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Scalability of Proof-of-Work Blockchains Using Off-Chain Solutions

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Current proof-of-work based blockchains have significant scalability limitations. The biggest and most widely used proof-of-work blockchain (Bitcoin) allows the network to process 5-10 transactions per second. Some other proof-of-work blockchains theoretically have a higher transaction per second throughput. Still, there are no other proof-of-work based blockchains where a higher number of transactions would be happening constantly and reliably. An off-chain solution, called the Lightning Network, enables processing of thousands of times more transactions per second. Additionally, the Lightning Network decreases transaction confirmation time from 10-60 minutes to less than a second, significantly reduces transaction fees and increases the privacy of the users.