have a wallet that is compatible with these tokens. Luckily, because ERC-20 tokens are so popular, there are many different options for wallets.

ERC-20 Specifies Six Different Functions

ERC-20 defines six different functions for the benefit of other tokens within the Ethereum system. These are generally basic functionality issues, including the method in which tokens are transferred and how users can access data regarding a particular token.

Taken together, this set of functions and signals ensures that Ethereum tokens of different types will all uniformly perform in any place within the Ethereum system. As such, nearly all of the digital wallets which support the ether currency also support ERC-20-compliant tokens. But because the ERC-20 standard remains relatively nascent, there will likely be bugs that need to be ironed out. To cite an example of one such past glitch: Ethereum tokens sent directly to a smart contract used to lose money, because an error in the protocol meant that a token's contract could not respond to an attempt to make a direct transfer, resulting in the "loss" of the money associated with that transfer.

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