Blobstream X: the previous zk implementation of Blobstream

What is Blobstream X?

Blobstream X is the previous implementation of Blobstream. It usesplonky2x to create circuits that verify the Celestia consensus and generate the corresponding proofs.

Blobstream X is built and deployed withSuccinct's protocol .

NOTE

The Blobstream deployments below don't use the BlobstreamX circuits. You canfind the repository for Blobstream X along with code for:

- The Blobstream X smart contract -BlobstreamX.sol
- The Blobstream X circuits
- The Blobstream X contract Golang bindings

NOTE

Custom ranges can be requested using theBlobstreamX contract to create proofs for specific Celestia block batches. These ranges can be constructed as[latestBlock, customTargetBlock) , withlatestBlock as the latest block height that was committed to by theBlobstreamX contract, andlatestBlock > customTargetBlock , andcustomTargetBlock - latestBlock <= DATA_COMMITMENT_MAX .

Block ranges that are before the contract'slatestBlock can't be proven a second time in different batches.

More information can be found in therequestHeaderRange(...) method.

How Blobstream X works

As shown in the diagram below, the entrypoint for updates to the Blobstream X contract is through theSuccinctGateway smart contract, which is a simple entrypoint contract that verifies proofs (against a deployed onchain verifier for the Blobstream X circuit) and then calls theBlobstreamX.sol contract to update it.Find more information about theSuccinctGateway .

NOTE

If the Blobstream X contract is not deployed on a desired chain, it needs to be deployed before it can be used by your rollup. See thedeployment documentation for more details.

Deploy Blobstream X

It is possible to deploy and maintain a Blobstream x instance and have the same security guarantees.

First, you will need to create a multisig that governs the Blobstream X contract and also the function identifiers. The function identifiers can be registered in theSuccinct gateway .

Then, check thedeployment documentation for how to deploy the contract.

Then, you will need to run a relayer, which will generate the proofs and relay them to your deployed Blobstream X contract. Check thelocal proving documentation for more information.

Community implementations

Learn more about the communityimplementation of Blobstream proofs by CryptoKass . [][Edit this page on GitHub] Last updated: Previous page New SP1 Blobstream deployments Next page Requesting data commitment ranges []