

Project Harmonia

Harmonizing cross chain interop for
Financial Market Infrastructures

2023-11-16



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Harmonia Is Not



Harmonia Is Not



This is a harmonium

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Harmonia

An initiative driven by a group of banks to help create common patterns and standards for interoperability between digital asset platforms in order to simplify the atomic settlement of Delivery vs Payment (DvP) transactions

Harmonia

The risk to banks as the platforms scale is that they need to manage a plethora of gateways, interfaces, data formats and interop mechanisms. By establishing some standard patterns, we can provide guardrails to platform providers to ensure that the connections to their platforms and the interop mechanisms are well understood by the banks and easy to deploy.

Why is it there?

- **A well understood open source platform (Hyperledger) where banks/FMIs/technology providers can contribute**
 - Principles
 - Requirements
 - Reference implementations
- **A place that promotes open dialogue**

The Journey

- **2017 Project Ubin - Corda, Quorum and Hyperledger Fabric**
- **2018 Project Jasper - Canada**
- **2018 Project Khokha - South Africa**
- **2019 Fnality International Founded**
- **2020 Interop work with Fnality started PvP**
- **2022 Fnality, Nivaura and Adhara collaborate with NatWest and Santander for cross chain debt issuance (public Ethereum and permissioned ethereum)**
- **2022 Fnality, Fintelem and Adhara complete a Pilot PvP settlement**
- **2022 Fnality, HQLAx and Adhara complete a Pilot DvP settlement**

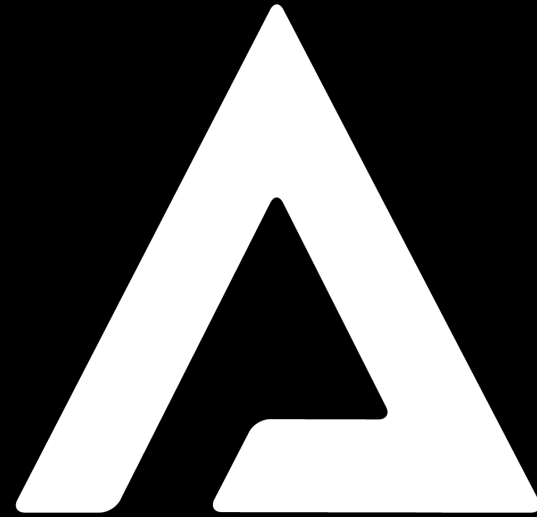
Principles

- **Anchored in Production implementation**
- **Minimum (Wholesale) business flow scope**
 - Repos, FX Swaps and Equity/Bond Settlements
- **Minimum protocol scope**
 - Corda/Ent Ethereum
- **Aligned to relevant standards body**
 - EEA/IEEE/IETF
- **Maintains community incentive alignment**
- **Reference implementations accelerate adoption**
- **Patterns anchored around Wallet/Asset holders not bridges in the first instance**

Requirements

- **Existence of Rulebooks**
- **Legal Basis**
- **Participation - all participants have wallets on both systems**
- **Existence of a Unique Trade ID**
- **Earmarking**
- **Settlement Finality. Has to be deterministic - cannot be based on a timeout (e.g. HTLC's)**
- **Liability. Each platform is responsible for providing a cryptographic proof. Cannot be "outsourced"**

Who has contributed so far?



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Harmonia implementations

Demos

Harmonia roadmap

- **Incorporate feedback from the industry**
- **End to end reference implementations**
 - Basic - aim to be completed by the end of this year (R3/Adhara)
 - Using Cacti
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- **Input into and feedback from Standards bodies**

How to get involved?

- **Anchored in Production implementation**
 - Repos, FX Swaps and Equity/Bond Settlements
- **Discord**
- **Issues**
- **Roadmap items**



Thank You

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