Catamaran Swaps

friedger.btc

Sep 12, 2023

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CHAPTER

ONE

CATAMARAN SWAPS

Catamaran Swaps are trustless exchanges between owners of Bitcoins and owners of digital assets on the Stacks blockchain.

Currently, only swaps between BTC and STX are supported in the web app.

1.1 BTC - STX

A swap consists of three steps:

1. the seller of STX has to put STX into escrow.
2. the buyer of BTC makes a btc transaction to the specified BTC address of the seller.
3. the seller or buyer submits the transaction id of the bitcoin transaction and the escrowed STX are released.

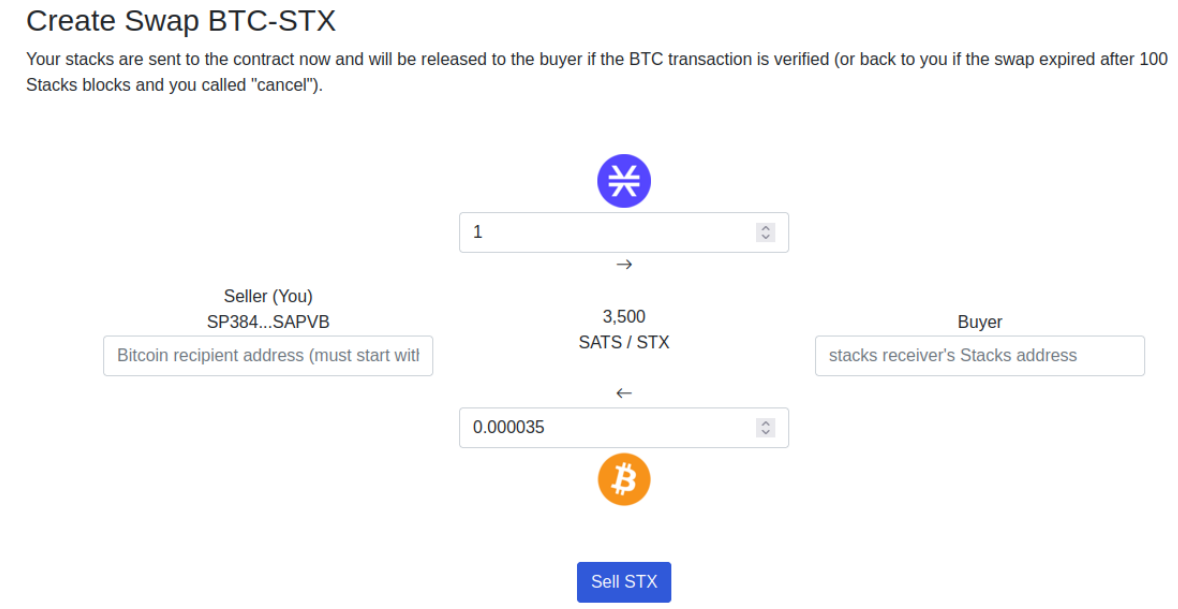
note

currently, many restrictions apply to the bitcoin transaction for catamaran swaps. This means that swapping partners need to trust each other in case the BTC tx could not be verified.

Segwit transactions are not supported. Transaction with many inputs or outputs can't be verified neither. These restrictions will be hopefully lifted with Stacks 2.1.

1.1.1 Create a Swap

The seller of STX creates the swap.



After the clicking on “Sell STX”, the Hiro Wallet will popup and ask the seller to confirm the tx. The transaction result contains the swap id that must be shared with the buyer. The result looks something like this:

```
(ok u72)
```

The details of the swap can then be found at https://catamaranswaps.org/stx/swap/72.

1.1.2 Make a Bitcoin transaction

The buyer of STX makes a Bitcoin transaction of the agreed amount to the BTC address of the seller. The buyer can choose any Bitcoin wallet that supports legacy transactions. Note, that restrictions apply, therefore, the BTC transactions have to be created carefully.

1.1.3 Finalize Swap

The last step requires to submit the Bitcoin transaction to the Stacks network.

1.1.4 Smart Contract

The smart contract was deployed at btc-stx-swap-v1 by SP2PABAF9FTAJYNFZH93XENAJ8FVY99RRM50D2JG9.

CHAPTER

TWO

ATOMIC SWAPS

Atomic swaps are trustless exchanges between digital assets of two users of the Stacks blockchain.

Currently, exchanges between STX and any SIP-010 compliant fungible tokens (FT) are supported.

2.1 STX - any FT

A swap consists of two steps:

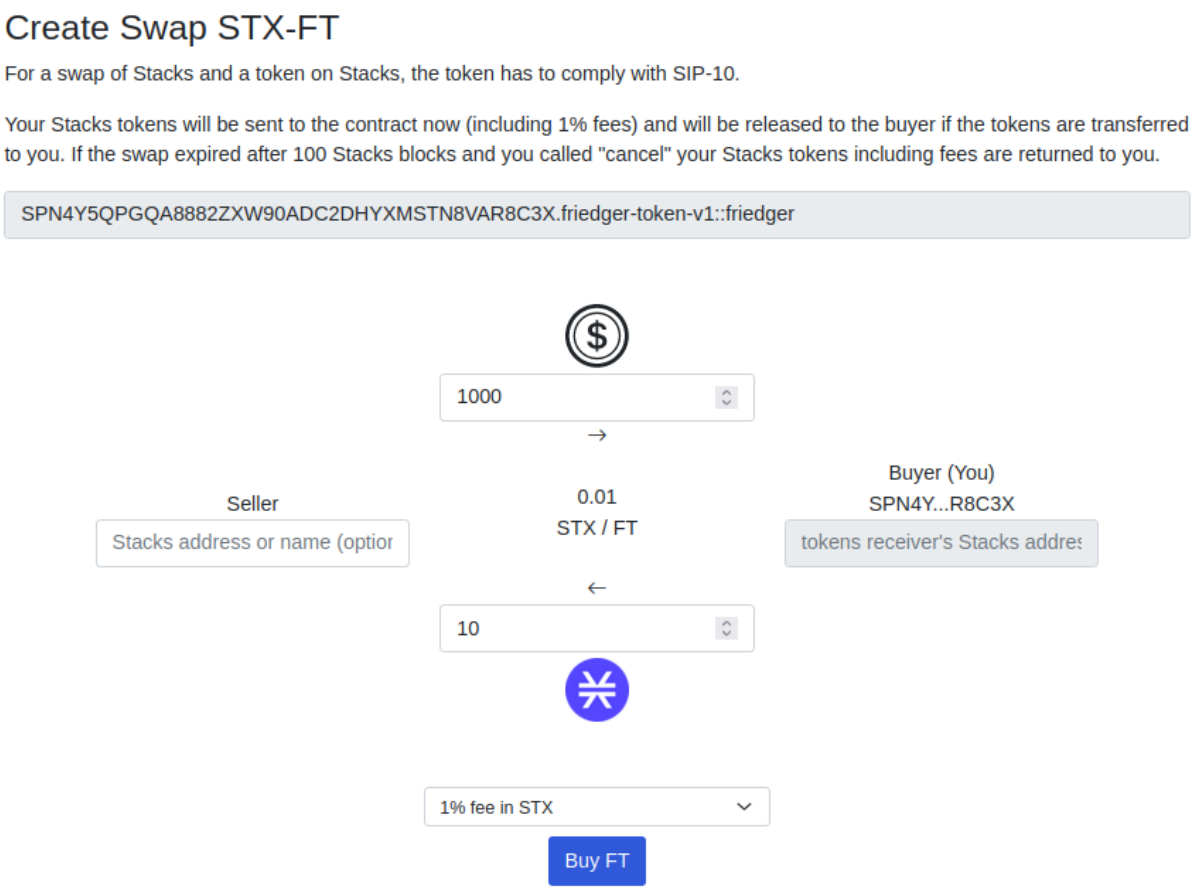
1. the buyer of the fungible token has to put STX into escrow.
2. the seller of the fungible token sends the fungible token to the buyer and receives the STX in the same transaction.

A fee of 1% is applied. It is paid by the buyer in STX or FRIE tokens. It is hold in escrow and released when the swap was completed.

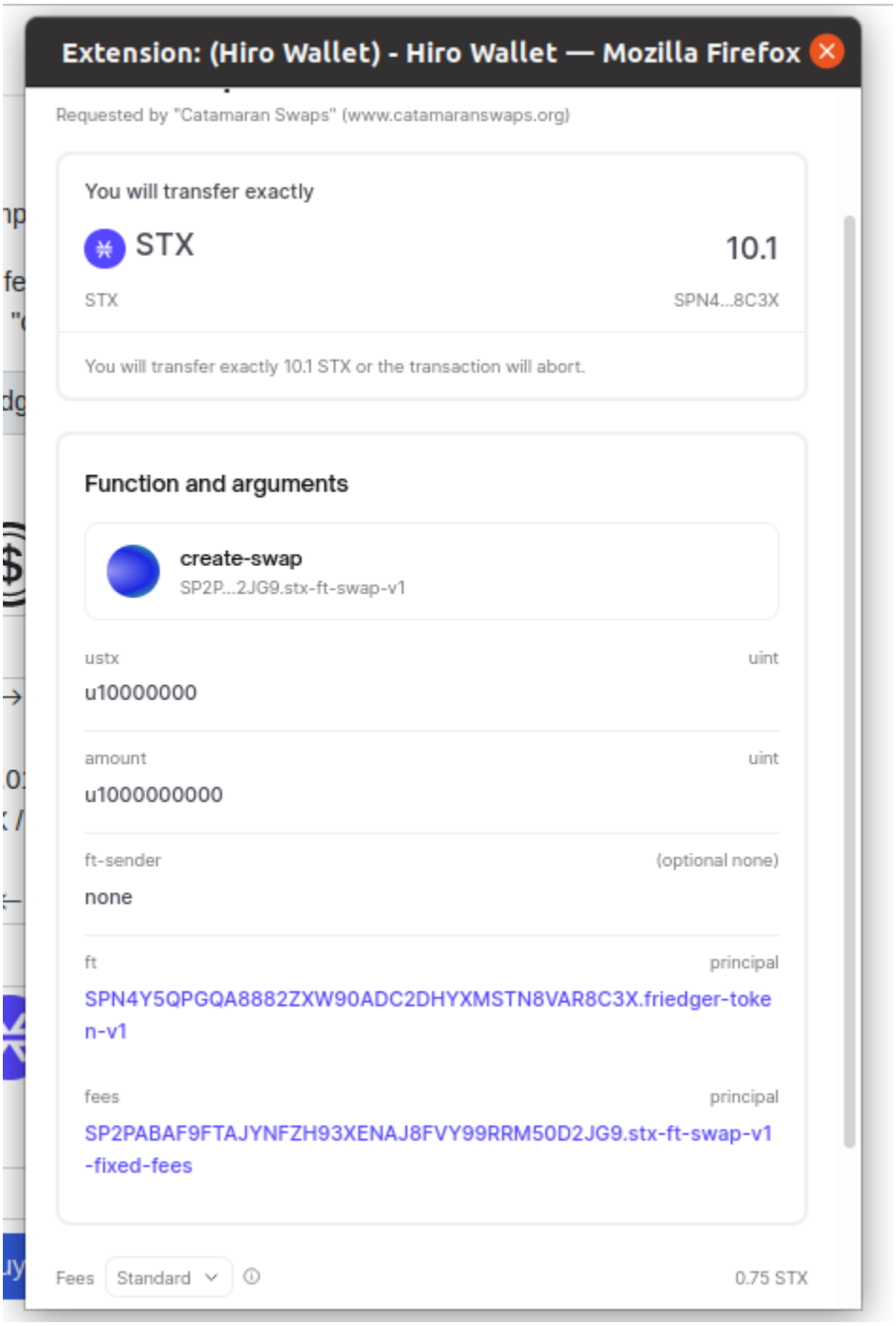
All swaps can be canceled after 100 blocks.

2.1.1 Create a Swap

The buyer of the fungible token creates the swap.



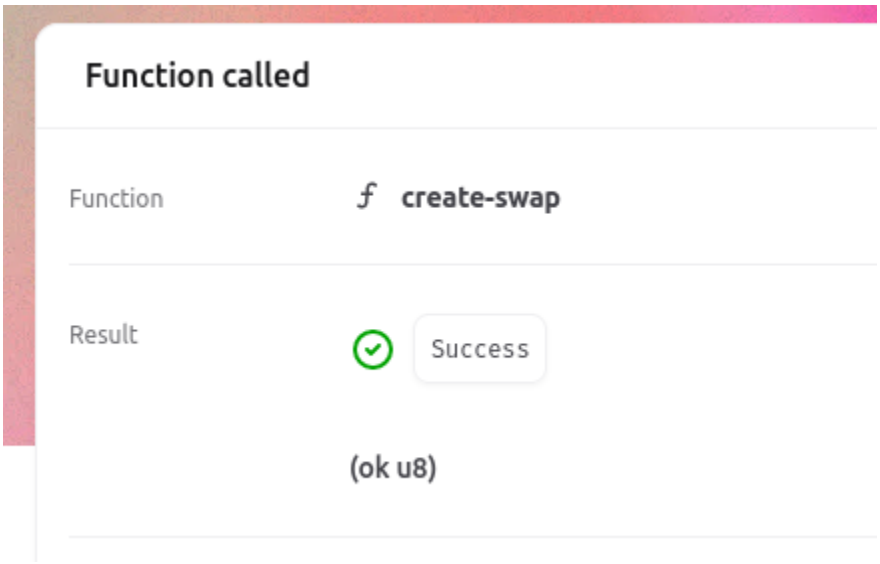
After the clicking on “Buy FT”, the Hiro Wallet will popup and ask the buyer to confirm the tx.



If you as a seller want to buy from a particular user, you can enter the stx address or the username of the user in the optional seller field.

Swap ID

The transaction result contains the **swap id** that must be shared with the seller. The transaction result looks something like this:



The details of the swap with id *8* can then be found at https://catamaranswaps.org/stx-ft/swap/8. For other swaps, just replace the id at the end of the link.

2.1.2 Finalize Swap

The seller of the FT have to confirm the swap conditions

2.2 STX - MIA

Follow the steps of any fungible token. For the links to a swap, you can use `stx-mia` instead of the `stx-ft`.

2.3 STX - FARI

Follow the steps of any fungible token. The token identifier is prefilled if used `stx-fari` instead of the `stx-ft`. The start url is https://catamaranswaps.org/stx-fari.

Example of a completed swap: https://catamaranswaps.org/stx-fari/swap/15.

2.4 STX - NYCC

Follow the steps of any fungible token using the follwoing url:

https://www.catamaranswaps.org/stx-ft/SP2H8PY27SEZ03MWRKS5XABZYQN17ETGQS3527SA5.newyorkcitycoin-token::newyorkcitycoin.

Example of a completed swap: https://catamaranswaps.org/stx-ft/swap/77.

2.5 Smart Contract

The smart contract was deployed at stx-ft-swap-v1 by SP2PABAF9FTAJYNFZH93XENAJ8FVY99RRM50D2JG9.

The fee contracts are

- STX fees: stx-ft-swap-v1-fixed-fees by SP2PABAF9FTAJYNFZH93XENAJ8FVY99RRM50D2JG9
- FRIE fees: stx-ft-swap-v1-fixed-frie-fees by SP2PABAF9FTAJYNFZH93XENAJ8FVY99RRM50D2JG9

CHAPTER

THREE

FREQUENTLY ASKED QUESTIONS

3.1 What can go wrong with catamaran swaps (BTC - STX)?

With Stacks 2.0x, it can happen that Bitcoin transactions can't be verified on the Stacks blockchain due to so-called flash blocks. These Bitcoin blocks were not mined by Stacks miners and they are not visible to the Stacks blockchain. This changes with Stacks 2.1. Therefore, only use these swaps with users that you trust to resolve such a case off-chain.

3.2 What can go wrong with atomic swaps?

- When creating the swap, you could enter the wrong token, you could enter the wrong amount, the UI could calculate the smallest unit of tokens incorrectly. **Check all details when signing the transaction!**
- When finalizing the swap, you could have used the wrong swap id. **Check all details when signing the transaction!**

The swap can be canceled after 100 blocks. Therefore, make sure that the swap is finalized before. Use a suitable fee.

3.3 Where can I get FRIE tokens to pay fees?

FRIE tokens can be minted at a price of 1 STX = 1 FRIE. The token contract can be found e.g. at Stacks explorer (friedger.btc.friedger-token-v1). All minting fees go to friedger.btc.

Currently, there is no UI to mint FRIE tokens. Some tokens were distributed as a bonus by Friedger Pool during cycle #16.

3.4 Where can I find more details about the used smart contracts?

The smart contracts are open source and contains several tests. You find the git repo at github.com/friedger/clarity-catamaranswaps.

3.5 What was the first swap?

Read about the first swap of an NFT on Stacks for Bitcoins here.

CHAPTER

FOUR

TERMS AND CONDITIONS

This documentation provides a short overview of the web application hosted at catamaranswaps.org.

Users of this documentation agree that this documentation is for information purpose only. It is not an endorsement of any digital assets or cryptocurrencies. Users must not take this documentation as financial advise.

The documentation might be inaccurate or out-dated.

Users are encourage to contribute to the documentation.

The documentation can be used free of charge.

CHAPTER

FIVE

FEATURES

catamaranswaps.org provides a web interface to two types of trustless swaps:

- *Catamaran Swaps* between the bitcoin network and the stacks network.
- *Atomic Swaps* between assets only on the stacks network.

Swaps can be canceled after 100 blocks.

Users are required to have the Hiro Wallet web extension installed.

CHAPTER

SIX

FIND A SWAPPING PARTNER

The web application does not provide any tools to find a partner to swap assets, nor does it help to determine a price.

CHAPTER

SEVEN

NAMING

Swaps between Bitcoin and Stacks are called *Catamaran Swaps* because - unlike Submarine Swap - the two parts happen on-chain/above water, just on two different chains.