Noble Cosmos Module

Cosmos SDK Module for CCTP on Noble

Overview

Noble is a Cosmos application-specific blockchain (or "appchain") that provides native asset issuance for the Cosmos ecosystem. USDC is natively issued on Noble and can be transferred via the Inter-Blockchain Communication Protocol (IBC) to other supported appchains in Cosmos, or via CCTP to any supported domain (e.g. Ethereum).

Note that there are key differences between Cosmos appchains like Noble and EVM-compatible blockchains. Unlike on EVM chains where CCTP is a set of smart contracts, CCTP on Noble is a Cosmos SDK module, which is deployed by Noble governance and built into the Noble blockchain. Cosmos appchains can use IBC to build composable flows with CCTP on Noble.

Testnet and Mainnet Module Address

Chain [Domain](#) Address Noble 4 noble12l2w4ugfz4m6dd73yysz477jszqnfughxvkss5 CCTP on Noble source code is available at https://github.com/circlefin/noble-cctp . The full message spec is defined at [noble-cctp/x/cctp/spec/02_messages.md](#) . The interface below serves as a reference for permissionless messaging functions exposed by the module.

Module Interface

depositForBurn

Message : MsgDepositForBurn

Broadcast a transaction that deposits for burn to a provided domain.

Arguments :

- Amount
  -
    - The burn amount
- DestinationDomain
  -
    - Domain of destination chain
- MintRecipient
  -
    - address receiving minted tokens on destination chain as a 32 length byte array
- BurnToken
  -
    - The burn token address on source domain

depositForBurnWithCaller

Message : MsgDepositForBurnWithCaller

Broadcast a transaction that deposits for burn with caller to a provided domain.

This message wraps MsgDepositForBurn . It adds one extra argument, destinationCaller .

Arguments :

- Amount
  -
    - The burn amount
- DestinationDomain
  -
    - Domain of destination chain
- MintRecipient
  -
    - address receiving minted tokens on destination chain as a 32 length byte array
- BurnToken
  -
    - The burn token address on source domain

- DestinationCaller
  - authorized caller as 32 length byte array of receiveMessage() on destination domain

replaceDepositForBurn

Message : MsgReplaceDepositForBurn

Broadcast a transaction that replaces a deposit for burn message. Replace the mint recipient and/or destination caller.

Allows the sender of a previous BurnMessage (created by depositForBurn or depositForBurnWithCaller) to send a new BurnMessage to replace the original. The new BurnMessage will reuse the amount and burn token of the original without requiring a new deposit.

Arguments :

- OriginalMessage
  - original message bytes to replace
- OriginalAttestation
  - attestation bytes of
- OriginalMessage
- NewDestinationCaller
  - the new destination caller, which may be the
- same as the original destination caller, a new destination caller, or an empty
- destination caller, indicating that any destination caller is valid.
- NewMintRecipient
  - the new mint recipient. May be the same as the
- original mint recipient, or different.

receiveMessage

Message : MsgReceiveMessage

Broadcast a transaction that receives a provided message from another domain. After validation, it performs a mint.

Arguments :

- message
- Message Format
- attestation
  - Concatenated 65-byte signature(s) of
- message
- , in increasing order
- of the attester address recovered from signatures.

sendMessage

Message : MsgSendMessage

Broadcast a transaction that sends a message to a provided domain.

Arguments :

- DestinationDomain
  - Domain of destination chain
- Recipient
  - Address of message recipient on destination chain
- MessageBody
  - Raw bytes content of message

sendMessageWithCaller

Message : MsgSendMessageWithCaller

Broadcast a transaction that sends a message with a caller to a provided domain.

Specifying a Destination caller requires that only the specified caller can call receiveMessage() on destination domain.

This message wraps SendMessage It adds one extra argument, DestinationCaller .

Arguments :

- DestinationDomain
-
  - Domain of destination chain
- Recipient
-
  - Address of message recipient on destination chain
- MessageBody
-
  - Raw bytes content of message
- DestinationCaller
-
  - caller on the destination domain, as 32 length byte array

replaceMessage

Message : MsgReplaceMessage

Broadcast a transaction that replaces a provided message. Replace the message body and/or destination caller.

Arguments :

- OriginalMessage
-
  - original message bytes to replace
- OriginalAttestation
-
  - attestation bytes of
- OriginalMessage
- NewMessageBody
-
  - new message body of replaced message
- NewDestinationCaller
-
  - the new destination caller, which may be the same as the original destination caller, a new destination caller, or an empty destination caller, indicating that any destination caller is valid. Updated3 months ago