

NodeInterface reference

The Arbitrum Nitro software includes a special NodeInterface contract available at address 0xc8 that is only accessible via RPCs (it's not actually deployed on-chain, and thus can't be called by smart contracts). This reference page documents the specific calls available in the NodeInterface. For a more conceptual description of what it is and how it works, please refer to the [NodeInterface conceptual page](#).

NodeInterface methods

Method Solidity interface Go implementation Description
estimateRetryableTicket(address sender, uint256 deposit, address to, uint256 l2CallValue, address excessFeeRefundAddress, address callValueRefundAddress, bytes calldata data) [Interface Implementation](#) Estimates the gas needed for a retryable submission
constructOutboxProof(uint64 size, uint64 leaf) [Interface Implementation](#) Constructs an outbox proof of an L2->L1 send's existence in the outbox accumulator
findBatchContainingBlock(uint64 blockNum) [Interface Implementation](#) Finds the L1 batch containing a requested L2 block, reverting if none does
getL1Confirmations(bytes32 blockHash) [Interface Implementation](#) Gets the number of L1 confirmations of the sequencer batch producing the requested L2 block
gasEstimateComponents(address to, bool contractCreation, bytes calldata data) [Interface Implementation](#) Same as native gas estimation, but with additional info on the L1 costs
gasEstimateL1Component(address to, bool contractCreation, bytes calldata data) [Interface Implementation](#) Estimates a transaction's L1 costs
legacyLookupMessageBatchProof(uint256 batchNum, uint64 index) [Interface Implementation](#) Returns the proof necessary to redeem a message
nitroGenesisBlock() [Interface Implementation](#) Returns the first block produced using the Nitro codebase
blockL1Num(uint64 l2BlockNum) [Interface Implementation](#) Returns the L1 block number of the L2 block
l2BlockRangeForL1(uint64 blockNum) [Interface Implementation](#) Finds the L2 block number range that has the given L1 block number
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