Ethereum Name Service (ENS) Explained

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Ever wondered if you can easily access all of your cryptocurrency data under a unique username? The answer is yes, and here's how you can do it through ENS.

While navigating through the crypto space on social media and the so-called Web3, you might have come across names with a .eth at the end, mostly with avatars as profile pictures.

Are they just fancy names to follow trends, or are there actual uses behind the fashion?

Before we explain, we need to note that one of the main challenges the crypto space has faced since its inception is the use of long cryptographic addresses to access money and services. This can be off-putting to beginners — long crypto addresses with many numbers and letters are confusing and hard to conceptualize as a wallet.

Just like the internet URL — made of a long string of digits and letters — has been replaced by a more straightforward web address, the crypto space has also had to find ways to make access to decentralized finance (DeFi), services and currencies more user-friendly.

Various platforms, including Bitcoin, have worked on offering naming standard services to allow users to access all of their crypto data with one single branding and identifiable usernames.

Today, the most popular and used service remains the Ethereum based ENS, short for Ethereum Name Service.

What Is ENS?

ENS is an open-source, decentralized internet naming protocol created and launched by New Zealander software engineer Nick Johnson in May 2017. It is similar to the internet DNS (Domain

Name System) and operates as a set of smart contracts on the Ethereum blockchain.

ENS translates computer identifiers such as Ethereum and other cryptocurrency addresses, content hashes and metadata into human-readable names. Like DNS, it works on a system of dot-separated hierarchical names called domains, with the owner of a domain having complete control over subdomains.

ENS can be regarded as a nickname generator for public Ethereum addresses, aiming to make crypto more accessible and less confusing, especially for the beginner.

No more copying and pasting long addresses to access crypto services — instead, users can employ one unique Ethereum username that is interoperable across all blockchains and decentralized apps (DApps), serves all addresses and can send and receive all cryptocurrencies, NFTs or tokens.

The natural suffix for ENS is .ETH, which provides the comprehensive security benefits of being blockchain-native.

The unreadable string of keys for each crypto address which might look like "0xDC38Ec3E6B8B226768248G4JDA41278JKQ9H718A" (the equivalent of an IBAN), gets replaced by a single ENS domain, like "Alice.eth," where you can receive any kind of cryptocurrency and NFTs.

While ENS and DNS are similar by concept, the structure is different and made by three main components in the ENS:

The registry, a smart contract that stores all names, subdomains and who owns them.

The registrars, a smart contract that owns a domain and releases subdomains to users who meet the smart contract criteria; for instance, alice.eth can claim a subdomain for pay.alice.eth and can configure it as she wishes.

The resolvers, a smart contract that stores and serves records upon request. They are responsible for the actual process of translating names into addresses.

The cost to register a ".eth" domain is currently defined as follows:

- $5 in ETH per year, for five+ character .eth names;
- $160 in ETH per year, for four-character .eth names;
- $640 in ETH per year, for three-character .eth names.

The three- and four-character names have higher prices because they're more scarce. You can also buy a popular ENS domain name for tens of thousands of dollars in an auction.

Where is ENS Used?

Cryptocurrency Wallets

The most common use for ENS is storing cryptocurrencies in wallets and exchanging them. Buying, selling, sending and receiving cryptocurrencies can all be done using an ENS.

ENS supports the addresses of any cryptocurrency or blockchain.

Decentralized Web

It's possible to launch censorship-resistant decentralized websites with ENS. It's as easy as uploading a website to an IPFS (InterPlanetary File System) and accessing it with an ENS name.

ENS-IPFS websites are supported by Brave, Opera, MetaMask and Status, among others. In browsers without native support for ENS-IPFS websites, users may affix ".link" to their .eth website name via a system called EthDNS.

In 2019, ENS added support for decentralized websites based on IPFS and Swarm networks. The same year, it added support for Tor .onion and multi-coin addresses to allow users to store any cryptocurrency address in their name's records.

Identity

All sorts of personal information like an email address or an avatar can be attached to an ENS username. This means that ENS-enabled usernames may become our primary digital identity on the web.

ENS Criticisms

A substantial privacy issue has been detected in ENS, as it can reveal crypto wallet balances and movements. It's possible to identify high-profile people even if they're not using their real names just by looking at the blockchain open ledger records.

A resurrected tweet by the ENS project director Brantly Millegan recently sparked significant controversy around ENS. In 2016, he was tweeted that "homosexual acts are evil. Transgenderism doesn't exist. Abortion is murder. Contraception is a perversion. So is masturbation and porn."

The ENS community, for the most part, was against the controversial post and regarded it as "unacceptable" and the antithesis of all values contained in the Web3 culture.

A few days after the tweet resurfaced, Millegan was voted out of his position as a community steward.

ENS Token

The ENS token is an [ERC-20 token](#) standard used for token delegation for its DAO and the governance of the ENS protocol's key components like .eth pricing, the price oracle, etc.

Early adopters of the Ethereum name service protocol could claim their ENS tokens through the official website. Anyone else can buy the token via a few exchanges like Binance, Uniswap, OKEx, Sushi, to name a few.
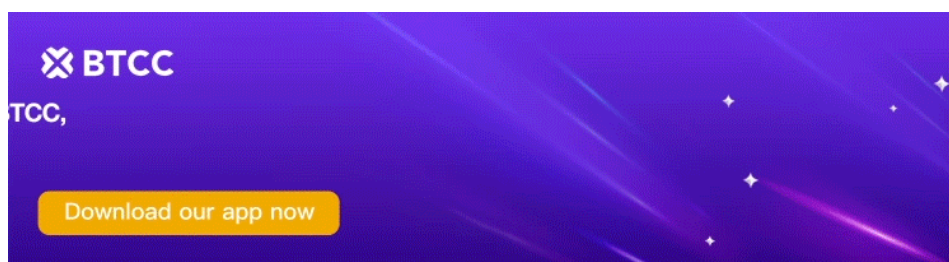
Who Fund ENS?

The projects had no VC investors. However, the protocol has received financial support from the Ethereum Foundation, Binance, Ethereum Classic Labs and Protocol Labs.