

FLUX Litepaper

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1. FLUX

i. Summary

FLUX, the simplest Liquid Delegation Solution for K STADIUM.

FLUX is a liquid delegation solution based on the word 'fluctuation', which represents constant change and continuous flow. By replacing the interface of the K STADIUM delegation system, FLUX enables users to continue to enjoy the benefits of the existing reward system while efficiently utilizing assets within the Ground Chain.

ii. DPol and K STADIUM Delegation System

The K STADIUM of Ground Chain is an independent platform has KSTA as its key currency and SOP tokens playing a dual role as both a governance and stake proof token.

The K STADIUM governance adopts the 4th generation consensus algorithm, DPol. Users transfer KSTA to the Community Pool and receive an equivalent amount of SOP. SOP serves as both a proof of stake for contributions made to the platform and the governance token. However, SOP that has not been delegated cannot function as the stake proof token. Users delegate the received SOP directly to the governance group called SO, and receive a stake ratio that forms the basis for governance participation and reward issuance. Based on this SOP stake ratio, K STADIUM pays daily rewards to users according to their delegated amount and attracts new projects through governance voting, and distributes project performance.

Participation in K STADIUM, which consists of KSTA transfer, SOP issuance, delegation of received SOP directly to SO, and rewards, has been gaining attention from both users who prioritize daily earnings and those who invest for value. However, there has been a demand from users who want to utilize the received SOP for other purposes while delegating, and FLUX was born from the voice of such users.

iii. FLUX: Liquid Delegation Solution

Lido, which started as a staking solution for Ethereum 2.0, has released a liquid staking solution to address the issue of users being unable to claim or recover assets that have been staked, as well as rewards generated from staking, before the release of Ethereum's unstaking feature. Lido has issued stETH, an asset that represents staked ETH, and has collateralized the issued asset with staked assets on a 1:1 basis.

FLUX takes inspiration from Lido's idea. However, it would be difficult to bridge the gap in understanding if FLUX were to be accepted as a liquid staking solution like Lido. K STADIUM's DPol is not a staking model, and users are well aware of this fact. Their demand was nothing but diversification of the SOP delegation model. Therefore there were fundamental difficulties in applying Lido's model directly to K STADIUM. As a result, FLUX has been redesigned to fit the delegation system by incorporating only some of the ideas from Lido.

FLUX's focus is on issuing tokens that have the same value as tokens that cannot be liquidated, as well as creating tokens that can be liquidated. In other words, FLUX's task was to issue tokens that represent delegated SOP and collateralized them with SOP on a 1:1 basis, while enabling users to continuously receive rewards through K STADIUM's delegation structure.

As a result, FLUX has a new concept that combines problem awareness and ideas. FLUX can be defined as a liquid delegation solution. Here, liquidity means that tokens can be transferred to someone else or used for another purpose. When users delegate SOP to SO through FLUX, FLUX issues an equal amount of inKSTA to the delegated SOP. inKSTA can be transferred like any other token, and can be used in other services or applications. For example, if inKSTA is paired with another token on a DEX, users can exchange inKSTAR for other tokens or provide it to the exchange pair and receive DEX rewards.

At the same time, reward from user delegation are accumulated continuously. Through the liquid delegation solution FLUX, users can receive the same rewards as with the K STADIUM delegation while also gaining greater freedom. FLUX not only contributes to the K STADIUM DPol consensus algorithm within the ecosystem, but also helps participants take on diverse financial positions and

provides them with more options to use their stake proof tokens.

2. Technology

i. Service Architecture

FLUX consists of 3 main components: Controller/Delegator/Factory. Each component is described with the following detailed functions.

a. Controller

Controller is the main function of the FLUX liquid protocol. It performs the role of the interface that carries all data based on the mapping data, which consists of users and SO UUID pair.

It provides Initialization for the dynamically deployed Delegator Smart Contract at runtime and is also the entity that performs all permission control related to authority. Additionally, it has the authority to issue(mint) inKSTA and acts as the control tower of the FLUX protocol.

All data transactions occur through the controller, and it has a logic to issue inKSTA and deliver it to users EOA when delegation is executed.

b. Delegator

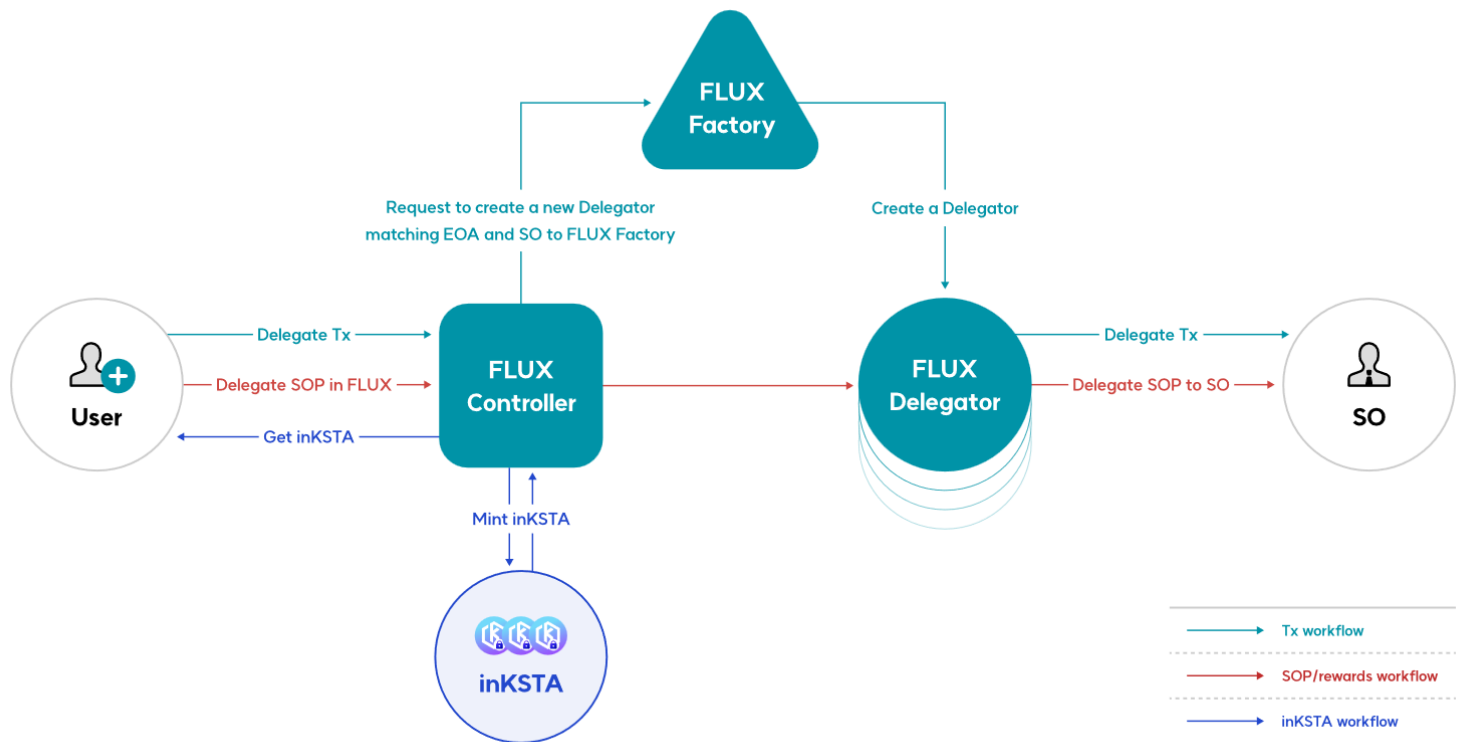
Delegator is the entity that directly performs the SO delegation requested by users, and it holds the rewards that are assigned daily or one-time to each EOA according to the K STADIUM delegation and reward logic. It is also the arithmetic module that handles the processing of SOP that can be returned and the cumulative reward amount that can be received when users return in inKSTA through undelegation.

c. Factory

As a creation module that provides runtime smart contracts, it generates a

runtime delegator contract that allows for a 1:1 mapping between EOA and SO and provides mapping data.

Three components operate in the following flow when users delegate or undelegate through FLUX.



1. Delegation

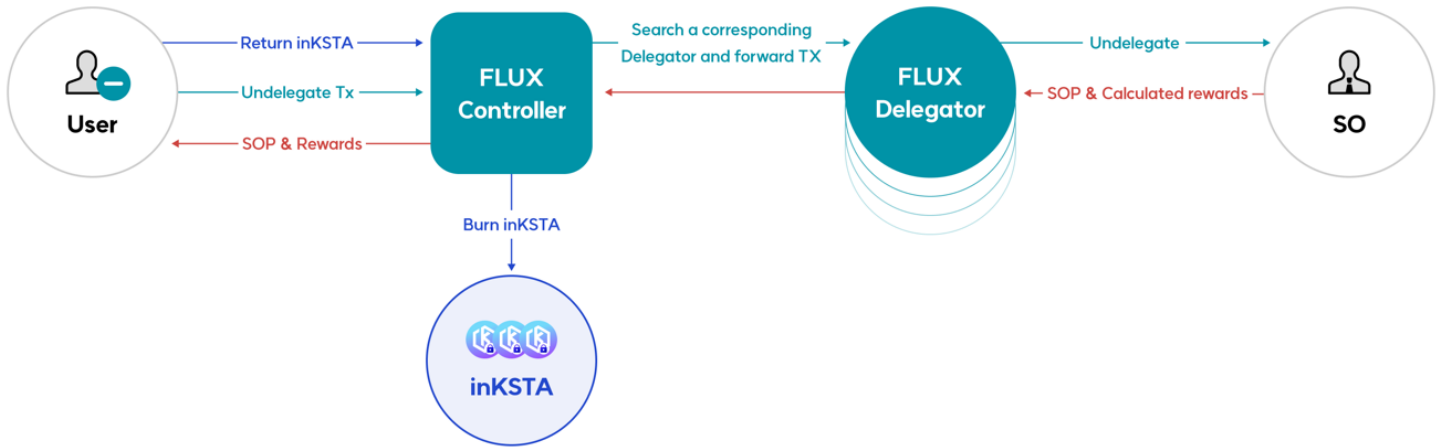
Delegation of SOP token is requested through user action.

If it is the first use case which EOA requesting delegation has no transaction history with SO to be delegated, FLUX Controller requests Factor to create a new Delegator that matches user EOA and SO.

As a result of the request, EOA's SOP token is transferred to the newly created (or previously created) Delegator.

Delegator who receives SOP token, executes the delegation to the selected SO chosen by users.

FLUX Controller issues(mint) inKSTA corresponding to the delegated SOP upon delegation request and delivers it to users.



2. Undelegation

When users holding inKSTA request undelegation, FLUX Controller searches for the user in delegator list and forwards the Tx.

Delegator executes undelegation in the selected SO based on the forwarded Tx and calculates the returned SOP and reward amount.

FLUX Controller delivers rewards to users based on the quantity and ratio of undelegation requests, using UnDelegator logic. During this process, FLUX Controller burns an equivalent amount of inKSTA as the amount requested for undelegation, and returns the resulting SOP to users.

3. Claim

Reward claims are requested through user actions holding inKSTA.

The rewards that were held by the delegator are transferred to the user through the FLUX Controller based on the claim logic, and the delegator maintains a locked state of reward tokens for 5 days after one-time action.

ii. User Workflow

1. Delegation through FLUX

Users send KSTA to the K STADIUM community pool.

Users receive stake proof tokens (SOP) in return.

Users delegate the received SOP to SO through FLUX delegation service.

Users receive inKSTA equivalent to the delegated SOP.

The liquid token, inKSTA, can be used in other applications.

2. Undelegation and receive rewards through FLUX

Users withdraw delegation on FLUX service, returning the amount of inKSTA received. The withdrawal and return are subject to a specified fee and return policy.

Once the withdraw delegation is completed, users receive SOP and accumulated rewards. At this time, the specified fee and return policy will be charged.

3. Reward Claim

Users claim accumulated rewards in the FLUX service. At this time, users must have inKSTA quantities received as claim proof in their wallet. A certain fee specified in the policy is incurred upon claiming.

Once the claim is completed, users obtain the accumulated rewards (KSTA). The inKSTA used as claim proof undergoes a lock duration of 120 hours. Locked inKSTA tokens cannot be transferred until the duration ends. Additionally, additional claims or undelegation are impossible for 5 days after the claim.

iii. Tokenomics and Fees

1. Tokenomics

a. inKSTA

inKSTA are tokens that play a core role in FLUX system, which is a liquid delegate solution. The name 'inKSTA' is a combination of the investment made in the K STADIUM community pool and the liquid token of KSTA. When users delegate SOP by using the service, inKSTA tokens are issued as a 1:1 collateral. Going forward, inKSTA will be issued as close to a 1:1 ratio with KSTA transferred to the community pool as FLUX service expands. When users delegate using FLUX, inKSTA tokens are issued in the same amount as SOP quantity provided as input. When undelegation is activated, inKSTA is burned.

b. KSTA

KSTA is the key currency of Ground Chain, and transaction fees within the FLUX service are paid in KSTA.

c. SOP

SOP are governance tokens of K STADIUM and stake proof tokens that can be obtained through KSTA transfers. When delegating on FLUX, SOP are delegated in the same way as on K STADIUM.

2. Fee and Return Policy

i. Fee Policy

The service usage fee for FLUX is determined as follows. The fee policy may be subject to change in the future.

- SOP Delegation Fee = 10% of the received rewards.

ii. Return Policy

Users can return inKSTA and undelegate SOP at any time through FLUX (Only when tokens are not locked up with claims), but the following conditions must be met to acquire cumulative rewards after returning inKSTA.

- a. The cumulative reward amount must be 1 KSTA or more.
- b. The SO delegation through FLUX must have passed 24 hours or more.

When both of the above conditions are met, it is possible to release delegation and acquire rewards through the return of inKSTA.

3. Roadmap



4. Legal Notice

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