

Loopring is a protocol for building decentralized token exchange capabilities.

The project provides the protocol needed to create decentralized exchanges or for integration into other blockchain applications that may need to manage multiple tokens. Loopring uses a combination of off-chain order messaging and on-chain transactions to ensure users maintain custody of their tokens. Because the protocol is not blockchain specific it can be used across multiple platforms.

Project Overview

Name	Loopring Protocol
Issuer	Loopring Foundation
Category	Utility token
Sector	Decentralized exchange
Sale Start	08/01/2017
Sale End	08/16/2017

Token Overview

Name	Loopring
Symbol	LRC
Type	ERC20 token
Initial Distribution	697,538,027
Current Supply	572,074,043
Max Supply	1,395,076,054
Emission Type	Fixed

Resource Links

- [Website](#)
- [Twitter](#)
- [Telegram](#)
- [GitHub](#)
- [Medium](#)
- [Whitepaper](#)

Project Background

Loopring is an open protocol for decentralized token exchange. Like other decentralized exchange (DEX) protocols, its primary objectives include reducing user reliance on centralized exchanges or other trusted third parties, and enabling global liquid markets. Loopring protocol pursues this by incentivizing ecosystem participants to perform exchange functions in a decentralized manner, with trades processed by non-custodial smart contracts. The protocol can be utilized to build DEXs, or integrated by any DApp that incorporates token exchange functionality.

Although blockchains inherently provide trustless trading, there are problems with building exchanges purely on-chain. Specifically, processing speed, throughput, and computation costs. Performing all exchange steps on-chain can be prohibitively expensive, or impossible to emulate centralized exchange speed and performance. For these reasons, Loopring, operates a hybrid model with off-chain order management and communication and on-chain transaction and settlement. The team hopes this will optimize for performance and flexibility of orders, while executing the critical settlement step on-chain in public smart contracts. This is similar to other DEX protocols, such as 0x, but Loopring offers some novel solutions, such as order-rings, and dual-authoring.

Instead of having to deposit tokens on a centralized exchange, users maintain control of their funds and trade directly from wallets. Loopring is blockchain agnostic and plans to operate on all feasible large public blockchains with smart contract capability. Their approach is to modify the Loopring protocol to fit specifically on top of public chains and allow their respective native token standards to be traded. Loopring was first deployed on Ethereum to trade ERC20 tokens, and uses its LRC token to operate. It has also adapted to deploy on top of NEO (LRN), and on top of QTUM (LRQ). These tokens are used as payment to incentivize ecosystem participants, like miners and wallet providers, to operate the network.

Technology

Loopring structures trade orders in what is called a uni-directional order model (UDOM). In this format, trades are formatted as “exchange requests”, where there is no price a common currency, but instead an exchange of tokens. For example a quote could be presented as amount X of token one for amount y of token two.

Using this structure Loopring is able to create an order-ring matching system that allows disparate trading pairs to be stitched together in circular trade. Orders can be mixed across assets without needing to directly find an order for the same pair. This can remove the need to use common base pairs like bitcoin or ether while potentially increasing the liquidity as the set of potential counterparties is expanded. Up to 16 orders can be included in such an order-ring.

The overall network is formed by wallets, a relay-mesh blockchain, relays and ring-miners, smart contracts, and asset tokenization services. Each of these actors performs a separate function of the exchange process, and are incentivized to do so by receiving the utility token, LRC.

The exchange process is as follows: 1) Users initiate an exchange order from their own wallets which have the Loopring protocol implemented (i.e. the ability to send compliant orders to the network). 2) The order is sent to a mesh network of relays. 3) relays update their order books and communicate with each other to match orders. 4) Ring-miners run matching algorithms to produce order-rings and submit them to the smart contract for execution. 5) Loopring protocol smart contracts execute the trade atomically, swap the traders’ tokens, and pay fees to wallets and relayers for their services.

Another technology offered by Loopring aims to solve the issue of possible front running. Front running in decentralized exchanges happens when someone (normal user or miner) sees a pending exchange transaction in the underlying blockchain’s mempool, and tries to ‘get in front’ of it by creating their own equivalent order with a higher gas fee. Through a technology called Dual-Authoring, Loopring structures orders with a second set of signatures, producing unique hashes, and making certain that single orders and full order-rings cannot be stolen.

By building the protocol and distinct tokens on each chain, Loopring allows for the respective native blockchain-based assets to be traded freely and trustlessly. This approach is in contrast to other DEX protocols that are not actively deploying

on multiple chains, or rely or plan on relying on cross-chain atomic swaps. Loopring offers ecosystem participants flexibility in how they choose to operate in their roles. Relays can structure their order book however they see fit, can communicate with whichever other relays they choose (or none), and can interact with wallets in novel ways. As such, Loopring wants to allow network members to operate the best and most profitable ‘business models’ to please users.

Distribution

In Aug. 2017, Loopring held a public token sale in which it offered 50% of the total token supply. Offering 697.5 million Loopring (LRC) tokens, they raised 120,014 ether (ETH). There were 12,921 incoming transactions from 1,287 unique addresses. The minimum sale amount was 50,000 ETH, and the price per LRC token increased gradually throughout the 2 week raise from 7,000 LRC per ETH to 5,000 LRC per ETH. There was no pre-sale. However, institutional investors did take part in the public sale. The breakdown from institutions was 1,000 ETH from NEO Council, 1,000 ETH from Xinghe Capital, 500 ETH from ChainFunder, 500 ETH From Qtum. In total, the project received 8771.45 ETH from larger investors known to them, with the rest being from anonymous participants.

Of the total supply, 30% of tokens were allocated to the Loopring Foundation, with 20% earmarked for the founding team members subject to a 2 year lock-up period. After 2 years, the tokens vest monthly over a 2 year period (1/24 monthly). The remaining 10% of the Foundation’s tokens are used to pay fees to contractors, auditors, exchanges, etc. 3.2% will also be vested into the Loopring Ecosystem Advancement Fund (LEAF). A total of 21.1 million LRC tokens have been burned. LEAF has been set up to reward community contributors and developers. Currently, LEAF holds 16.8% of LRC tokens, and with the above mentioned 3.2% incoming from the Foundation, will hold 20% of token supply. It has already started paying community members for technical and non-technical contributions.

After the token sale, Loopring offered investors the chance to lockup their LRC in two smart contracts to receive interest (~%5) at a later date: the mid-term incentive contract (6-9 months) and the long-term incentive contract (18-36 months). The mid-term is already unlocked and the long-term contract holds 115.3 million LRC that will unlock in March 2019, and be withdrawn over 18 months from that point.

Team

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Additional Resources

- [Loopring Airdrop](#)
- [Loopring Order Model](#)
- [Loopring Fund Announcement](#)

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