Arbitrum GovHack Track

Track Name

Orbit Adoption Strategy, Betting on Builders, Strategic Big Bets, Contributor onboarding

Challenge Statement

Allow builders to easily secure their new Nova / Orbit chains governance using Arbitrum One governance adding composability to the whole Arbitrum governance ecosystem.

Members

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Video Pitch

https://rollamate.io/video_pitch_arbitrum.mp4

Proposal

1. What the problem is:

Builders building new Nova / Orbit Chains must bootstrap governance, this is very hard and there is not easy methods to do implementations. At this moment usually the best option is to create a new governance for each chain.

2. What is the solution is:

Allow the builders to easily access the security of Arbitrum One and the Arbitrum DAO.

Using a shared custody private key within ARB stakers in Arbitrum One to confirm on-chain the blocks integrity through a transaction every n blocks, will let any builder to probe the validity of any Arbitrum One governance related transaction/message from Nova / Orbit chains without need of bridges, relayers or Oracles.

This can be completed verifying Patricia Merkle Tries on chain authenticating the validity of a transaction as a part of a block A and then the block A to be predecessor of block N.

The authority of this private key is backed by the ARB staking in Arbitrum One and secured by shared key storage technology between the stakers.

The final mechanism and implementation proposal will be studied and discovered by this proposal approval.

3. Other Available Messaging Solutions for Orbit:

We will present three solutions for integrating messaging into Orbit, a next-generation blockchain platform. The possibilities of adding this functionality to the cross-chain governance are analyzed, including the technical prerequisites and economic considerations.

1. Hyperlane

Prerequisites:

- Have a validator and a relayer on the Krutosis network. The most economical package is around $35 USD per month.

Description:

Hyperlane facilitates the implementation of trustless messaging on EVM compatible networks. This solution uses smart contracts for the payment, handling, and management of messages, which are processed by validators and relayers that

listen to the network. To launch the implementation of new EVM compatible networks, this is achieved by connecting the smart contracts for the payment, handling and management of messages that go through the validators and relayers that listen to that network, to then receive/send messages.

Advantages:

- Fast and scalable messaging system.

- Ability to integrate multiple validators in a trustless manner for greater robustness.

Disadvantages:

- Requires an initial investment in infrastructure (validator and relayer).

- Axelar

Prerequisites:

- Have an Axelar node and a validator account.

- Have AXL tokens to cover relayer gas fees and other operations.

Description:

Axelar allows adding new EVM compatible networks. Messages sent and received in Orbit are processed by validators through smart contracts and then passed through the same. To implement in Orbit, smart contracts need to be deployed to allow the sending of messages and the acceptance of the majority of Axelar nodes to allow communication.

Advantages:

- Verifiable transactions.

Disadvantages:

- The inclusion of a new network in the protocol requires the approval of the validators by means of a vote.

- LayerZero

Prerequisites:

- Have the necessary resources to deploy the Executor and DVNs or use a provider compatible with the LayerZero ecosystem.

Description:

LayerZero offers an omnichain messaging solution that allows the exchange of messages between different blockchains, which as we have seen before consists of smart contracts and validators that allow the sending of messages.

Advantages:

- Omnichain solution that allows interoperability with various blockchains.

- Flexibility in implementation (own deployment or use of providers).

Disadvantages:

- Requires LayerZero to implement the Endpoint and MessageLib.

4. Why is this important?

Building governance in Nova / Orbit chains are extremely difficult to implement at the moment something that will lead in many different governances for each chain without leverage nor support Arbitrum One security and reliability.

Minimize the friction for quick governance access for the new protocols builders.

Requirements:

Milestone 1 - Time: 2 months

1. Exploration of different approach to the Technical Implementation solution.

2. Evaluate the feasibility of the different Shared key / Staking models.

Milestone 2 - Time: 2 months

1. Elabiorate a Shared key / Staking proposal for the Arbitrum DAO

2. Ellaborate a Technical Implementation proposal for the Arbitrum DAO

Milestone 3 - Time: 2 months

1. Elaborate three Security Audit Proposals for the Arbitrum DAO

2. Elaborate the Implementation Proposal

Total 47,000 ARB

Deck (link or pdf):

docs.google.com

[

](https://docs.google.com/presentation/d/15uupEa8EypM1kKW4491fZXR4VQjSP1vKuKHLWUA1Zgs/edit)

ARBITRUM ONE GOVERNANCE COMPOSABILITY

ARBITRUM ONE CROSS-CHAIN GOVERNANCE A unique source of truth made for Orbits Proposal Team 7