Wanchain cross-chain SDK (ETH)

- **`cross_send`**
  - `sendTransaction.js`: This class can create/send normal/lock/refund/revoke requests.
- **`dbDefine`**
  - `crossTransDefind.js`: The db schema for `norTransaction` and `crossTransaction`.
- **`wanchaindb`**: The wanchain-db operation library.
- **`wanchainsender`**
  - `sendGroup`
    - `SendFromSocket.js`: Send request to API server through socket.
    - `SendFromWeb3.js`: Send request to web3 Ipc.
  - `webSocket`
    - `socketmessage.js`: The socketmessage class which handles socket response.
    - `socketServer.js`: The socketServer class initialized with socket URL.
- **`wanchaintrans`**
  - `contract`: `IContract` is one Class handle interface of contract.
  - `cross_contract`: The Class `hashContract` extends `IContract`, initialized with `wan_crosschain_contract abi`. X and hashX will be generated through here.
  - `cross_transactions`: The folder included superclass `hashXSend` and subclass of ETH and WAN which handle the contract request send.
  - `interface`: This folder includes the amount and `RawTransaction` interface.
  - `web3`: To initialize the web3.
- **`webSocket`**
  - `messageFactory.js`: Wan_api server request interface.
- **`ccUtil.js`**: The primary Class which initialized with configuration file and include those lock/refund/revoke request operation and event detection.
- **`config.js`**: The configuration file which include contract address/functionname/abi/database configuration, etc.
- **`monitor.js`**: The monitorRecord task will monitor the request and update its status.
- **`walletCore.js`**: The `walletCore` Class will initialize the socket/db and get up an interval task `monitorTask`.

File: ccUtil.js

This file provides the chain data normal API and the cross-chain request API.

async init(cfg,ethsender, wansender,cb){}

Parameters:

- cfg: The configuraion file.
- ethsender: A valid ethSender object.
- wansender: A valid wanSender object.
- cb: Callback function

async createrSender(ChainType, useWeb3=false){}

Parameters:

- ChainType: sender chain type, 'ETH' or 'WAN'
- useWeb3: default false, if use web3 sender, please input true.

Returns:

- return the sender object.

async getEthAccountsInfo(sender) {}

Parameters:

- sender: A valid send object, ethsender

Returns:

- return the whole eth accounts info include balance in the eth keystore path

createEthAddr(keyPassword){}

Parameters:

- keyPassword: The account password

Returns:

- return the new eth account address, and also create the keystore file in the keystorepath in config

async getWanAccountsInfo(sender) {}

Parameters:

- sender: A valid send object, wansender

Returns:

- return the whole wan accounts info include balance in the eth keystore path

createWanAddr(keyPassword) {}

Parameters:

- keyPassword: The account password

Returns:

- return the new wan account address, and also create the keystore file in the keystorepath in config

`createTrans(sender){}`

Parameters:

- sender: A valid send object, ethsender or wansender

Returns:

- return Object - the `sendTransaction`

getEthSmgList(sender) {}

Parameters:

- sender: A valid send object, ethsender

Returns:

- Promise return Object - the storemangroup list

async sendEthHash(sender, tx) {}

Parameters:

- sender: A valid send object, ethsender
- tx: Object request, include those follow keys (from, amount, storemanGroup, cross, gas, gasprice, nonce)

Returns:

- return the txhash of the request

async sendDepositX(sender, from,gas,gasPrice,x, passwd, nonce) {}

Parameters:

- sender: A valid send object, ethsender
- from: An address for the sending account
- gas: The amount of gas to use for the request
- gasPrice: The price of gas for this request in wei
- x: 32 bytes hash, which stand for the unique identification x of each cross request
- passwd: the password of the sending account
- nonce: The number of requests made by the sender prior to this one

Returns:

- return the txhash of the request

async sendEthCancel(sender, from,gas,gasPrice,x, passwd, nonce) {}

Parameters:

- sender: A valid send object, ethsender
- from: An address for the sending account
- gas: The amount of gas to use for the request
- gasPrice: The price of gas for this request in wei
- x: 32 bytes hash, which stand for the unique identification x of each cross request
- passwd: the password of the sending account
- nonce: The number of requests made by the sender prior to this one

Returns:

- return the txhash of the request

async sendWanHash(sender, tx) {}

Parameters:

- sender: A valid send object, wansender
- tx: Object request, include those follow keys (from, amount, storemanGroup, cross, gas, gasprice, nonce)

Returns:

- return the txhash of the request

async sendWanX(sender, from,gas,gasPrice,x, passwd, nonce) {}

Parameters:

- sender: A valid send object, wansender
- from: An address for the sending account
- gas: The amount of gas to use for the request
- gasPrice: The price of gas for this request in wei
- x: 32 bytes hash, which stand for the unique identification x of each cross request
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Returns:

- return the txhash of the request

async sendWanCancel(sender, from,gas,gasPrice,x, passwd,nonce) {}

Parameters:

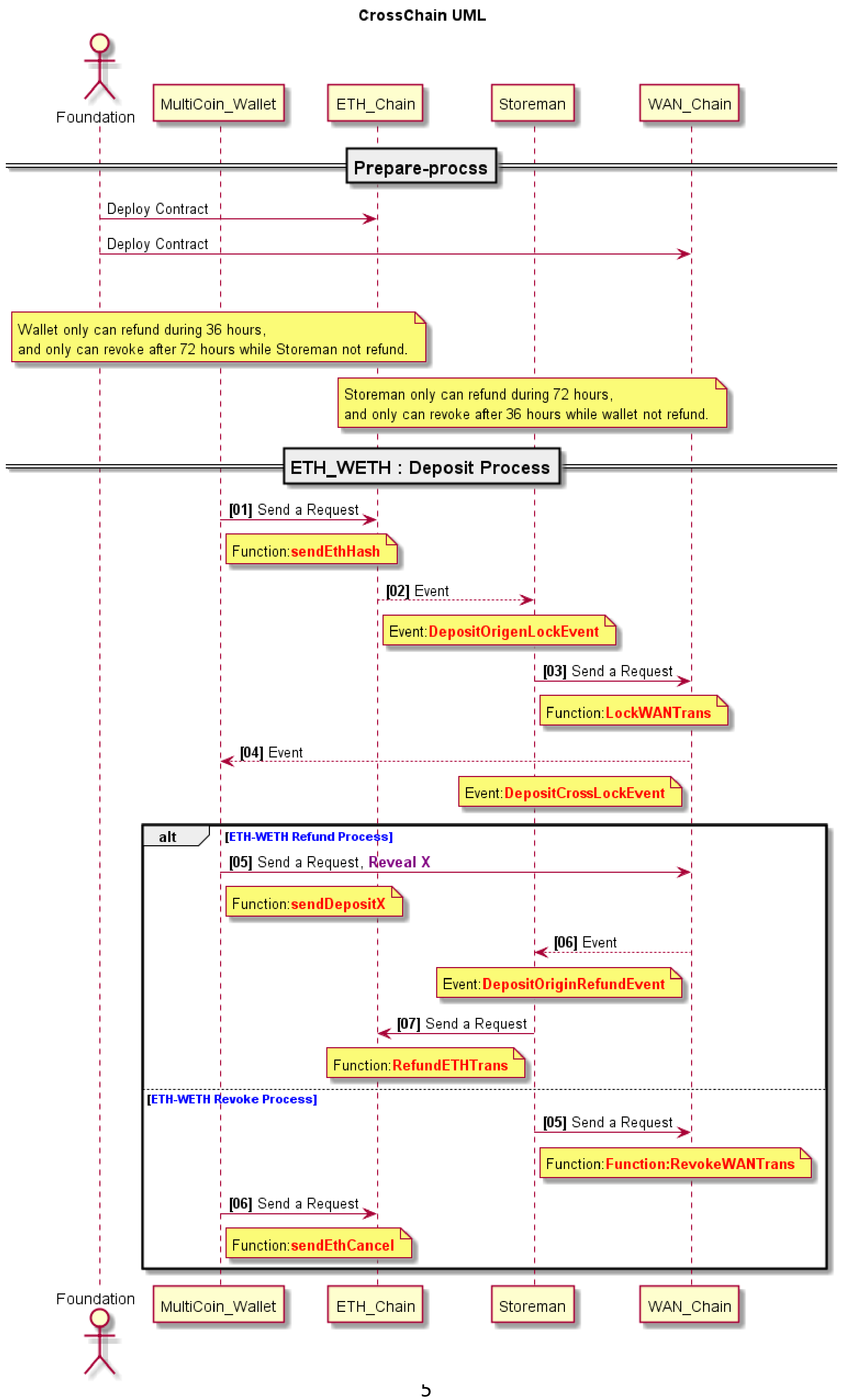
- sender: A valid send object, wansender
- from: An address for the sending account
- gas: The amount of gas to use for the request
- gasPrice: The price of gas for this request in wei
- x: 32 bytes hash, which stand for the unique identification x of each cross request
- passwd: the password of the sending account
- nonce: The number of requests made by the sender prior to this one

Returns:

- return the txhash of the request

There are two request directions, deposit means ETH to WETH, withdraw means WETH to ETH.

Wanchain cross-chain SDK (ETH)


CrossChain UML
Foundation
MultiCoin_Wallet
ETH_Chain
Storeman
WAN_Chain
Prepare-procss
Deploy Contract
Deploy Contract
Wallet only can refund during 36 hours,
and only can revoke after 72 hours while Storeman not refund.
Storeman only can refund during 72 hours,
and only can revoke after 36 hours while wallet not refund.
ETH_WETH : Deposit Process
[01] Send a Request
Function:sendEthHash
[02] Event
Event:DepositOrigenLockEvent
[03] Send a Request
Function:LockWANTrans
[04] Event
Event:DepositCrossLockEvent
alt
[ETH-WETH Refund Process]
[05] Send a Request, Reveal X
Function:sendDepositX
[06] Event
Event:DepositOriginRefundEvent
[07] Send a Request
Function:RefundETHTrans
[ETH-WETH Revoke Process]
[05] Send a Request
Function:Function:RevokeWANTrans
[06] Send a Request
Function:sendEthCancel
Foundation
MultiCoin_Wallet
ETH_Chain
Storeman
WAN_Chain

getDepositOrigenLockEvent(sender, hashX) {}

Parameters:

- sender: A valid send object, ethsender
- hashX: 32 bytes hash of X

Returns:

- Promise return Object - the event log of the original deposit lock request, the deposit lock request is on eth with the direction ETH-WETH

getDepositCrossLockEvent(sender, hashX) {}

Parameters:

- sender: A valid send object, wansender
- hashX: 32 bytes hash of X

Returns:

- Promise return Object - the event log of the cross deposit lock request of storeman, the deposit lock request of storeman is on wan with the direction ETH-WETH

getDepositOriginRefundEvent(sender, hashX) {}

Parameters:

- sender: A valid send object, wansender
- hashX: 32 bytes hash of X

Returns:

- Promise return Object - the event log of the original deposit refund request, the deposit refund request is on wan with the direction ETH-WETH

getDepositRevokeEvent(sender, hashX) {}

Parameters:

- sender: A valid send object, ethsender
- hashX: 32 bytes hash of X

Returns:

- Promise return Object - the event log of the original deposit revoke request, the deposit revoke request is on eth with the direction ETH-WETH

getDepositHTLCLeftLockedTime(sender, hashX){}

Parameters:

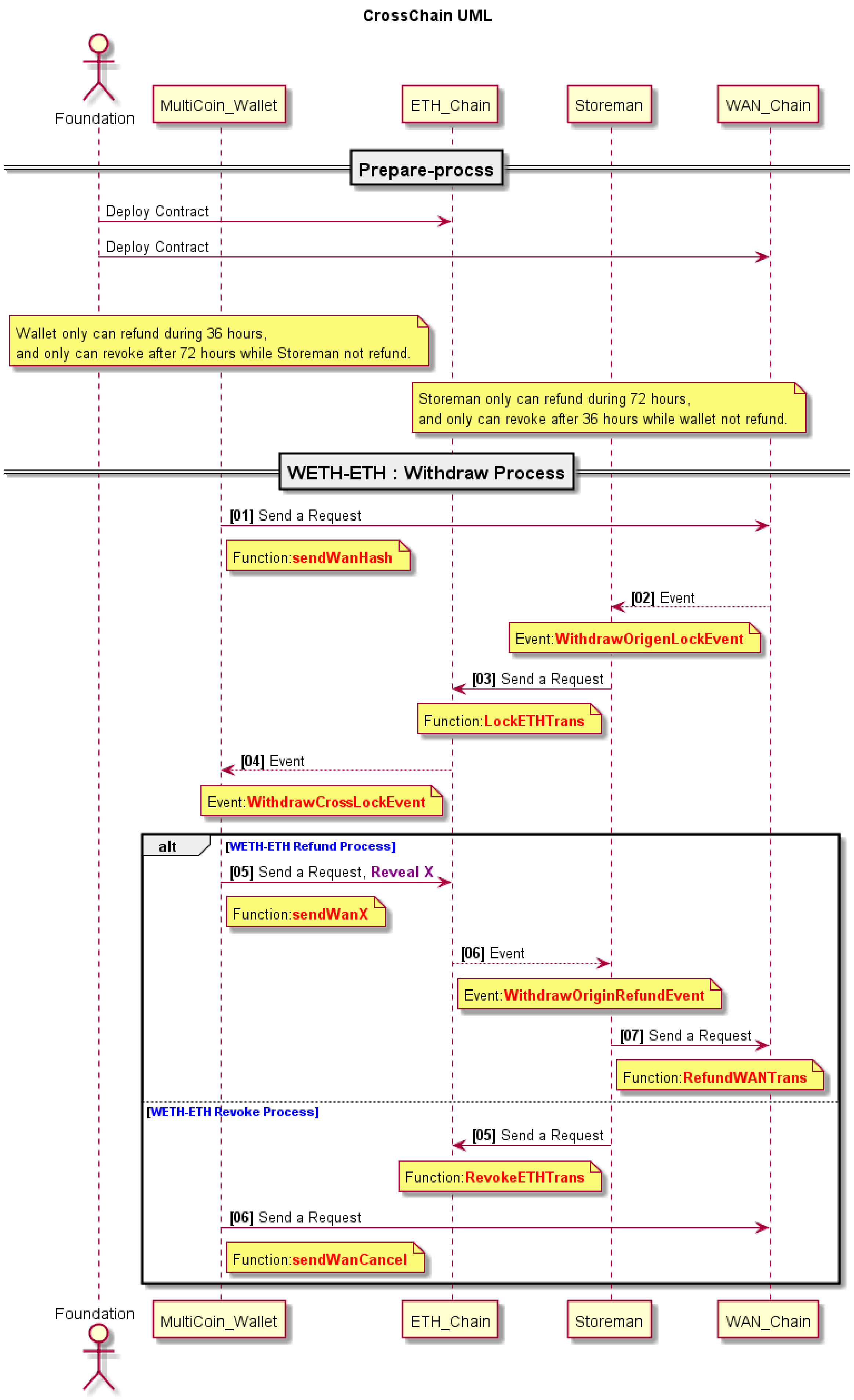
- sender: A valid send object, ethsender or wansender
- hashX: 32 bytes hash of X

Returns:

- Promise return Object - the deposit HTLC left locked time, the unit is second, after this revoke can be done.

  If the sender is ethsender, this time is about the user deposit HTLC left locker time;

  If the sender is wansender, this time is about the storeman deposit HTLC left locker time


CrossChain UML
Foundation
MultiCoin_Wallet
ETH_Chain
Storeman
WAN_Chain
Prepare-procss
Deploy Contract
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Wallet only can refund during 36 hours,
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WETH-ETH : Withdraw Process
[01] Send a Request
Function:sendWanHash
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Event:WithdrawOrigenLockEvent
[03] Send a Request
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Function:RevokeETHTrans
[06] Send a Request
Function:sendWanCancel
Foundation
MultiCoin_Wallet
ETH_Chain
Storeman
WAN_Chain

getWithdrawOrigenLockEvent(sender, hashX) {}

Parameters:

- sender: A valid send object, wansender
- hashX: 32 by
- tes hash of X

Returns:

- Promise return Object - the event log of the original withdraw request, the withdraw request is on wan with the direction WETH-ETH

getWithdrawCrossLockEvent(sender, hashX) {}

Parameters:

- sender: A valid send object, ethsender
- hashX: 32 bytes hash of X

Returns:

- Promise return Object - the event log of the cross withdraw request of storeman, the withdraw request of storeman is on eth with the direction WETH-ETH

getWithdrawOriginRefundEvent(sender, hashX) {}

Parameters:

- sender: A valid send object, ethsender
- hashX: 32 bytes hash of X

Returns:

- Promise return Object - the event log of the original withdraw refund request, the deposit refund request is on eth with the direction WETH-ETH

getWithdrawRevokeEvent(sender, hashX) {}

Parameters:

- sender: A valid send object, wansender
- hashX: 32 bytes hash of X

Returns:

- Promise return Object - the event log of the original withdraw revoke request, the deposit revoke request is on wan with the direction WETH-ETH

getWithdrawHTLCLeftLockedTime(sender, hashX){}

Parameters:

- sender: A valid send object, ethsender or wansender

- hashX: 32 bytes hash of X

Returns:

- Promise return Object - the withdraw HTLC left locked time, the unit is second, after this revoke can be done.

  If the sender is ethsender, this time is about the storeman deposit HTLC left locker time;

  If the sender is wansender, this time is about the user deposit HTLC left locker time

monitorTxConfirm(sender, txhash, waitBlocks) {}

Parameters:

- sender: A valid send object, ethsender or wansender
- txhash: The request hash
- waitBlocks: The wait block number to ensure this request is on chain

Returns:

- Promise return Object - the receipt of the request by this request hash

getEthLockTime(sender){}

Parameters:

- sender: A valid send object, ethsender or wansender

Returns:

- Promise return Object - the definded locker time-slot in cross-chain contract

getEthC2wRatio(sender){}

Parameters:

- sender: A valid send object, ethsender or wansender

Returns:

- Promise return Object - the coin2wan ratio, 1 coin to how many WANs,such as ethereum 880*DEFAULT_PRECISE, and DEFAULT_PRECISE = 10000

getEthBalance(sender, addr) {}

Parameters:

- sender: A valid send object, ethsender
- addr: The address to get the balance of.

Returns:

- Promise return Object - the current balance for the given address in wei

getWanBalance(sender, addr) {}

Parameters:

- sender: A valid send object, wansender
- addr: The address to get the balance of.

Returns:

- Promise return Object - the current balance for the given address in wei

getBlockByNumber(sender, blockNumber) {}

Parameters:

- sender: A valid send object, ethsender or wansender
- blockNumber: The block number to get the block of.

Returns:

- Promise return Object - the block matching the block number

getTxReceipt(sender,txhash){}

Parameters:

- sender: A valid send object, ethsender or wansender
- txhash: The request hash to get the receipt of.

Returns:

- Promise return Object - the request receipt matching the txhash

getTxInfo(sender,txhash){}

Parameters:

- sender: A valid send object, ethsender or wansender
- txhash: The request hash to get the request of.

Returns:

- Promise return Object - the request matching the given request hash

getTxHistory(option) {}

Parameters:

- option: A object contain key-value to search the request in local cross-chain db

Returns:

- return the local request record matching the option

getMultiEthBalances(sender, addrs) {}

Parameters:

- sender: A valid send object, ethsender
- addrs: A array of address to get the balance of.

Returns:

- Promise return Object - the balance of those given addresses

getMultiWanBalances(sender, addrs) {}

Parameters:

- sender: A valid send object, wansender
- addrs: A array of address to get the balance of.

Returns:

- Promise return Object - the balance of those given addresses

`getMultiTokenBalance(sender, addrs) {}`

Parameters:

- sender: A valid send object, wansender
- addrs: A array of asset address to get the asset balance of

Returns:

- Promise return Object - the asset balance of those given addresses