inbox

Classes

InboxTools

Tools for interacting with the inbox and bridge contracts

Properties

Property Modifier Type Description parentProvider private Provider Parent chain provider

Methods

estimateArbitrumGas()

private

estimateArbitrumGas (childTransactionRequest : RequiredTransactionRequestType , childProvider : Provider) :

Promise < GasComponentsWithChildPart

> We should use nodeInterface to get the gas estimate is because we are making a delayed inbox message which doesn't need parent calldata gas fee part.

Parameters

Parameter Type childTransactionRequest RequiredTransactionRequestType childProvider Provider

Returns

Promise <GasComponentsWithChildPart

Source

inbox/inbox.ts:156

findFirstBlockBelow()

private

findFirstBlockBelow (blockNumber :

number , blockTimestamp :

number) :

Promise < Block

> Find the first (or close to first) block whose number is below the provided number, and whose timestamp is below the provided timestamp

Parameters

Parameter Type Description blockNumber number blockTimestamp number

Returns

Promise <Block

Source

inbox/inbox.ts:87

forceInclude()

forceInclude < T

(messageDeliveredEvent ? :

T , overrides ? : Overrides) :

Promise < T

extends

ForceInclusionParams

? ContractTransaction :

null

| ContractTransaction

Force includes all eligible messages in the delayed inbox. The inbox contract doesn't allow a message to be force-included until after a delay period has been completed.

Type parameters

Type parameter T extends undefined |ForceInclusionParams

Parameters

Parameter Type Description messageDeliveredEvent ? T Provide this to include all messages up to this one. Responsibility is on the caller to check the eligibility of this event. overrides ? Overrides -

Returns

Promise <T extends ForceInclusionParams ?ContractTransaction :null |ContractTransaction

The force include transaction, or null if no eligible message were found for inclusion

Source

inbox/inbox.ts:356

getEventsAndIncreaseRange()

private

getEventsAndIncreaseRange (bridge : Bridge , searchRangeBlocks :

number , maxSearchRangeBlocks :

number , rangeMultiplier :

number) :

Promise < FetchedEvent < MessageDeliveredEvent

[ ]

Look for force includable events in the search range blocks, if no events are found the search range is increased incrementally up to the max search range blocks.

Parameters

Parameter Type Description bridge Bridge searchRangeBlocks number maxSearchRangeBlocks number rangeMultiplier number -

Returns

Promise <FetchedEvent <MessageDeliveredEvent

[]>

[inbox/inbox.ts:256](#)

getForceIncludableBlockRange()

private

getForceIncludableBlockRange (blockNumberRangeSize :

number) :

Promise < object

Get a range of blocks within messages eligible for force inclusion emitted events

Parameters

Parameter Type Description blockNumberRangeSize number

Returns

Promise

Member Type Value endBlock number firstEligibleBlock.number startBlock number ... ###### Source[] (https://docs.arbitrum.io/welcome/get-started#source-4) [inbox/inbox.ts:186](https://github.com/OffchainLabs/arbitrum-sdk/blob/f5b3d04baf62356032f5475057637d989da5b6c1/src/lib/inbox/inbox.ts#L186) ##### getForceIncludableEvent()[] (https://docs.arbitrum.io/welcome/get-started#getforceincludableevent) getForceIncludableEvent (maxSearchRangeBlocks : number , startSearchRangeBlocks : number , rangeMultiplier : number) : Promise < null | ForceInclusionParams > Find the event of the latest message that can be force include ###### Parameters[](https://docs.arbitrum.io/welcome/get-started#parameters-5) Parameter Type Default value Description maxSearchRangeBlocks number undefined The max range of blocks to search in. Defaults to 3 * 6545 (= ~3 days) prior to the first eligible block startSearchRangeBlocks number 100 The start range of block to search in. Moves incrementally up to the maxSearchRangeBlocks. Defaults to 100; rangeMultiplier number 2 The multiplier to use when increasing the block range Defaults to 2. ###### Returns[] (https://docs.arbitrum.io/welcome/get-started#returns-5) Promise Null if non can be found. ###### Source[] (https://docs.arbitrum.io/welcome/get-started#source-5) [inbox/inbox.ts:307](https://github.com/OffchainLabs/arbitrum-sdk/blob/f5b3d04baf62356032f5475057637d989da5b6c1/src/lib/inbox/inbox.ts#L307) ##### sendChildSignedTx()[] (https://docs.arbitrum.io/welcome/get-started#sendchildsignedtx) sendChildSignedTx (signedTx : string) : Promise < null | ContractTransaction > Send Child Chain signed tx using delayed inbox, which won't alias the sender's address It will be automatically included by the sequencer on Chain, if it isn't included within 24 hours, you can force include it ###### Parameters[](https://docs.arbitrum.io/welcome/get-started#parameters-6) Parameter Type Description signedTx string A signed transaction which can be sent directly to chain, you can call inboxTools.signChainMessage to get. ###### Returns[] (https://docs.arbitrum.io/welcome/get-started#returns-6) Promise The parent delayed inbox's transaction itself. ###### Source[](https://docs.arbitrum.io/welcome/get-started#source-6) [inbox/inbox.ts:401] (https://github.com/OffchainLabs/arbitrum-sdk/blob/f5b3d04baf62356032f5475057637d989da5b6c1/src/lib/inbox/inbox.ts#L401) ##### signChildTx()[] (https://docs.arbitrum.io/welcome/get-started#signchildtx) signChildTx (txRequest : RequiredTransactionRequestType , childSigner : Signer) : Promise < string > Sign a transaction with msg.to, msg.value and msg.data. You can use this as a helper to call inboxTools.sendChainSignedMessage above. ###### Parameters[](https://docs.arbitrum.io/welcome/get-started#parameters-7) Parameter Type Description txRequest RequiredTransactionRequestType - childSigner Signer ethers Signer type, used to sign Chain transaction ###### Returns[](https://docs.arbitrum.io/welcome/get-started#returns-7) Promise The parent delayed inbox's transaction signed data. ###### Source[](https://docs.arbitrum.io/welcome/get-started#source-7) [inbox/inbox.ts:429](https://github.com/OffchainLabs/arbitrum-sdk/blob/f5b3d04baf62356032f5475057637d989da5b6c1/src/lib/inbox/inbox.ts#L429) [Edit this page] (https://github.com/OffchainLabs/arbitrum-docs/edit/master/arbitrum-docs/sdk/reference/inbox/inbox.md) [Previous TransactionRequest](https://docs.arbitrum.io/sdk/reference/dataEntities/transactionRequest) [Next ChildToParentMessage] (https://docs.arbitrum.io/sdk/reference/message/ChildToParentMessage)