Summary

This proposal outlines the advancement of a cutting-edge bridge infrastructure solution for Uniswap called MMA (Multi-Message Aggregation), initially rolling out cross-chain governance on Arbitrum and subsequently enabling general purpose cross-chain messaging capabilities for all Uniswap deployments across chains.

Intro

Uniswap is the largest DEX in the Arbitrum ecosystem, providing a secure and reputable infrastructure for DeFi users. Since adding support for Arbitrum, the bridge used for cross-chain governance has [incurred issues](), resulting in significant downtime and the inability to send messages to Uniswap's Arbitrum deployment. Fortunately, this issue was promptly addressed. Other deployments of Uniswap have also faced similar issues, such as the Celo Optics bridge, which has [been down]() since last year. Needless to say, as Uniswap expands across various ecosystems, one can expect more complex issues to arise. Considering this, we have actively engaged with the Uniswap Foundation, sharing our thoughts on a [Multi-Bridge, Agnostic Solution for establishing a more secure infrastructure that underpins Uniswap cross-chain deployments.]() As the leading bridge and DEX aggregator, [LI.FI]() provides simplified access to cross-chain transactions (bridge, swap, message passing) in a solution-agnostic manner.

Proposal

We propose allocating a portion of ARB tokens to promote infrastructure development, starting with a bridge agnostic, Multi-Message Aggregation (MMA) solution for cross-chain governance that would benefit Uniswap, Arbitrum, and other supported ecosystems. Used wisely, the funds allocated to the Uniswap DAO have the ability to make a significant impact. Such critical infrastructure requires funding from the entire ecosystem, but due to certain constraints, this is not easy. Thus, we request the Uniswap and Arbitrum communities to take the lead in fostering the development of such key infrastructure, paving the way for the wider industry to follow suit.

Taking This Forward

The increasing number of security assumptions and implementation details across arbitrary messaging bridges (AMBs) underscores the value of an aggregated solution like MMA, which relies on message verification across multiple bridge designs. We envision MMA to be a long-term governance solution for Uniswap on Arbitrum and other chains, as well as having the potential to be used as an extensible solution for any dApp that wants to execute cross-chain governance without relying on a single AMB.

[LI.FI]() believes MMA is an avenue with the potential to create substantial long-term value for Uniswap, Arbitrum, and the entire crypto industry.

However, building a reliable multi-bridge agnostic solution for cross-chain governance is a complex task that requires an extensive amount of development time, bridge expertise, and ongoing maintenance. With that in mind, we propose that Uniswap grants 250k ARB to [LI.FI]()

to build an MMA governance module for Uniswap V3 on Arbitrum.

Current Development

Our team is already actively engaged in the process of building an MMA module tailored to meet Uniswap's requirements for a secure and reliable system for cross-chain governance. Our initial deployment will showcase this system between Ethereum and Arbitrum, exclusively for Uniswap's benefit. Subsequently, we plan to expand its reach by combining multiple Uniswap deployments with the MMA, encompassing all chains that Uniswap exists on.

Additionally, to further enhance the MMA's capabilities, we intend to incorporate support for new messaging bridges, upgrade existing adapters alongside any underlying messaging bridge updates, and extend variations of the MMA to other protocols seeking to secure their multi-chain implementations.

Overall, we intend to create MMA as a modular solution that can be extended to use-cases outside of cross-chain governance. In other words, a modular MMA design can be optimized to meet the diverse needs of different cross-chain message passing use cases, like cross-chain credit scoring, for example. We envision an expanded form of MMA with various modules to resemble the following modular structure:

[

mma-structure-proposal.png

2432×1046 210 KB

](https://global.discourse-

cdn.com/business6/uploads/uniswap1/original/2X/f/ff7fb456986263e35be7a2b593c7d6c94a5b56d9.png)

In addition, a key problem with complex MMA infrastructure is maintenance and adaptation in such a fast-moving space. The core MMA contract is immutable, but multiple adapters need to be maintained. Currently, this is delegated to multiple bridges but there's coordination needed to make this process work seamlessly without interrupting functionality. LI.FI, as a neutral, bridge-agnostic party with the relevant knowledge, would be greatly suited to take care of this ongoing maintenance.

Why **LI.FI**?

Having processed over USD 1.3 billion dollars in transactions, LI.FI is known as one of the leading bridge aggregators in the space and provides simplified access to cross-chain capabilities across ecosystems in a solution-agnostic manner.

LI.FI has been around for over two years as an unbiased aggregator of 15+ bridges and is well-positioned in terms of market neutrality and domain expertise to oversee the development of an MMA solution.

LI.FI's entire mission is to follow the fast paced change of the industry and abstract integration and maintenance away from those who work with us.

As currently proposed, this maintenance is delegated to multiple bridges; however, coordination is needed to make this process work seamlessly without interrupting functionality. LI.FI, being a neutral, bridge-agnostic entity with extensive experience in maintaining multiple bridge integrations and a deep understanding of various messaging bridges (as demonstrated by our comprehensive AMB comparison framework), would be highly qualified to handle all future maintenance tasks.

More info: Website | Docs

Use of funds (ARB allocation)

As stated above, we believe an allocation of 250k ARB tokens

is necessary to securely build MMA on Arbitrum and effectively maintain MMA across further Uniswap deployments, along with other dApps.

The specific usage of these ARB tokens, over the next year would be:

- Development & Research Costs – 100k ARB tokens

We plan to assemble a dedicated and capable team to actively develop the required infrastructure technology and onboard other protocols, and enterprises within and beyond Arbitrum's ecosystem. Our ideal team composition includes:

– 1 Project Manager: Akshaya Nagaraja

– 1 Lead Smart Contract Developer: Sujith Somraaj

– 2 Smart Contract Developers: Ed Zynda and Daniel Bläcker

– 1 Protocol Researcher: Arjun Chand

– Active involvement from LI.FI's CTO Max Klenk and CEO Philipp Zentner

The grant will be divided into two parts: 75k ARB for the initial deployment, and the remaining 25k ARB will be allocated towards the ongoing maintenance of the protocol.

- Bug Bounties – 75k ARB tokens

With MMA being a governance solution, we believe security is paramount. We intend to conduct a community-centric bug bounty program, incentivizing participation from white hat hackers and security experts within the ecosystem. This program will aim to thoroughly test the infrastructure's resilience and security.

- Future Audits – 75k ARB tokens

To ensure the development of the most secure multi-bridge messaging solution, we recognize the necessity of conducting regular audits. Allocating 75k ARB tokens will enable us to engage reputable auditing firms, thereby enhancing the overall security of the infrastructure.

Roadmap

Our roadmap for the first year of building MMA is split into 2 major tentative phases:

Phase 1: MMA Module for Uniswap's Cross-Chain Governance

Duration: 6 months

During this phase, our focus will be on customizing (first 3 months) and battle-testing (last 3 months) the solution to best serve the needs of Uniswap.

- The customization face will involve building MMA, creating adaptors for initial bridges selected by the Uniswap Bridge Committee, making MMA contracts more efficient, among other things.

- The battle testing phase will involve testnet implementations, professional audits, community audits, and an initial roll-out of MMA on Arbitrum.

Phase 2: V2 of MMA to build modules for other cross-chain use-cases

Duration: 6 months

During this phase, we intend to expand MMA's capabilities by adding support for new messaging bridges, upgrading existing adapters if and when the underlying messaging bridges upgrade, and offering variations of MMA to other protocols that want to use it to secure cross-chain governance.

Additionally, we will begin exploring other ways to commercialize MMA as an enterprise offering alternative use-cases.

The next steps for this would be:

1. Work closely with the Uniswap Foundation and Bridge Committee to iron out any details of the Uniswap-specific implementation of MMA.

2. Building a working demo of MMA for Uniswap.

3. Conducting an audit for the Uniswap specific implementation.

4. Battle-testing MMA via community-centric bug bounty program.

By implementing this roadmap, LI.FI aims to contribute to the development of Uniswap, Arbitrum, and the wider cross-chain DeFi ecosystem, providing secure and efficient cross-chain messaging infrastructure for dApps and enterprises.