

The Flyt token blue paper

A brief overview of the underpinning functionality and technology



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Introduction

The Flyt Token (FLYT)

The Flyt token allows for seamless digital transfer of shares in the Flyt Hospitality Fund (The Fund) in a way that a) fully complies with legislation and b) avoids the cumbersome manual processes used by other funds.

The token, together with the address (wallet) holding it, constitute the record of a share delivery instruction stored in a trustless database that takes the form of a distributed ledger. In the case of a transfer, sending a token from one address to another instructs administrators to credit the receiving address-holder with a share in the securities register of The Fund, and to debit the sending address-holder. Address-holders are uniquely identified when they submit their address with accompanying [FICA](#) documents to The Fund for verification via the digital portal. The network would automatically and trustlessly reject all transfers to unverified addresses.

The Flyt Hospitality Fund is the first Financial Services Provider license-holder to leverage Distributed Ledger Technology for the benefit of investors who opt-in for token issuance. These investors gain direct and verifiable control over their stake in The Fund, simplifying their experience and eliminating many time-consuming manual processes.

The Flyt token is an [ERC-20](#) compatible token on the Ethereum public blockchain, following the [T-REX](#) (Token for Regulated EXchange) standard. This standard introduces a multitude of sophisticated components that ensure that any instructions delivered to The Fund are necessarily compliant.

Investors may personally verify that all compliance protocols were followed and that the instruction to deliver shares was received simply by observing the existence of the token in their address. Further, the control granted by the token will allow for the ultimate redemption or transfer of shares via automated digital interaction within the blockchain ecosystem.

How FLYT is different from other tokens

Many ERC-20 compatible tokens exist on the Ethereum blockchain. Their technical specifications, functionality and associated jargon may invite misunderstanding in terms of their similarities to the Flyt token.

To address this issue we characterise the core difference between the Flyt token and the majority of other ERC-20 compatible tokens as that of permissioning. This is illustrated by two main points:

1. The Flyt token only allows compliant transfers, whereas most standard ERC-20 tokens are freely transferable to any Ethereum address.

2. The Flyt token may be burnt (destroyed) by The Fund administrators at the request of the investor. *If an address-holder loses their private key for example, they may request the token be burnt and reissued to a new address, after the required identity verifications. All actions would be recorded in the distributed ledger to ensure enduring transparency.*

Automatically enforced compliance

The importance of compliance

Ensuring compliance in the context of utilising technology to improve the experiences of investors means ensuring that rules are still observed while new or different practises are adopted. These rules are often written over long periods of time and derived from hard experience. They exist to facilitate the proper functioning of the financial economy and more importantly to protect investors from entities that will, given the opportunity, misuse and misappropriate their funds.

Emerging technology in financial markets should therefore always seek to support and enforce compliance in ever more secure ways. The Flyt token, together with its supporting components and infrastructure, does exactly this by digitally constructing the compliance process. By design, the steps necessary to issue or transfer a token are exactly those of the compliance process, guaranteeing that nothing can be missed or bypassed. This has the added benefit of making audits or scrutiny by a regulator significantly easier for both The Fund and the auditor or regulator.

Trust through transparency

Supporting infrastructure, that is transparent in design, is necessary to build an ecosystem that facilitates financial interaction. True transparency can only be achieved through the use of a secure, decentralized and publicly accessible network like Ethereum.

The creation, transfer or destruction of a Flyt token occurs when specific, publicly stated criteria are met. These token transactions as well as the transactions concerning supporting components, like OnChainID, are available for all to scrutinise on the network and can never be hidden nor amended.

An important additional point in this context is that the personal information of investors collected for the purposes of associating addresses is securely stored and never revealed, rendering token and supporting transactions anonymous to all but The Fund and the address-holder.

To the outside, all addresses and transactions are visible but pseudonymous as they are not coupled with personal identity or off-chain transactions, only administrators are able to decrypt the connections.

Building blocks

Blockchain

Distributed ledger technology (DLT) is based on underlying protocols that function similarly to the internet with regard to administration as there is no single entity that controls the network. DLT has solved the double-spend problem that is found in computer science, a problem that until recently has prohibited the internet from being used as a mechanism to create and transfer digitally native assets.

DLT, as the name suggests, is merely a mechanism that allows users to create trustless databases due to the decentralised design of how data is stored and altered.

Turing complete blockchain

The best known implementation of DLT is the Bitcoin network, a peer-to-peer payment network that is used to transact bitcoins - the native currency of the network. This implementation is often referred to as a first-generation blockchain, a system that does not allow for conditional and programmable interaction. Take note that blockchains are an implementation of DLT.

Even though DLT is a relatively new technology it has seen considerable development over the last decade. The materialization of second generation protocols has granted extensive opportunities. This is due to these networks becoming Turing complete and allowing for 'smart contracts' to be deployed to the network; contracts that allow for the creation and management of digital assets.

Through these developments DLT has evolved from a decentralized ledger to a decentralized machine that could host applications and thus build a decentralized economy. The addition of a programmable layer to the technology stack has attracted considerable interest from software engineers and developers, as they are now able to deploy complex decentralized applications, but also to incorporate the technology and network into existing software that requires transparency or trustless interaction

The generalised public blockchain

A generalised public blockchain is a protocol that is geared to host any application and is not limited through specialization.

It has become apparent over the last few years that the majority of project developers within the DLT industry prefer developing on the Ethereum blockchain. Ethereum is not without critique as various technology experts argue that the network does not scale properly to support all services and applications that are expected within the next generation of the internet, Web 3.0. However, the network has proven to accommodate most applications that do not require high-throughput. It is expected that the network would function as the generalized public blockchain that interoperates with

various specialized networks. The basis of design for any DLT protocol is one that considers a tradeoff between security, decentralization and scalability, and the Ethereum protocol is balanced between all three.

Ethereum Enterprise Alliance

The Enterprise Ethereum Alliance (EEA) is a member-driven standards organization whose charter is to develop open blockchain specifications that drive harmonization and interoperability for businesses and consumers worldwide.

The organization has grown considerably since the launch of the Ethereum protocol and includes global corporations along with technical, industry and legal advisory groups. Industry leaders such as Intel, Microsoft, Accenture, JPMorgan and Santander have all joined the EEA board.

Specifications provide open standards for developing large-scale, interoperable blockchain implementations.

From ERC-20 to the T-REX token standard

Token standards

Tokens are essentially assets that are generated by smart contracts, and token standards define how these contracts are coded. The [ERC-20](#) standard, for example, contains six functions that define how tokens are transferred and how data about the tokens can be accessed. When a large group of token issuers agree to adopt specific standards, tools can be built that will work for all of those tokens.

Being ERC-20 compatible means that the standard functions are implemented such that the token will work with existing tools, but the compatible token may also implement additional features that give it enhanced functionality. This is the case with the [T-REX](#) token standard.

The Flyt token is ERC-20 compatible, allowing existing tools like [Metamask](#) to be used to hold or interact with it. *Remember, the Flyt token allows one to deliver instructions to The Fund, and it is overseen by The Fund. If you lose access to your Metamask account, for example, The Fund can re-issue your Flyt tokens.*

Identity (OnchainID)

Identity is a key component on which the Flyt token relies. Legal ownership of a share in the Fund is defined by the identity entered into the securities register, and no issuance or transfer can be made without a registered receiving identity.

[OnchainID](#) is a smart contract, based on the ERC-734 and ERC-735 standards, that is deployed to manage identity and claims associated with that identity. Claims are issued

by third parties (in this case The Fund), and are essentially certificates that prove the identity has passed certain checks. For example, claims verify KYC status (identity known or not), which is required for issuance of the Flyt token.

OnchainID is, however, independent of the Flyt token. The identity, which is owned by the investor, can be used for storing any claims. It can facilitate the receiving of any token compatible with the T-REX standard.

Addresses

Ethereum addresses are unique alphanumerics, for example: *0xc02aaa39b223fe8d0a0e5c4f27ead9083c756cc2*

This is the public key in [public-key cryptography](#) (asymmetric key pair), where the private key is kept secret and used to sign transactions.

For practical purposes, addresses can be thought of as wallets (though wallets are more technically pieces of software that can hold multiple public and private keys).

The address can “hold” tokens, and also interact with smart contracts. It is under an address that the Flyt token will reside, and that address will be associated with the investor’s OnchainID in an identity registry. Only an investor with access (private key, stored in Metamask for example) to the address (public key) would have the ability to submit transactions.

The validator service

The validator is a collection of smart contracts that work together when a transfer of the Flyt token is initiated. The validator’s role is to ‘validate’ whether the initiated transfer is compliant. If all required checks are passed, the transfer is allowed to proceed. If not, the transaction will fail and an error report will be delivered.

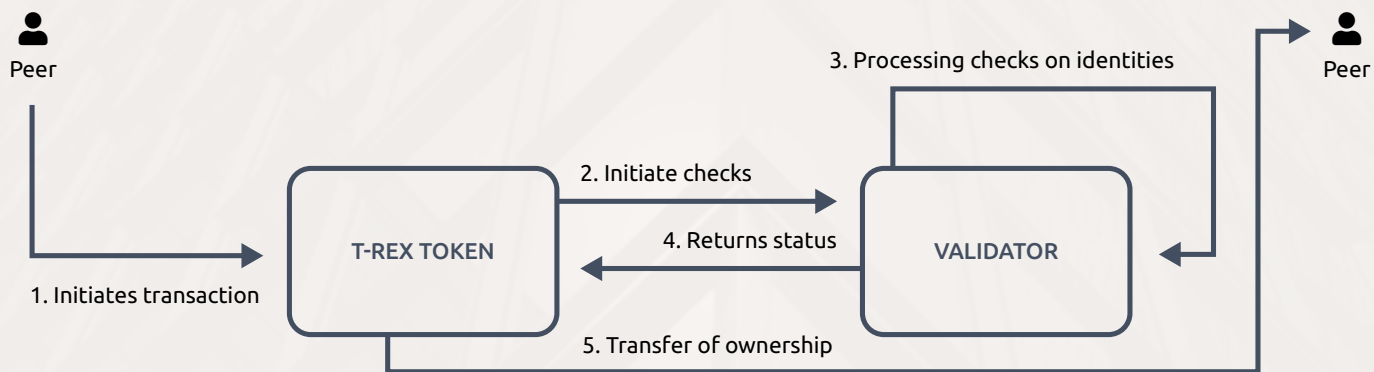


Fig. 1 Illustration of a T-REX permitted token transaction