

# Decentralised Storage

Today's digital world depends on the ability to store and access data on demand, we rely on data storage systems in the cloud to store and back up our most important files. However, the current models of data storage are built upon centralised servers which can be susceptible to hackers, data breaches, and outages. Centralised storage systems are vulnerable to a single-point failure. In contrast, decentralised storage systems are designed to be distributed and fault-tolerant.

A decentralised storage system is typically more secure than a centralized one because all the information is spread out and cannot be accessed in one place. If one node goes down, it has no effect on the rest of the nodes. The same applies if data is lost on one node: it can be recovered from another with no downtime or loss of data. It allows any individual to access their own files anywhere, at any time without having to worry about losing them if something happens to their devices or computers; it also removes the need for expensive cloud services like Dropbox which charge fees monthly just so people can store things (and even then, there are limits!). This means that people who don't have much money cannot store things securely without paying anything extra! Blockchain technology has enabled new possibilities for decentralised storage systems through its ability to store large amounts of data. The distributed nature of blockchain allows for a network of computers to replace the centralised server, offering an opportunity for a decentralised model that is more secure and transparent.

Decentralisation is one of the key features of blockchain technology that has allowed it to disrupt industries across the globe.

Decentralisation removes the need for a middleman or central

authority by distributing the system across multiple participants in a network, removing the risk of a single point of failure.

In addition to the benefits of fault tolerance and scalability, the decentralisation of storage can bring some interesting applications. This can be broken down into two categories:

1. Public/private key cryptography
2. Decentralised encryption

With public/private key cryptography, you have a public key (which anyone can know) and a private key (which only you know). You use your private key to digitally sign something — for example, a document or an image — which is then encrypted with your public key by someone else. Only the person who has access to your private key can decrypt that signature. This allows you to prove that something came from you; it is essentially like a digital signature.

With decentralisation encryption, we encrypt data using the public keys of all parties involved in the communication process. The only way to decrypt this data is with the private keys of all parties involved in the communication process. This system is known as multi-party computation and enables secure multiparty communications without revealing information about what was communicated.

The first blockchain-powered decentralised storage solution was Filecoin, which was launched in 2017 as an incentive-based system for storing files securely. As opposed to traditional cloud storage platforms such as Dropbox or Google Drive, Filecoin stores files across multiple computers on its network rather than a central location. Each computer in this network provides storage space in exchange for cryptocurrency rewards depending on. Currently, if you want to store data, you usually put it on Amazon's server, Google's server, or whoever's server. This

means that the centralized third party has to be trusted not to disclose your data unless legally required to do so. It also means that you might lose access to your data if you violate the terms of service of the centralized third party, which often happens accidentally. I think the importance of a decentralised network is that it's not owned by any one person or organization and therefore has no monopoly on it. This means that you don't have to trust a company that they'll keep your data safe because if you own your data on a decentralised network, no one can tamper with it.

Distributed storage technology is as important for the world today as the Internet was in the 1990s. The Internet was revolutionary because it allowed everyone to share information freely. It was decentralised which meant there was no single point of failure. This made it more resilient and censorship-resistant than anything we had seen before. The idea of a decentralised internet is nothing new. Since the dawn of the Internet, people have been dreaming about building systems where there are no central points of failure and no single entity can decide who gets to use it and how. Decentralised technologies have the promise to make this dream a reality. They allow anyone in the world to interact with each other directly, without having to trust any middlemen like governments or corporations. This is why decentralization is so appealing and has the potential to revolutionize the way we do things.