Bridge Network: A protocol for moving digital assets across blockchains v1.0

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Abstract

This paper proposes a protocol for moving digital assets across different blockchains. The protocol uses a locking, burning and minting mechanism to achieve this in a completely user friendly way. The protocol, Bridge network, can be scaled up to support any EVM compatible blockchains. Supporting non-EVM blockchains is also possible.

Introduction

The Blockchain and distributed ledger technology space is growing fast. The ability to seamlessly move assets across any network remains convoluted and slow. As we enter a multi-chain world, bridge network aims to solve this in a decentralized fashion. The cross-chain protocol enables the transmission of value and information across different blockchain networks. Coupled with a user-friendly experience, the protocol lays the groundwork for widespread blockchain acceptance and adoption.

Cross-chain interoperability enables the exchange of data across blockchains without intermediaries. This implies that blockchains with comparable networks will be able to exchange value. When used in a business ecosystem, companies will no longer be limited to dealing with customers on the company's network. Rather than that, businesses will be

able to conduct transactions with customers on other suitable blockchains. The whole procedure will occur in real-time, with no downtime or costly transaction fees. As with the internet of value, cross-chain interoperability will enable blockchain to transmit value effectively.

In order for the blockchain technology to be truly efficient, it not only has to be decentralized but should have the flexibility and capacity for seamless interactions among the various chains upon which its applications are built upon. Lack of cross-chain interoperability is a huge problem with so many limitations boxing various blockchain applications to only operate "seamlessly" on their network. There is a need for cross-chain interaction. *There is a need for a Bridge*.

Project description

Bridge is a decentralized cross-chain interoperability protocol that allows the transfer of assets across supported blockchain networks in a seamless and user-friendly environment. It is designed to easily add native assets to a cross-chain interoperability protocol which specifies the supported chains where assets can be bridged. The chain is designed to allow for anyone to easily add native assets to a bridge and specify supported chains where the assets can be bridged. Fees are charged on each transaction.

Bridge Network Technical Design

The bridge creates a wrapped version of an asset on the desired chain where the token can only be minted by the bridge contract when the native asset is locked on the main chain. Fees are implemented on each bridge movement which can be modified. *(See figure. 1 and 2 below).*

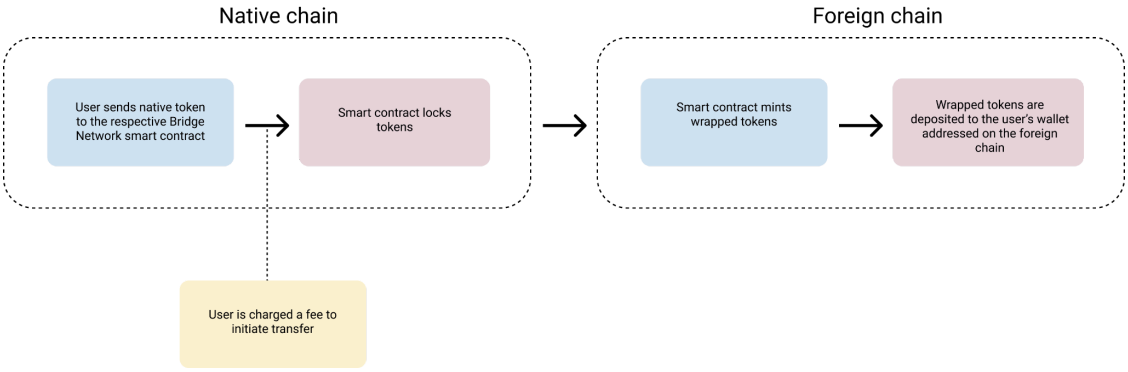

Figure 1: Transferring an asset from a native blockchain to a foreign blockchain

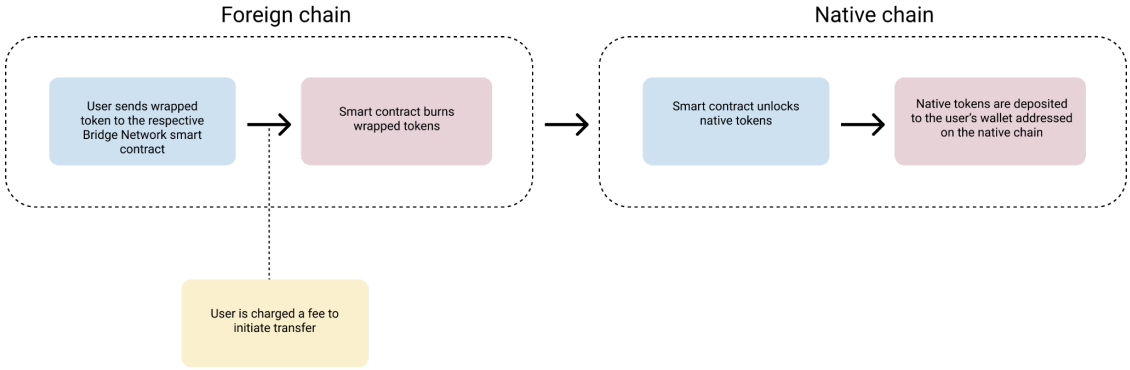

Figure 2: Transferring an asset from a foreign blockchain to a native blockchain

Native Chains and Foreign Chains - When a token is sent from a native chain to foriegn chain, the token is locked on the native chain and a mirror of the token is then minted by Bridge on the foriegn chain. The transfer of the wrapped asset from a foriegn chain back to the native chain involves

burning of the asset on the foriegn chain and releasing the native token on the native chain.

Oracles - The oracle is responsible for relaying the burn and minting the existing interactions among chains.

Validators - These are nodes responsible for validating the oracle registered interactions on chains. As soon as it receives a minimum validation amount, the transaction is processed. These nodes keep an eye out for crypto transactions requesting a cross-chain transfer between the bridged blockchain networks. Once they find a request, they approve the transaction on the blockchain where the request originated and relay that information to the other blockchain. Then on the second chain, the same amount of assets are minted.

Bridge Network Token

The bridge network token is the native cryptocurrency of the protocol. It is used for fees and governance.

Fees: There are 2 main fees associated with using Bridge. The first is for simply using the bridge to move assets across different networks. The second is for establishing a new bridge for a specific asset. Example: If you wanted to send SOL token from the native chain, Solana, to the foreign chain, Polygon, and that bridge pair has not been established, you are required to establish a bridge. Establishing a bridge costs a fee.

Governance: The Bridge network token is used to vote on proposals that exist to govern the protocol.

Further details of the Bridge Network Token will be rolled out in version 1.1 of this whitepaper.

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