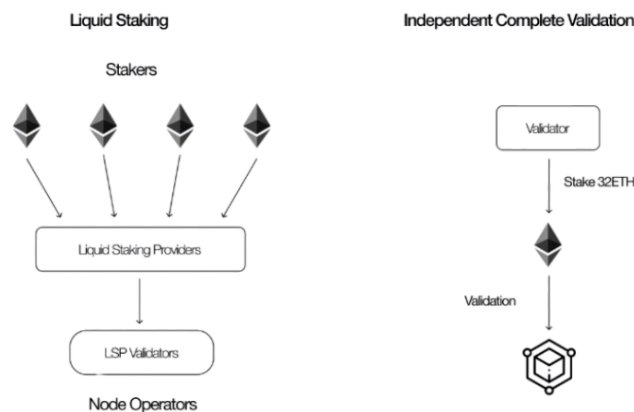


Graffiti Protocol V.1

Normies' Gateway to Heroglyphs

1. Introduction

The migration of Ethereum to a Proof of Stake consensus mechanism, post the Merge in September 2022, has raised significant concerns regarding the potential for gradual centralization within the network. This transformation has fundamentally reshaped the validation process for transactions and block generation, moving away from the resource-intensive Proof of Work framework to one where validators secure the network by staking Ether. Consequently, this transition has inadvertently led to a concentration of influence within the network, primarily among a few prominent entities. This development has sparked discussions about the implications for Ethereum's commitment to decentralization principles. Vitalik Buterin has expressed concerns about centralization risks associated with major ETH staking pool providers such as Lido and Rocket Pool. He highlighted issues with Lido's DAO whitelist node operators model and Rocket Pool's requirement of users to stake 8 ETH to run a node. Buterin warned that Rocket Pool's model could enable malicious actors to execute a 51% attack on the network, with users bearing most of the costs. Meanwhile, Lido's approach, despite having safeguards, could result in a scenario where a single staking token dominates, posing governance risks. To address these concerns, Buterin suggested short-term solutions such as promoting diversification among staking pool operators and implementing features at a protocol level to mitigate centralization risks, proposing "minimal viable enshrinement" as a middle ground solution.



(1) Fig. 1. Heroglyph White Paper

The Heroglyphs protocol has proposed a solution to address the centralization and censorship threats facing the Ethereum network by incentivizing independent complete validators (ICVs) through the utilization of Ethereum's proof of stake validation byproducts. At Graffiti

protocol, we believe that an entire ecosystem will be built on small players, and individuals without technical capabilities may be excluded. This belief underpins the creation of the Graffiti protocol: to provide access to Heroglyphs for non-technical users by simply delegating their ETH through the Graffiti protocol.

2. Graffiti Protocol

Solo staking introduces risks primarily concerning potential income loss during offline periods and increased electricity consumption. Adhering to standard home network security protocols, such as maintaining essential ports and firewall settings, can alleviate many of these risks. The goal of Heroglyphs is to incentivize solo staking and as emphasized in their whitepaper, the imperative is to revitalize Ethereum and make it cyberpunk again. The pathway entails offering rewards and incentivizing solo stakers to establish an economic model that isn't solely reliant on Ethereum rewards.

At Graffiti, we recognize this necessity, which is why we are developing the protocol atop Heroglyphs. The Graffiti protocol aims to empower complete validators to earn rewards from token mining and equitably distribute them to all individuals. To participate as a validator, users no longer need the 32 ETH, hardware, or technical expertise required in the past. They can delegate their ETH to the Graffiti protocol starting from 0.1 ETH and receive equivalent rewards as solo validators, based on the ETH stake delegated to the Graffiti Protocol. In simpler terms, Graffiti operates similarly to Lido but with a greater emphasis on decentralization.

3. Graffiti Fraction Solo Stacking as Service

A solo validator node is formed by 32 ETH. Users can delegate their ETH starting from 0.1 ETH to the Graffiti protocol and join the validator node. Delegator rewards are equally distributed among stakers based on the share of the node they hold. The withdrawal process for delegated ETH from the validator node is asynchronous and depends on the withdrawal queue of the Beacon chain. If users initiate a withdrawal process collectively, reaching 51% of the 32 ETH, the node will be dismantled, and the funds will be redistributed to the delegators along with the accumulated rewards.

Rewards:

The rewards collected by the Graffiti validator nodes are distributed as follows:

- ERC-20 tokens to delegators based on the share of the validator node they own, calculated accordingly.

$$MyRewards = \sum_{k=1}^n \sum_{i=1}^j TokensDistributed_{ki} \cdot \frac{MyTokens}{TokensStaked}$$

a) Where (i) is the cardinal number corresponding to the (nth) distribution of the token (k)

$$APR = \frac{\sum_{k=1}^n \sum_{i=1}^j TokensDistributed_{ki} \cdot \frac{MyTokens}{TokensStaked} \cdot TokenUsdValue_{ki}}{MyTokensUsdValue}$$

- NFT rewards to GRAF token stakers. For this, we will request the governance to vote on the following options: a) The NFT is sold for ETH, and rewards are redistributed based on the share of the GRAF token each staker holds. b) The NFT is randomly distributed to stakers (a mechanism will be shared once the DAO vote takes place).

RPC Node as a Service

Every aspect within Ethereum is centralized. Even when you send a transaction, where do you think it goes? To Infura, Flashbots, or Alchemy. These services are logging your on-chain actions and IP addresses and, at worst, front-running you, providing a false sense of privacy. That's why one of the first public good services provided by GRAFFITI will be GRAFFITI RPC: Simply add it to your MetaMask and enjoy privacy-centric transactions, free from MEV, with fast settlement times, and embodying the true ethos of decentralization. Transactions will be mined directly by our own validator set!

Multi-token Earnings (GRAF Staking):

Users who have acquired the GRAF token to participate in the governance of Graffiti Protocol can stake their tokens to earn rewards generated by the buy and sell tax of the Graffiti token. GRAF token stakers receive 20% of all fees generated by the buy and sell tax in wETH, based on their share of the pool. Rewards are distributed to stakers proportionally to their GRAF tokens staked. Refill of the rewards occurs every seven days from the starting day and consists of 20% of all buy and sell taxes generated by the GRAF token.

Staking Structure Fee: Each time a user wishes to stake and/or withdraw their GRAF tokens, there will be a fee of 0.5%. The fees collected are distributed to the stakers who remain in the GRAF staking pool based on their share of the pool.

Conclusions

At Graffiti protocol, we prioritize inclusivity. While 'Heroglyph' token mining rewards are exclusively distributed to complete validators, we advocate for equal financial opportunities for everyone. While we support the cyberpunk ethos embraced by Heroglyphs and others in the space, we are committed to building Graffiti for ordinary individuals who wish to participate in this emerging economy.

1. <https://github.com/Finallyt/Heroglyph/blob/main/Heroglyphs%20-%20Unclassified.pdf>