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Why Ethereum Merge Could Lead to Severe Centralization Issues

Original:

<https://www.btcc.com/en-US/academy/research-analysis/25545>

The Merge, long anticipated by the [Ethereum](#) community, will bring forth a new, more resilient architecture for the platform. Project is reported to be the result of nearly three years of effort on the Ethereum [blockchain](#), and is widely regarded as one of the crypto industry's watershed moments.

There are worries about the shift to Proof-of-Stake (PoS) and what it could imply for the future of the blockchain, but there are also many who believe that the Ethereum Merge should represent a fresh beginning for a network now utilized by millions.

Scalability Improvement Through Merge

To put it simply, the Merge, which will occur on September 15, is one of the largest upgrades in the history of cryptocurrency and the most important thing to happen to the Ethereum blockchain since its founding. The Merge is hoped to fix a number of issues, most notably the inability to scale.

The terminal total difficulty has been set to 5875000000000000000000.

This means the ethereum PoW network now has a (roughly) fixed number of hashes left to mine. <https://t.co/3um744WkxZ> predicts the merge will happen around Sep 15, though the exact date depends on hashrate. pic.twitter.com/9YnloTWSi1

— vitalik.eth (@VitalikButerin) [August 12, 2022](#)

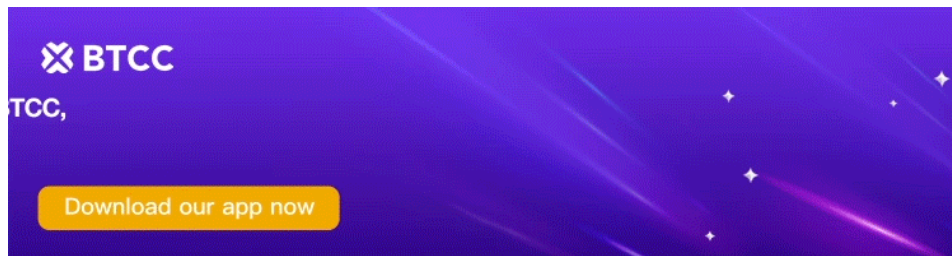
Since its creation, Ethereum's blockchain has struggled with scalability issues due to its limited capacity to process transactions (30 per second).

The exponential development of blockchains in recent years has made this inadequate, notwithstanding its early success. In spite of hundreds of thousands of dApps using the Ethereum blockchain to execute transactions, the network's present capacity is severely inadequate.

Developers have turned their attention to many so-called "Ethereum Killers" to address this scalability problem, including Solana (65,000 transactions per second) and Polkadot (more than 1,000 transactions a second)

Sharding, a scalability feature that splits the blockchain into many chains, will be included in the Merge, at long last. Each chain will validate transactions on its own and run independently of the others.

With sharding in place, the blockchain's throughput might reach 100,000 transactions per second, making it more suitable for big transaction volumes.



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Issues of Centralization and Staking Pools

Although the Merge shouldn't have any problems with scale, decentralization is a huge issue that hasn't been resolved. In recent years, a small number of mining pools have amassed enormous power over the Ethereum network and its consensus, leading to a dramatic centralization of the Ethereum blockchain.

The Merge, thanks to the PoS consensus mechanism, should alter this, although this is really a band-aid solution at best.

With more people wanting to stake their Ethereum for profit, the Ethereum blockchain should expect a rise in the influx of cash. Staking on Ethereum version 2.0 has already received endorsements from several major exchanges. With more people likely to take part in PoS Ethereum, the centralization problem that plagued PoW Ethereum could return.

Decrypt found that there were approximately 422,000 distinct network validators staking a total of \$22.3 billion in ETH on the Ethereum Beacon Chain at the beginning of this month.

Lido Finance, a liquid staking system, holds 33% of this sum, allowing users to stake their coins without having the minimum 32 ETH needed to become network validators.

Another 15% is stored on Kraken, 8% on Binance, and 7% on Coinbase. The more ETH these staking methods accumulate, the greater influence they may have on the Ethereum network.

Ethereum's ongoing development appears to have a far wider scope than its existing implementation. Multiple exchanges and protocols have become invested in the future of the blockchain now that they allow users to stake ETH 2.0.

Important choices made on these networks may have far-reaching effects on the distributed ledger.