Onboarding Module

Thex/onboarding module is a custom Canto module that automatically swaps a small amount of bridged IBC tokens for CANTO, and converts the remaining IBC tokens into their corresponding ERC20 tokens on the Canto EVM.

It was proposed inCPIP-002 in order to improve the Canto onboarding UX from Ethereum, and later implemented inCanto v7.0.0 .

Overview

Thex/onboarding module consists of two components, which are both executed in theKeeper.OnRecvPacket callback:

- Theswap
- component checks the recipient's CANTO balance on the Canto EVM, and automatically swaps a a small amount of bridged IBC tokens for CANTO if it is below the governance-controlled threshold (AutoSwapThreshold
-).
- Theconvert
- component automatically converts the remaining bridged IBC tokens into their corresponding ERC20 tokens on the Canto EVM.
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The behavior of the module is non-atomic, meaning that IBC transfers are still processed even if one or both of the components fail.

Swap

The swap component is a fork of IRISNET'sCoinswap module v1.6 , an AMM. Changes in the forked implementation include:

- Only token pairs on the whitelist can be created as a pool.
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  - Pool creation fails if the token pair is not on the whitelist.
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  - Initial whitelist:Canto/USDC.grv
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  - ,Canto/USDT.grv
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  - ,Canto/ETH.grv
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- There is a limit on the number of CANTO tokens for each pool.
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  - Deposits will fail if the amount of CANTO for the pool exceeds 10,000 Canto.
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- Double swaps are disabled.
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For risk management purposes, a swap will fail if the input coin amount exceeds a pre-defined limit (10 USDC, 10 USDT, 0.01 ETH) or if the swap amount limit is not defined.

Convert

The convert component auto-converts the bridged IBC token into an ERC20 token on the Canto EVM, as in theEvmos implementation of this feature.

Governance Parameters

The module has three parameters which are controlled by governance:

- EnableOnboarding
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- Enables or disables the module (default value:true
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- AutoSwapThreshold
- :
- The threshold balance of CANTO below which the swap component is triggered (default value:4 canto
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- WhitelistedChannels
- :
- The list of IBC channels the module is enabled for. (default value:["channel-0"]

- – Gravity Bridge)
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Last updated3 months ago On this page *Overview * Swap * Convert * Governance Parameters