AutoSwarm NFTs

Boost your NFT LifeSpan on Swarm

26th September 2023

Empowering Eternal Digital Ownership

- **What ?**

  - Ensure **continuous availability of NFTs** stored on Swarm, including both metadata and content, for as long as there is ongoing interest in the NFT.

- **Why ?**

  - Paying for **eternal archival upfront is both impractical and lacks meaning** in the context of a 5, 10, or longer-year timeframe….

- **How ?**

  - Enable NFTs to **automatically extends** their storage duration (TopUp). Anyone can contribute via Bzz donations or via a small percentage on NFT transfers.

AutoSwarm solution

Thanks to ERC6561, any NFT can own tokens, via a unique SmartAccount linked to the NFT.

After transfer of the NFT, these **tokens are still linked to the NFT**, at the disposal of the new NFT owner.

So, anyone can send some Bzz tokens to the NFT SmartAccount they are interested in, and then the **NFT can auto-pay for it's own storage** when needed.

AutoSwarm PoC

AutoSwarms NFTs **Proof of Concept** (PoC) developped by **Kredeum**

SetUp:

- On **Gnosis** chain: existing BzzToken and PostageStamp Smartcontracts

- On Sepolia testnet: with new PostageStamp under development

- **NFT mint on Swarm** with both metadata and image on Swarm (with a unique Batch of Stamps on a dedicated node)

- **ToPup the NFT** is the same as ToPup the Batch of Stamps (in this PoC)

- « **AutoSwarm Service** » : One Page App (with one NFT at a time in this PoC)

- Anyone can TopUp the NFT for One Year more, **updating lifespan** (or TimeToLeave / TTL) of the Swarm NFT storage

ERC-6551
Registry

ERC6551
AutoSwarm
Architecture

NFT Collection A
(EIP-721)

NFT Token
tokenID #3

owns

creates

NFT A#3
SmartAccount
Batch Id #7
12 Bzz

NFT Token
tokenID #15

owns

NFT A#15
SmartAccount
Batch Id #12
7 Bzz

Batch Id #7

NFT Collection B
(EIP-721)

NFT Token
tokenID #1

owns

proxies

AutoSwarm
Implementation v0

PostageStamp

NFT B#1
SmartAccount
Batch Id #5
0 Bzz

AutoSwarm
Implementation v1

NFT Token
tokenID #3

owns

NFT A#3
SmartAccount
Batch Id #7
123 Bzz

owns

control

User #1
(EOA)

Transfer NFT

User #2
(EOA)

derived from
https://eips.ethereum.org/EIPS/eip-6551