

Ethereum 2: Overview and Recent Developments

Throughout 2020, major changes are coming to the Ethereum blockchain. As part of its Serenity upgrade, a new chain called Ethereum 2 will be launched. This will mark the start of Ethereum's transition from a proof-of-work based consensus algorithm to proof-of-stake. In short, this means that the current model of mining will be abandoned – instead, the network will be secured by validators that sign off on transactions and include them in blocks. The computational resources required from validators will be much lower than in proof-of-work, which means that energy consumption – a highly controversial topic surrounding mining in general – will no longer be an issue anymore in the future for Ethereum.

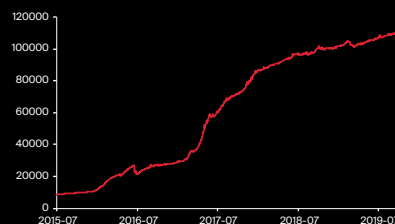
The switch to proof-of-stake is highly anticipated, as it will be the most fundamental change to Ethereum ever since its launch in July 2015. The transition will be separated into multiple phases. However, the research part of later phases does not

rely on completion of the previous phases – only the actual implementation does, meaning that a delay in e.g. Phase 0 does not necessarily affect Phase 1 and 2.

Phase 0

In this phase, the beacon chain will be launched, and validators will be able to put up ETH2 as stake to sign off on transactions, secure the network and earn rewards.⁶ This will necessitate the setup of one validator per 32 ETH2, as each validator requires exactly 32 ETH2.

Addresses with >32 ETH



The launch is expected in Q1 2020, but a testnet running smoothly for at least one month is required first. Initial trials of Ethereum 2 node client interoperability were successful. The first step is then to migrate part of the ETH from the current chain to this completely new blockchain through a deposit contract – a smart contract which will enable a one-way bridge to move ETH from the legacy chain to the beacon chain. At the time of writing, the deposit contract is ready to be deployed, but developers are holding off until a final, inter-blockchain standard for one type of digital signatures (called Boneh-Lynn-Shacham or BLS) has been agreed upon.

The number of addresses holding at least 32 ETH has been steadily increasing, potentially indicating that smaller ETH holders are accumulating to stake once the beacon chain is live. This graph will spike once large ETH holders split up their holdings into chunks of 32 ETH to stake.

⁶ <https://www.bitcoinsuisse.com/research/specials/ethereum-2-matters-validator-economics>