ZETACHAIN

THE RISE OF BLOCKCHAIN INTEROPERABILITY

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By Om Singh

INTRODUCTION

In this article, we will be exploring and diving deep into Zetachain and how it exploits blockchain interoperability along with some recent developments in this area.

Blockchain Interoperability

"Interoperability holds the key to a multichain world"

Blockchain interoperability is not a set rule book. It refers to a broad range of techniques that allow different blockchains to listen to each other, transfer digital assets and data between one another and enable better collaboration. There are decentralized cross-chain bridges that facilitate the transfer of data and assets between Ethereum, Bitcoin, EOS, Binance Smart Chain, Litecoin and other blockchains.

Currently, the main use cases of interoperability are:

- the transmission of a given cryptocurrency's liquidity from one blockchain to another.
- allowing users to trade an asset on one chain for another asset on another chain.
- enabling users to borrow assets on one chain by posting tokens or NFTs as collateral on another chain.

Each bridging method has its own design trade-offs with regard to ease of use, speed, security, and trust presumptions. Bridges provide a neutral transition area for users to switch between different blockchains, each of which follows an own set of regulations. The user experience is much improved.

These trade-offs could be challenging for end users to comprehend. When an asset travels across multiple bridges to get into the hands of the end user, the risks connected with each bridge technique may also multiply.

ZetaChain

ZetaChain is a Proof of Stake (PoS) blockchain that was created using the Cosmos SDK and Tendermint PBFT consensus engine. As a result, it has a quick block time (5s) and swift finality. Validators, observers, and signers make up the ZetaChain architecture. Observers reach consensus on external chain events and states, validators take part in block production and receive rewards based on their bonded staking currencies, and signers, who are distributed, possess standard ECDSA/EdDSA keys to sign messages on behalf of ZetaChain. One of the earliest native multi-chain tokens, ZETA is the sole native cross-chain value transfer using a one-way peg mechanism. It was created across many chains and layers.

ZetaChain's all-purpose cross-chain smart contract platform enables the development of omnichain applications, including:

- cross-chain message passing with value/data, which allows for the creation of many decentralized applications (dApps)
- smart contract managed external assets, including non-smart contract capable blockchains
- cross-chain AMM exchanges
- multi-chain NFT ownership transfer.

Without the use of bridges or wrapped tokens, ZetaChain's blockchain enables multichain functionality and makes it simple to deploy omnichain-dApps, or odApps, that can connect and manage data and value across all smart contract platforms as well as non-smart contract platforms like Bitcoin and Dogecoin.

WORKING

How Does ZetaChain Work?

To interact with several blockchains, one typical method of dApp creation is to create an app for each chain. This could become extremely difficult to manage, especially as the number of widely utilised blockchains keeps increasing. A single "omnichain" app that communicates with all other blockchains through ZetaChain is what ZetaChain suggests app developers do. An illustration of how this would seem is shown in the diagram below, which is taken from the whitepaper.
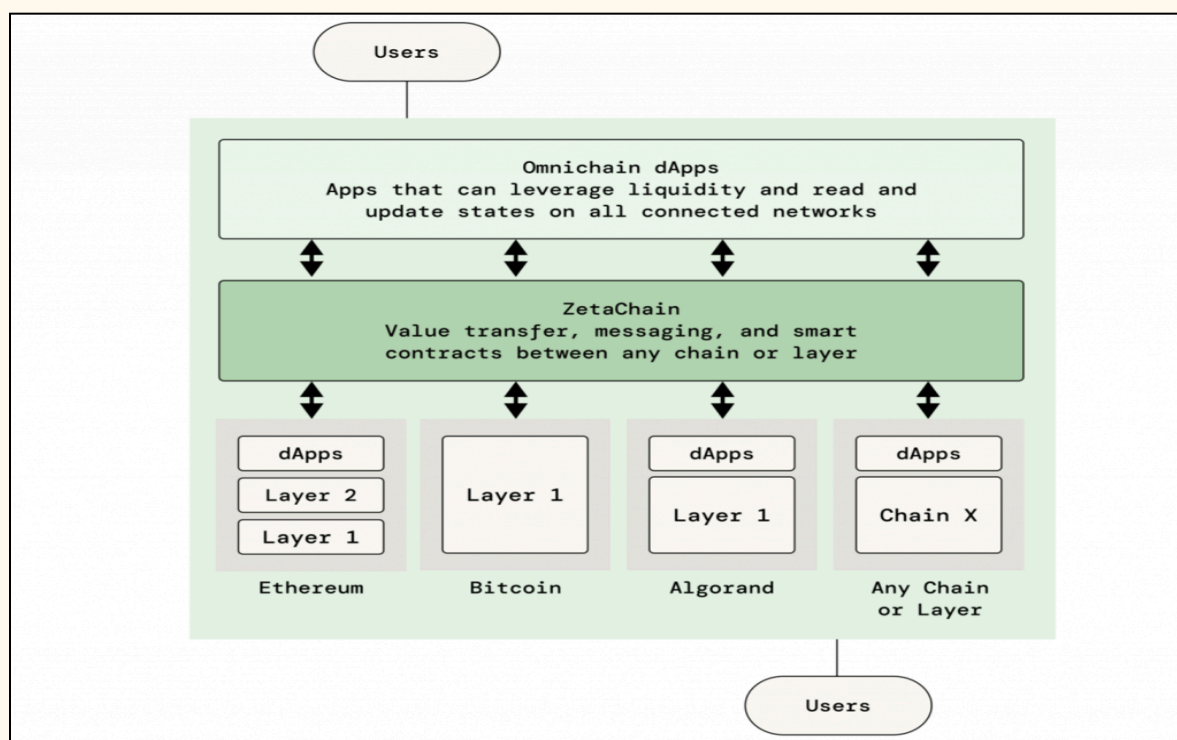
One of the leading contributors to ZetaChain stated in an interview with The New Stack, where the contributors asked to remain anonymous, "With this new paradigm, there might be a world where you deploy a smart contract on ZetaChain and it works across all chains, so an app developer doesn't have to deploy a dApp on Ethereum, Polygon, and Solana. We serve as a metalayer, allowing liquidity to be leveraged across all connected chains.

The fundamental idea is that by adding certain additional features to your existing smart contract, ZetaChain unlocks capability that they're referring to as an omnichain-dApp, eliminating the need to deploy a dApp and accompanying smart contracts on each chain (odApp).

How is This Different From Cosmos?

ZetaChain sounded like it had similarities to what Cosmos is putting forth with its idea of interconnected blockchains as I read the whitepaper.

One of the key contributors said in a conversation with the ZetaChain team, "If you want to be part of the Cosmos ecosystem, you have to speak IBC," referring to the inter-blockchain communication protocol. The ZetaChains spokesman continued, "ZetaChain can support any blockchain for smart contracts. Using the Threshold Signature Scheme (TSS), we also enable compatibility for non-smart contract chains like Bitcoin, Dogecoin, and Litecoin.

In summary, Cosmos has a specific protocol for connecting with compatible blockchains, whereas ZetaChain intends to be a protocol-agnostic layer for dealing with any blockchain. When you have a smart contract on one blockchain that has authority over a certain quantity of Bitcoin, it appears like the capacity to manage assets on Bitcoin may be useful for financial services.

CONCLUSION

Interoperability is a known issue with Web 3.

While some prefer a single chain to rule them all, the reality is that blockchain markets and technology are developing at an incredible rate, and it is becoming more and more obvious that the ecosystem's future will be made up of multiple blockchains, each serving a different purpose and making tradeoffs in terms of security, decentralisation, speed, cost, compliance, and other factors.

Cross-chain solutions are now confined to wrapping or bridging, which are cumbersome, ineffective, and tailored to the particular pair of involved blockchains. These solutions are dispersed, adding another another level of danger. Thus, there is undoubtedly a problem at hand that needs to be resolved.

Whoever finds a solution to the interoperability issue will immediately ascend to the top of the crypto world.