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Guide: What is Ethereum 2.0?

The Ethereum 2.0 upgrade is coming soon.The multi-stage upgrade aims to solve the scalability and security of Ethereum network through several changes to the network infrastructure – most notably, the transformation from proof of work (POW) consensus mechanism to proof of equity (POS) mode.

What is Ethereum 2.0?

Ethereum 2.0, aka Eth2 , is an upgrade of Ethereum blockchain. The upgrade aims to improve the speed, efficiency and scalability of Ethereum network, so that it can handle more transactions and alleviate bottlenecks.

But Eth2 doesn't completely exist — in January 2022, the Ethereum foundation said it would no longer call the upgrade Ethereum 2.0. The purpose of rebranding is to reflect the fact that what was previously known as Ethereum 2.0 is a network upgrade rather than a new network. Therefore, Eth1 is now called the "execution layer", which is the place where smart contracts and network rules are located, while Eth2 is called the "consensus layer", which ensures that devices that contribute to the network act according to their rules. However, the name Ethereum 2.0 has persisted.
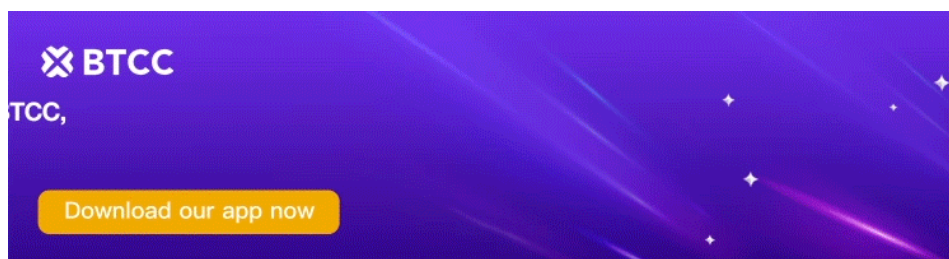
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When Did Ethereum 2.0 Appear ?

Ethereum 2.0 was launched in several stages. The first upgrade, called Beacon chain, was launched on December 1, 2020. Beacon chain introduces a native stake into Ethereum blockchain, which is a key feature of the network's shift to PoS consensus mechanism. As its name suggests, it is a blockchain independent of Ethereum main network. The second phase, known as "the Merge", is expected to merge the beacon chain with the Ethereum main network in the first or second quarter of 2022. The last stage is the fragment chain, which will play a key role in expanding the Ethereum network. Instead of settling all operations on a single blockchain, the fragment chain distributes these operations to 64 new chains.

This also means that from a hardware point of view, it will be easier to run an Ethereum node because there will be much less data to store on the machine. According to the Ethereum foundation, the full upgrade to Ethereum 2.0 is expected to take place in 2023.

Will Ethereum 2.0 Scale Better Than Ethereum 1.0?

One of the main reasons for upgrading is scalability. At present, Ethereum network can only support

about 30 transactions per second; This leads to delays and congestion. Ethereum 2.0 promises up to 100000 transactions per second. This growth will be achieved through the implementation of fragment chain.

How will Ethereum 2.0 be safer?
Ethereum 2.0 has been designed with security in mind. Most PoS networks have a small number of verifiers, which makes the system more centralized and reduces network security. Ethereum 2.0 requires at least 16,384 verifiers to make it more decentralized and therefore safer.

# Will Ethereum 2.0 Affect the Price of Ethereum?

More scalability means more usage, which in turn means more requirements. This — at least in theory — should push the price of Ethereum to a new level.
"When Eth2 2.0 works with rollups, there will be 100000 transactions per second. This will mean a completely seamless experience for the next billion people," Jamie Anson, founder of Nifty Orchard said.

Matt Cutler, CEO of blocknative, is also optimistic. Especially with the launch of Ethereum 2.0, gas costs are expected to decrease.
"Our customer base sees reducing transaction costs and increasing network throughput as a big opportunity to move forward," he said.

In addition, the ecosystem notes that major milestones will strengthen the momentum of Ethereum developers. "This will have a long-term bullish impact on eth prices – despite short-term fluctuations, it is also part of the valuation of encrypted assets," Cutler added.
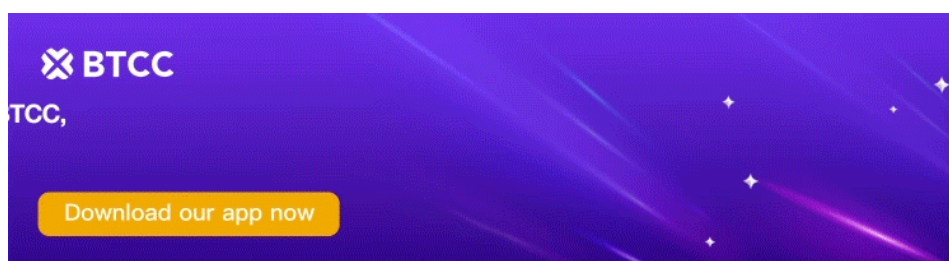
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The Future of Ethereum 2.0

It is difficult to see the future clearly, because there are too many changes in this process.For example, previous roadmap iterations placed merge events after the fragment chain was rolled out. According to the Ethereum foundation, this was changed after the "prosperity of tier 2 expansion solutions". As a result, it said, "priority has been transferred to replacing proof of work with proof of equity through consolidation".

As early as 2020, vitalik buterin, the co-founder of Ethereum, formulated a development roadmap for

Ethereum 2.0 in the next five to ten years. Most of the challenges now "increasingly revolve around development, and the share of development will only continue to grow over time," he said

In June 2020, buterin pointed out that Ethereum 2.0 needs to rely on current expansion methods, such as ZK rollups, for at least two years before implementing fragment chain. In August 2021, the London hard bifurcation of Ethereum and the deployment of Ethereum improvement proposal 1559 (eip-1559) changed the operation mode of transaction costs on the network. Eip-1559 believes that users trading on the network should pay a basic fee instead of giving it to Ethereum miners, reducing the supply of Eth and causing deflationary pressure on Ethereum network.

London hard bifurcation is the trial operation of the next phase of Ethereum 2.0. Vitalik buterin expressed confidence in the next step of Ethereum network. Butlin told Bloomberg that the successful launch of the London hard fork proved that the Ethereum ecosystem "can make significant changes" and "it definitely makes me more confident in the merger."