

X-Swap

Revision History

Date	Contents	Author
2020.03.07	First version	Snow
2020.03.11	Revision	Snow

Summary

X-Swap is designed to facilitate bi-directional swaps of stablecoin including USDx / USDT / USDC / TUSD / DAI / PAX, and etc. The administrator maintains exchange rate and a small amount of fee will be charged to each transaction. Stablecoin reserves will be supplied to Lendf.Me (lending protocol of dForce Network) for interest-generation.

Glossary

- Stablecoin: *Tokens pegged to cryptocurrency, fiat money, or to exchange-traded commodities, including but not restricted to, USDx / USDT / USDC, and etc.*
- Exchange: *Trading pairs available on X-Swap, with pre-determined exchange rate and service fees.*
- Lendf.Me: *A decentralized money market protocol and an ecosystem project of dForce Network, with stablecoin saving and lending capabilities.*

Swap

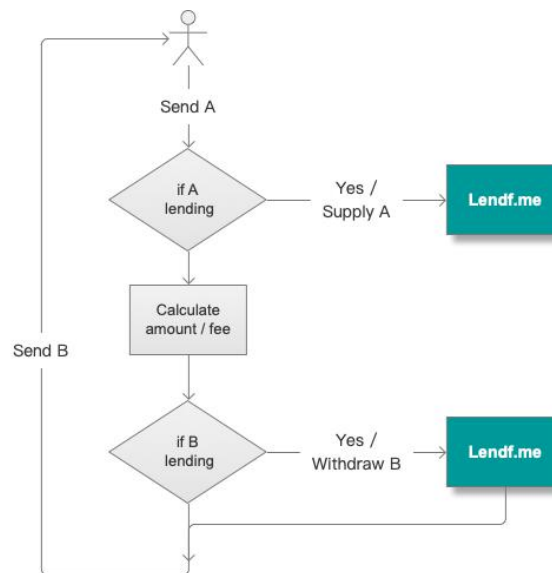
User deposits one type of stablecoin supported by X-Swap, into the contract in exchange for another type of stablecoin. The contract will perform an automatic calculation based on pre-determined exchange rate, as well as associated service fees. Let's assume A & B are two different types of stablecoins involved in such an exchange, with four scenarios described as follow:

- a) Both A & B have been supplied for yielding to Lendf.Me: User deposits amount x of A into the contract of X-Swap, the contract will automatically supply amount x of A into Lendf.Me and withdraw corresponding amount of B from Lendf.Me to complete the

trade with the user.

- b) Only A has been lent-out to Lendf.Me, while B is not: User deposits amount x of A into the contract of X-Swap, the contract will automatically supply amount x of A into Lendf.Me and send corresponding amount of B to the user to complete the trade.
- c) A is not, while B, on the contrary, has been lent-out to Lendf.Me: User deposits amount x of A into the contract of X-Swap, the contract will automatically withdraw corresponding amount of B from Lendf.Me to complete the trade with the user.
- d) Both A and B are not lent-out: User deposits amount x of A into the contract of X-Swap, the contract will send corresponding amount of B to the user to complete the trade.

(P.S.: User should expect a small variation in amount of B received due to exchange rate and service fee associated).



flow chart

Functions

- **For Users**

- a) Stablecoin Swap

- i. User must accept a one-off approving for tokens to be traded for the first time.
- ii. User sends amount x of token A into the contract by calling function 'trade', and then pick another type of token to receive.
- iii. User gets amount y of token B, and should expect a small variation in amount compared to token A, due to exchange rate and service fee associated.

- **For Admin**

- a) Create Exchange

- i. Exchange refers to a trading pair between two different types of stablecoins.
 - ii. Set exchange rate between token A and token B, which employs an 18-digit precision, for example, 1,001,000,000,000,000,000 represents an exchange from 1 A for 1.001 B.
 - iii. Set service fee at an 18-digit precision, for example, 1,000,000,000,000,000 represents an exchange fee of 0.1%.

- b) Set Fee

- i. Update of exchange fees for trading pairs.

- c) Set Rate

- i. Update of exchange rate for trading pairs.

- d) Enable/Disable Lending

- i. Enable or disable stablecoin for lending.
 - ii. Upon enabling, all balances of the designated stablecoin will be supplied from X-Swap contract to Lendf.Me.
 - iii. Upon disabling, all balances of the designated stablecoin will be withdrew from Lendf.Me to X-Swap contract.

- e) Stop/Start

- i. Stop or start the trading function.

- f) TransferIn

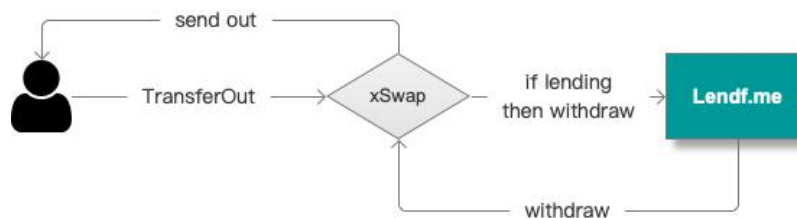
- i. User supplies some stablecoins to the contract of X-Swap as liquidity reserves.
 - ii. All balances of stablecoin reserves (applicable to types integrated by Lendf.Me)

will be supplied to the contract of Lendf.Me to earn yield.



g) TransferOut

- i. In the event stablecoin supplied to X-Swap as reserve has also been integrated by Lendf.Me, then withdraw the requested amount by user from Lendf.Me first.
- ii. Send the requested amount of stablecoin to the user.
- iii. Withdrawal of remaining balances supported.



Prototype

- User Interface



[Connect Wallet](#)

Metamask
CoinBase Wallet

balance: 12333.456

USDx

2000



2000

USDT

1 USDx = 1.001 USDT

exchange fee: 0.1%

Send : 1000 USDx,
exchange rate: 1000 USDx = 1001 USDT,
exchange fee: 1.001 USDT,
will receive: 999.999 USDT.

SWAP/ENABLE

- Admin Interface



Connect Wallet

Balance

Assets	USDx	USDT	USDC	PAX
Balance	12,678.98	76,543.77	55438.00	55438.00
Lending	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Exchanges

Exchange	fRate	bRate	Fee			
USDx/USDT	1.001	0.999	0.1%	SetRate	SetFee	Close
USDT/USDC	0.998	1.002	0.2%	SetRate	SetFee	Close
USDx/USDC	1.000	1.000	0%	SetRate	SetFee	Close

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Create Exchange

fToken	bToken	fRate	bRate	Fee	
USDx	USDT	1.001	0.999	0.001	ADD EXCHANGE

Transfer

USDx

wallet:790

123.4567

TRANSFER IN

USDx

123.4567 MAX

TRANSFER OUT

Emergency

Start/Stop xSwap