arweave

Introduction

The Arweave protocol offers decentralised, immutable blockchain storage. It is capable of storing any type of data, including web applications. The 'AR' token powers Arweave's economic mechanism. It comprises of an endowment strategy that makes the entire procedure financially viable.

Overview

Ticker — AR
Project Category — Storage
Technology — Arweave Protocol
Governance — Proof of Access
Permissions — Open Source
Business Model —Selling tokens, with value accruing to token holders
Financing — Community and venture backed, token-based project

The major aims of the Arweave project:
1. Establish a decentralised, permanent storage system for all types of data.
2. Ensure that the storage is cost effective.
3. Make certain that important historical and cultural knowledge is not lost, suppressed, or changed.

History

The Arweave was founded in 2017 as 'Archain'. In 2018, after completing the Techstars Berlin mentorship program, project is rebranded as 'Arweave'. The Arweave mainnet was launched in June of 2018 with a select group of 1800 hand-picked participants across various countries. In November 2019, Arweave secured a $5 million funding from VCs. Six months later, Arweave team raised another $8.3 million.

The Arweave permaweb, a collection of data, websites, and apps that are housed on the blockweave, is supported by Arweave's blockweave. Modern web browsers like Brave or Google Chrome can access the permaweb since the Arweave protocol is based on the HTTP protocol. The Arweave protocol enables people with extra hard drive space to store data in return for AR tokens, with the goal of storing data on the network forever. Arweave utilises a formula to determine how much it will cost to store a specific piece of data and forecasts that storage costs will continue to decline. The yellowpaper of Arweave contains all of the company's presumptions.

Arweave obtained a $5 million fundraising round from several venture capital companies in November 2019 in return for $5 in Arweave tokens. The Arweave team raised an additional $8.3 million in return for AR tokens six months later. However, following this round, the business declared that it will encourage community acceptance and expansion with the additional funding.

What is Arweave?

Arweave is a brand-new technology that stores data in a database that cannot be erased or modified and, for the first time ever, incentivizes users to keep the data for extended periods of time. Data that is permanently made public or private using this combination.

In order to enable a perpetual internet and produce really permanent data storage, Arweave would characterise itself as a "new data storage blockchain technology." It is a storage concept where you just pay once.

Arweave aims to permanently store files on a distributed computer network. Its goal is to establish a long-lasting digital repository. Similar to Filecoin and Sia, which both leverage bitcoin technology to establish markets for people looking to purchase and sell data storage services, Arweave shares a number of similarities with other decentralised storage systems.

How does Arweave work?

When a transaction is sent to the Arweave network, data storers are offered the option of replicating the accompanying data. The network's administrators can filter and screen transactions in any way they see fit, including checking against known unlawful content, scanning the data using computer vision tools, and so on. The yellowpaper has further information on how material is controlled in the Arweave protocol. The original Arweave team is collaborating with the Internet Watch Foundation to equip Arweave network maintainers with the tools they need to keep their systems and the permaweb secure from harmful content. Data storers can also choose not to reproduce any network material for any reason if they believe it is unsuitable for storage. Finally, those that operate gateways (the servers from which you would most likely access the permaweb) can implement content filtering measures to further protect their users. If you want a piece of content located on an arweave.net gateway deleted, please contact us and we will respond as soon as possible.

What is Arweave trying to solve?

The Arweave (AR) seeks to tackle this problem by implementing decentralisation in data storage and retrieval. Furthermore, the data saved on Arweave's blockchain is immutable, which means it will exist in perpetuity and cannot be manipulated/altered/deleted in any manner. This role of data storage is performed by miners who reach a consensus and store the data in blocks on the Arweave blockchain. The nicest aspect is that Arweave is designed to use common web protocols such as http, which are available in any current online browser.

Technology

Proof of access:

●The Arweave architecture, transactions are reviewed differently than in most cryptocurrencies.Whereas Bitcoin requires computers on its network to compete to solve a math challenge – a technique known as proof of work - Arweave employs a different approach known as "Proof of Access."
●Arweave requires every computer on the network to verify that each new packet of transactions has a random marker chosen from the preceding packet.
●New transactions can be introduced to the network if that indicator exists.
●AR coin will be awarded to a machine that instals a new software programme.
●Proof of access ensures that machines on the Arweave network can authenticate all new transactions and do not alter previous ones.

Blockweaves:

The foundational technology of Arweave is blockweaves. Unlike traditional blockchain, blockweaves is unique. In a traditional blockchain, transactions are stored in a linked collection of blocks. On the other hand, blockweaves are a collection of data-containing blocks that link to several earlier network blocks.

Blockshadows:

Arweave employs a data management method known as "blockshadows," which is a process in which transactions are partially detached from blocks in favour of merely providing other nodes a minimum block (the shadow) that allows other nodes in the network to re-create the entire block. Blockshadows include a hash of the current block's wallet list, hash list, and a list of transaction hashes.

Permaweb:

The permaweb is a collection of connected documents and apps that is a second layer on top of the basic Arweave data storage layer. The primary distinction between Arweave and the conventional web is that data storage on Arweave is decentralised and permanent.
The permaweb may be used to store any type of information because the Arweave core layer is indifferent to its contents. Examples include wikis, papers in any format, movies, and web apps. No one, not even the original uploader, is allowed to change data once it has been submitted to Arweave.

Tokenomics

Max Supply — 66,000,000
Total Supply — 64,598,643
Circulating Supply — 50,108,502
% Circulating Supply — 51%
Market Cap — $756,129,560
Fully Diluted Market Cap — $995,929,811

Token Usage:

Users upload data to the Arweave network for a fee in exchange for AR tokens, making it accessible through web browsers on the permaweb of Arweave. Users pay the price that Arweave believes will be adequate to keep the data indefinitely. Please go to Arweave's documentation for further information on how to archive a page.

Distribution of Tokens:

The maximum circulation of the Arweave network is 66 million AR.
At network debut on June 8, 2018, 55 million AR were produced in the genesis block.
A additional 11 million AR will be progressively placed into circulation as block mining incentives.

Mining:

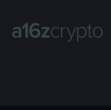Miners are rewarded from mining blocks in two ways: inflation and transaction fees*.
If a miner is unable to access the data from the specified "recall block" during the blockweave block construction process, the miner is not authorised to verify the new block or earn the block reward. Arweave argues that this will motivate miners to save as much Arweave protocol information/blocks as feasible.

Each data storage transaction instantly utilises a portion of the user's AR token to pay the transaction charge, while the remainder is retained in a network endowment and used to cover the cost of storage in perpetuity. All miners must download the most recent block containing the hash list before joining the Arweave network.

Contributors:

Jesper Noehr — CTO at Arweave	**Sam Williams** — CEO and Co-Founder at Arweave

Investors:

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Arrington XRP Capital — United States · Founded in 2017	**Blockchain Capital** — San Francisco, Calif… · Founded in 2…
Coefficient Ventures — United States · Founded in 2017	**Coinbase Ventures** — United States · Founded in 2018
Genblock Capital — San Francisco, United… · Founded in …	**Greenfield One**
LedgerPrime — Miami	**Metacartel** — None · Founded in 2019
Multicoin Capital — Dallas, TX, United S… · Founded in 2…	**One Block Capital** — Hong Kong SAR, Greater China
Signum Capital — Singapore	**Techstars** — United States · Founded in 2006
Union Square Ventures — New York, NY · Founded in 2003	**a16z Crypto** — Menlo Park, CA, Unite… · Founded in…