

Injective Protocol

The Birth of a Unifying DeFi

Trading Protocol



Injective Protocol, The Birth of a Unifying DeFi Trading Protocol

The revolutionary concept of Decentralized Finance (DeFi) was made possible by the developments in blockchain technology. Initially developed as a distributed ledger to facilitate and record all transactions happening on the first-ever cryptocurrency network – Bitcoin, the blockchain technology has evolved over time. Starting with Ethereum, the initial programmable blockchain that introduced the concept of smart contracts and enabled the development of decentralized applications (dApps), the crypto industry today has numerous blockchain protocols. Each of these protocols has their own roles to address some of the shortcomings of their peers.

One of the major issues most blockchain protocols tried to address was scalability. Over time, the increased adoption of Ethereum to create dApps exposed a major flaw in the design that adopts the highly reliable Proof-of-Work (PoW) consensus algorithm. While PoW is great at ensuring complete decentralization, it is not a reliable system when it comes to handling high transactions. The rising adoption of blockchain technology by individuals, communities, businesses, enterprises, even financial institutions, and governments has led to an exponential growth in the number of dApps created and implemented on Ethereum protocol. As the number of people interacting with these dApps increase, so do the transactions. Unsurprisingly, the surge in transaction volumes has caused the PoW-based Ethereum in its vanilla, Layer-1 configuration to struggle with huge backlogs and its cascading effect – high transaction fees.

The newer blockchain protocols that came after Ethereum have attempted to address this prevalent issue in their own ways with varying degrees of success. Meanwhile, Layer-2 solutions like Polygon, Plasma and others have attempted to augment the capabilities of their parent Layer-1 Ethereum blockchain by offloading a majority of transactions to their network and periodically committing a summary of all the transactions over their network to the primary chain. All these protocols have addressed the issues of scalability to an extent but at a cost.

The cost of creating alternative blockchain and layer 2 protocols is fragmentation of the blockchain industry. Today, there are many blockchain protocols, each of them cultivating and nourishing a diverse range of projects. Most of these projects have serious real-world applications across different verticals, only to be limited by the lack of interoperability with other blockchain protocols. In such a scenario, no matter how important a particular project is for a wider audience, their access and use are confined to the protocol on which they are built. The challenge with interoperability deprives users from efficiently leveraging various features and innovations on other protocols.

Fragmentation – A Serious Issue in DeFi

DeFi holds a lot of promise as an alternative to traditional financial solutions. However, rapid growth of the industry leading to the birth of various new protocols as they seek to overcome the scalability issues of Ethereum blockchain has caused fragmentation of the ecosystem. Currently, liquidity is spread across multiple protocols as each of them operate their own versions of DEXs and other DeFi dApps. As users move across different protocols to leverage the benefits, in terms of usability, supported assets and transaction fees, the overall liquidity on respective protocols is falling short of the demand, leading to issues like slippage of trades and impermanent losses. Furthermore, the high latency and limitations in the product offerings on DEXs which still follow centralized designs add to the troubles that leave traders at the mercy of these platforms.

While the centralized designs open the possibility of censorship with increased chances of single points of failure, the lack of interoperability between different protocols limit users from taking advantage of crossed spreads which are becoming more prevalent in the ecosystem.

Injective Protocol as a Solution

Injective Protocol is the first fully decentralized Layer-2 exchange protocol designed to address most of the issues currently plaguing the blockchain sector. On a mission to create a truly borderless DeFi ecosystem, Injective Protocol offers a high performance, end-to-end decentralized, completely trustless,

ensorship-resistant, publicly verifiable, frontrunning resistant exchange protocol for a variety of assets across different blockchains.

A creation of Injective Labs, led by Eric Chen and Albert Chon, the Injective Protocol is a combination of three main components – Injective Chain, Injective Exchange, and Injective Futures platform. As a Layer-2 solution, the Injective Protocol utilizes Tendermint along with Cosmos SDK and the accompanying IBC (Inter-Blockchain Communication) protocol to enable cross-chain perpetual swaps, margin, and spot trading of a variety of digital assets including derivatives, forex, synthetics, and futures with minimal to no fees over a unified interface. Users on the Injective Protocol may not only trade using a wide range of assets, but also create their own markets that can be accessed by anyone from anywhere. In addition to providing blockchain agnostic DEX infrastructure, Injective Protocol also serves as a universal protocol for the development of cross-chain Ethereum-compatible dApps for the broader DeFi ecosystem.

Components of the Injective Protocol

Injective Protocol can be divided into three distinct components – all working together to create a holistic, universal DeFi ecosystem. These three components include:

Injective Chain – the backbone of the Injective Ecosystem, it is a Tendermint-based Layer-2 side chain with Cosmos Zone (an application specific Cosmos blockchain) connected to the Ethereum network. The Injective Chain with VDF (Verifiable Delay Function) capabilities, not only inherits all the modules that are readily available in the Cosmos SDK, but also implements unique Auction, Exchange, Insurance, Oracle, and Peggy modules which are crucial for a wide range of DeFi applications.

The Exchange module is the most important module in the ecosystem as it enables the decentralized spot and derivative exchange operation on the protocol. It is tightly integrated with the rest of the unique modules viz., Auction, Insurance, Oracle, and Peggy to facilitate other critical exchange related services.

Connected to the Exchange module, the Auction module enables the protocol to auction baskets of tokens collected as exchange fees against Injective Protocol's

native INJ token bids. Meanwhile, the Insurance module provides insurance funds on the Injective Chain to support higher leverage trading. This insurance fund will be provided by a permissionless group of underwriters having a proportional claim over the underlying assets in the insurance fund.

The Oracle module is designed to provide external price data from various sources to the Exchange module through a network of relayers. Once the data feed is received from relayers, the module, after confirming their privileges, will make it accessible to the Exchange module as well as other Cosmos-SDK modules.

The Peggy module plays an important role in supporting cross-chain interaction between Injective Chain's Tendermint-Cosmos protocol and Ethereum blockchain. It enables trustless on-chain bi-directional ERC20 token bridge that can be used by ERC20 and Cosmos-native tokens.

As a Cosmos-based protocol, Injective Chain is compatible with more than just the Ethereum protocol. It can also work with a variety of other Layer-1 and Layer-2 blockchain protocols through its integration with the IBC protocol. The capability of Injective Chain to interoperate with other blockchain networks enables Injective Protocol to act as the ideal platform to support the development and operation of chain agnostic DeFi dApps. The Injective Bridge currently supports two-way transactions between Injective Chain, Ethereum, Terra and CosmosHub Networks.

Injective Exchange and Injective Futures Protocol

The Injective Exchange and Injective Futures Protocols are the components of the Injective Protocol that enables users to start trading crypto assets and derivatives on the platform. Running in the background, the Injective Chain powers the platform by hosting the decentralized open order book while acting as the decentralized Trade Execution Coordinator (TEC). The Exchange module on Injective Chain imparts the spot and derivatives trading capabilities to the platform which can be accessed over the Injective Exchange Client.

The Exchange Client on Injective Protocol is the user-facing, open-source front-end implementation that acts as an interface for users to trade crypto assets and participate in other functions on the decentralized exchange protocol in a

permissionless manner. Relayers and individuals can host this client on a server, local machine or on the IPFS protocol to make the trading engine accessible to all.

Meanwhile, the Injective Futures protocol further bolsters the Injective Exchange ecosystem by enabling access to decentralized peer-to-peer futures protocol and Contracts for Difference (CFD) instruments.

Injective APIs

As a completely decentralized protocol for DeFi applications, the Injective Protocol enables everyone to become part of a giant global trading community. The Injective APIs enable community members to create their own DeFi applications by taking advantage of the infrastructure provided by the Injective Chain. Available publicly, the Injective APIs can be readily integrated by individuals, institutions, professional liquidity providers, algorithmic traders, and others to run all the components of Injective Protocol's back-end infrastructure. By doing so, they will be able to obtain market data and directly place trades on the decentralized order books managed over the Injective Chain. Few of the widely used Injective APIs include the Exchange API, Coordinator API, Derivatives API, and the Graph API.

Acting as the middle layer between the Injective Exchange Client and the Tendermint-based Cosmos later, the Injective APIs provide easy integration options for developers with support for both REST API and gRPC API. These APIs are accompanied by complete SDKs for Python, GO and Typescript programming languages. Support for other prominent development languages will be included in the offering soon.

By utilizing Injective APIs, developers will be able to drastically cut down the time required to build DeFi applications, by having ready access to high-quality, completely decentralized, permissionless infrastructure. By integrating Injective Protocol to their products, projects can act as relayers and source liquidity to the protocol. In turn, they will receive incentives for their contributions to the network.

Injective Token

The entire Injective Ecosystem is powered by its native Injective (INJ) token which is a utility as well as governance token. The uses of INJ within the ecosystem includes governance, derivatives collateralization, protocol security, incentivizing market makers and relayers, and exchange fee payments. The DAO model of governance followed by the Injective Protocol ensures that any changes made to the protocol or products and services offered on the protocol is initiated only after the community approves or rejects it through a voting process.

Meanwhile, with the Injective Chain being a Cosmos-based Proof of Stake blockchain protocol, the Injective Community can take part in the INJ staking activities to secure the network and earn rewards in return.

Powering DeFi Revolution with EVM Compatibility

As the first ever programmable blockchain, Ethereum still continues to lead the DeFi market as most of the dApps continue to be built on Ethereum protocol with ERC20 standard tokens. The popularity and reliability of Ethereum as the operating system for dApps has been established over time, which has encouraged other blockchain protocols that followed to ensure EVM compatibility.

In Injective Protocol's case, the Cosmos-Tendermint-based Injective Chain along with the Ethermint EVM implementation and the Injective Bridge ensures cross-compatibility with not just Ethereum but almost all EVM enabled blockchain protocols to create a universal DeFi layer. The Injective APIs and specialized smart contracts enable DeFi projects to utilize Injective Protocol's capabilities to maximum extent, surpassing the boundaries and limitations presented by individual protocols.

A Continuous Evolution

Originally conceptualized as a chain-agnostic Layer-2 decentralized derivatives exchange protocol to enable anyone to create their own financial market on the blockchain, Injective Protocol has transformed into a full-fledged DeFi application specific Layer-1 protocol. The continuous innovation by the Injective team has resulted in the introduction of the Injective Hub that extends beyond decentralized exchanges to become the first custom protocol for cross-chain DeFi applications.

A combination of Ethereum compatibility, cross-chain support and custom DeFi logic modules enables developers to adopt the Injective Protocol as the foundation for a variety of dApps including lending, savings, insurance, and other financial products. The protocol's full EVM compatibility further its value as a solution that enables existing DeFi protocols to achieve cross-chain capabilities.

Supporting the developer community with Injective Protocol adoption, the project has introduced plenty of developer resources including enhanced interface elements, incentive mechanisms and custom logic modules that can be suitably modified and integrated into any existing or new DeFi applications.

With all these features in place, Injective has turned into a future proof blockchain layer capable of catering to the evolving DeFi and Web3.0 space.

Garnering the Support of Crypto and Investment Giants

Injective Protocol's mission to create a truly decentralized, interoperable DeFi ecosystem has been well received by the community. Recognizing the value Injective Protocol brings to the table, various leading names in the industry have thrown their weight behind it. Some of these marquee names include Binance, Pantera, Hashed, Cumberland, Cadenza, CMS, Innovating Capital, Figment, Nascent, Bitlink Capital, PNYX Ventures, Krypital Group, 3Commas, Bitscale Capital, individuals like Billionaire entrepreneur Mark Cuban, Polygon's Sandeep Nailwal, and others.

A Growing Ecosystem

Injective Protocol formally launched its mainnet in November 2021 after a period of extensive development and testing. Having successfully concluded an audit by Informal Systems, a leading DeFi systems auditors specializing in Tendermint-based products, the project is open for adoption by the crypto community. Within a short span, Injective has taken onboard various relayers and liquidity aggregators as a part of its mission to provide a completely decentralized, chain-agnostic trading experience. The project has also achieved many high-profile integrations with various prominent projects in the DeFi ecosystem.

UpOnly Exchange

One of the first Injective relayers to be launched, UpOnly Exchange is a Genesis Block Ventures powered project offering decentralized derivatives trading products on top of the Injective Protocol. UpOnly will be implementing user-friendly, feature-rich interface while leveraging lightning-fast transaction speeds and zero gas fee capabilities offered by the Injective Protocol to deliver a simplified spot and derivatives trading experience.

<https://uponly.exchange/>

Orion Terminal

Orion Terminal is a decentralized gateway for crypto markets. Created by the leading decentralized liquidity aggregator, Orion Protocol, the platform enables users to trade assets across major centralized as well as decentralized exchanges directly from their wallet. Orion Terminal has integrated Injective Protocol to its platform, enabling users to gain access to Injective's shared orderbook to place trades. By doing so, Orion Terminal will also act as a relayer for Injective by providing an interface for users to interact with its cross-chain derivatives.

<https://www.orionprotocol.io/orionterminal>

Impossible Finance

A multi-chain incubator, launchpad and swap platform, Impossible Finance is utilizing Injective Protocol's infrastructure to a Binance Smart Chain focused Launchpad. Further, the collaboration could also give rise to new BSC related derivatives trading feature for the Injective Community.

Injective Explorer

Injective Protocol's own product, the Injective Explorer is an analytics platform that enables users to access detailed information on addresses, trades, tokens, transactions and more. The explorer is designed to provide results to queries in a granular level so that users can conduct a detailed analysis of every single activity occurring on the Injective Chain.

<https://explorer.injective.network/>

Injective Pro

A flagship product of the Injective Protocol, Injective Pro is the project's own relayer designed to offer the most powerful trading experience in a decentralized setting. Launched in 2020, injective Pro has undergone a series of iterations to become a benchmark relayer for the entire ecosystem.

Optimized for all devices and supported trading instruments, Injective Pro also provides users with quick access to key ecosystem products like the Injective API, Injective Hub, and others.

<https://injective.exchange/>

A few other significant partnerships achieved early on includes the launch of decentralized pre-IPO stock derivatives with Lithium Finance, risk optimized yield farming derivatives with Formation Fi, Liquidity Mining for INJ in collaboration with MDEX, Multi-chain trading ecosystem with Near Protocol, NFT futures contracts with Dvision Network, integration with Klaytn's blockchain to deliver decentralized trading to Klaytn wallet users and create new markets for its native assets and more.

Injective Protocol represents a significant shift in the DeFi ecosystem as it erases the boundaries between blockchains and dApps. By enabling free flow of liquidity across various protocols and offering a robust trading infrastructure for any financial market, Injective is ensuring that DeFi remains truly decentralized.