

Ethereum Improvement Proposals: How they Work and Why they Matter

Key takeaways:

- The Ethereum community can submit proposals for network changes or upgrades in the blockchain through Ethereum Improvement Proposal (EIP).
- The community provides feedback on the EIP and makes sure that it is in the best interests of the Ethereum network. The review process is open and transparent, and anyone can participate.
- EIPs help ensure that improvements to the Ethereum network are well-thought-out and have broad community support.
- EIPs often improve the efficiency and security of the Ethereum blockchain.

In recent months, there has been a lot of talk about the impending changes to the Ethereum blockchain.

For the largest part, any changes to Ethereum have their origins in the Ethereum Improvement Proposal (EIP) process. EIPs are specific standards that dictate the future of the network and how it will run.

The Ethereum Improvement Proposal (EIP) process is a key part of the Ethereum protocol and ecosystem. EIPs are submitted by the community and reviewed by a core team of developers. If the proposal is approved, it is implemented in a future software release.

The best current example of a fully executed EIP is Ethereum's momentous transformation from [proof-of-work](#) to [proof-of-stake](#) this year - otherwise known as [The Merge](#). So what exactly is an EIP, how do they work and why do they matter? Let's take a look.

What is an Ethereum Improvement Proposal (EIP)?

An Ethereum Improvement Proposal, or EIP, is a formal proposal to alter some element of the Ethereum network. EIPs can range from small improvements, like clarifying existing features, to major upgrades like changing the network's consensus mechanism.

EIPs are an important part of the Ethereum network because they allow it to adapt and improve in line with the changing demands of the blockchain space. They are also a vehicle for the community to have input through open collaboration.

Once an EIP is submitted, it goes through a review process by the Ethereum community. If it is approved, it's then implemented by Ethereum developers.

The Ethereum Foundation provides financial support for the development of EIPs that are deemed to be in the best interests of the network. This helps ensure that developers have the resources they need to continue building the Ethereum network.

Why do EIPs matter?

EIPs matter because they enable Ethereum to be flexible, and constantly improve and develop. By submitting all proposals to a rigorous community and peer review process, EIPs ensure that changes to the Ethereum network are well-thought-out and have broad community support. So in this sense, it's an inclusive process.

How are EIPs implemented?

[EIPs](#) follow a standard process that includes submission, review, and implementation phases.

Submission: Anyone can submit an EIP through the Ethereum repository on [GitHub](#) - a platform that enables collaboration for developers. Absolutely anyone can submit a proposal, but typically, EIPs are proposed by developers who identify a problem or potential improvement.

Review: Once submitted, it goes through a review process by the Ethereum community. This allows the community to provide feedback on the EIP and make sure that it is in the best interests of the network. The review process is open and transparent, and anyone can participate. The goal of the review process is to ensure that proposals are technically sound and aligned with the Ethereum roadmap.

Implementation: After completion of the process and having received sufficient community support, it is submitted for final approval by the Ethereum Core Developers before it is implemented in full.

Who are Ethereum Core Developers?

The community and the Ethereum Foundation have a committee of editors that regularly review new EIPs; Vitalik Buterin, creator of Ethereum, used to be on the team. The team of elected members consist of some of the original Ethereum team, ex- developers, researchers, and software engineers.

These individuals are valued for their deep knowledge of Ethereum, and the blockchain space more broadly, and collectively have the final say in whether EIPs will be implemented.

EIPs: Decentralized - Almost

Although the community gets a huge say in EIPs ultimately it's up to the core dev team to accept the proposals. The process is off-chain, meaning a limited number of people have the final say.

By contrast, some more recent blockchains are embracing total community governance, via on-chain decision making through [governance tokens](#). Here, token holders throughout the community can vote on changes to the network directly on the blockchain, creating a process that is less centralized in nature.

Key Ethereum Improvement Proposals (EIPs)

You may already be aware of or have heard about the changes that happened as a result of EIPs that have been submitted, reviewed, and implemented over the last couple of years.

[EIP-721](#) proposed adding support for non-fungible tokens (NFTs). [EIP-4345](#) proposed to extend the time before Ethereum's mining ice age. Also known as the [Arrow Glacier](#). The [EIP-1559](#) proposal to change the way Ethereum blockchain transactions work fundamentally gained prominence last year as it was one of the proposals that were bundled together in the [London hard-fork](#) upgrades.

Ethereum Improvement Proposals (EIPs) in progress

Several EIPs are currently underway. [EIP-2718](#) and [EIP-2930](#), introduce new types of transactions. Others concentrate on making transactions and smart contracts more secure. [EIP-1066](#) will change the way in which smart contracts are executed on the Ethereum network. It introduces a new instruction, REVERT, which allows for the revert of an attempted transaction, providing greater flexibility for smart contract developers.

The most prominent proposal at the moment, [EIP-3675](#) proposed changing the Ethereum consensus algorithm from Proof-of-Work (PoW) to Proof-of-Stake (PoS). It was approved by the Ethereum community and is currently being implemented by the developers.

[The Merge](#) is set to take place in September 2022. POW will wind down, POS will activate and become the new consensus mechanism for the Ethereum network.

The upgrade will help to make the network more secure and efficient, which will in turn help to make your transactions more reliable. Additionally, the Ethereum network will be better prepared for future upgrades and scaling improvements.

Team work makes the dream work

As the Ethereum blockchain continues to evolve, Ethereum Improvement Proposals play a vital role in shaping its future, and ability to overcome current limitations.

They allow the community to improve the network through open collaboration and understanding exactly how the process works. It leaves the door open for anyone to assist with these improvements: we actually get to have a say.

So be sure to check out [EIPs](#) to learn more about how the network is being improved, you could even [submit your own](#) EIP.