



HORYXEN: AN INTRODUCTION

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Introduction

Horyxen is a next-generation DeFi platform built on top of the XEN network. It leverages the power of the XEN protocol to provide users with a fast, secure, and scalable DeFi experience. With Horyxen, users can mint, trade, and earn HORYXEN tokens, which are designed to power the Horyxen ecosystem.

What purpose is Horyxen serving?

The purpose of the Horyxen platform is to create a fair, secure, and decentralized financial system that provides equal opportunities for everyone. Horyxen operates on EVM-compatible blockchains and leverages the XEN network to create a platform for decentralized financial applications.

The platform sets to achieve its purpose by providing an innovative approach to minting XEN tokens. By leveraging the XEN network's first principles ideology, Horyxen facilitates a fair and equitable approach to distributing rewards in a trustless manner. Additionally, the platform employs additional technologies such as Uniswap to ensure transparency and security of user funds, and implements all this in an open manner, democratizing the integrity of the platform. Overall, the mission of Horyxen is to empower individuals and promote group economics through decentralized finance.

What problem is Horyxen solving?

Horyxen solves the problem of the lack of liquidity while waiting for XEN claims to mature. Traditionally users wanting access to the XEN token must complete the following steps: users submit a transaction to the blockchain network to claim a cRank (Crypto Rank) that is composed of a user selected free mint term limit, wait for that term limit to end and finally, mint the rewarded XEN token from the protocol. Users must wait at least 24 hours to receive all the PoP (proof of participation) rewards. Horyxen solves the problem by giving users instant access to their PoP reward, effectively pulling forward those un-minted rewards based on the reward formula of $Ru = \log_2(cRG - cRu) * T * AMP(ts0) * (1 + EAA(cRu))$. The Horyxen protocol takes a step further to leveraging this feature by offering users a reward multiple on their mints in exchange for providing liquidity at a protocol-controlled LP pool. An ancillary problem solved is the possible reduction of claim and mint transaction fees over time.

What is the Horyxen platform?

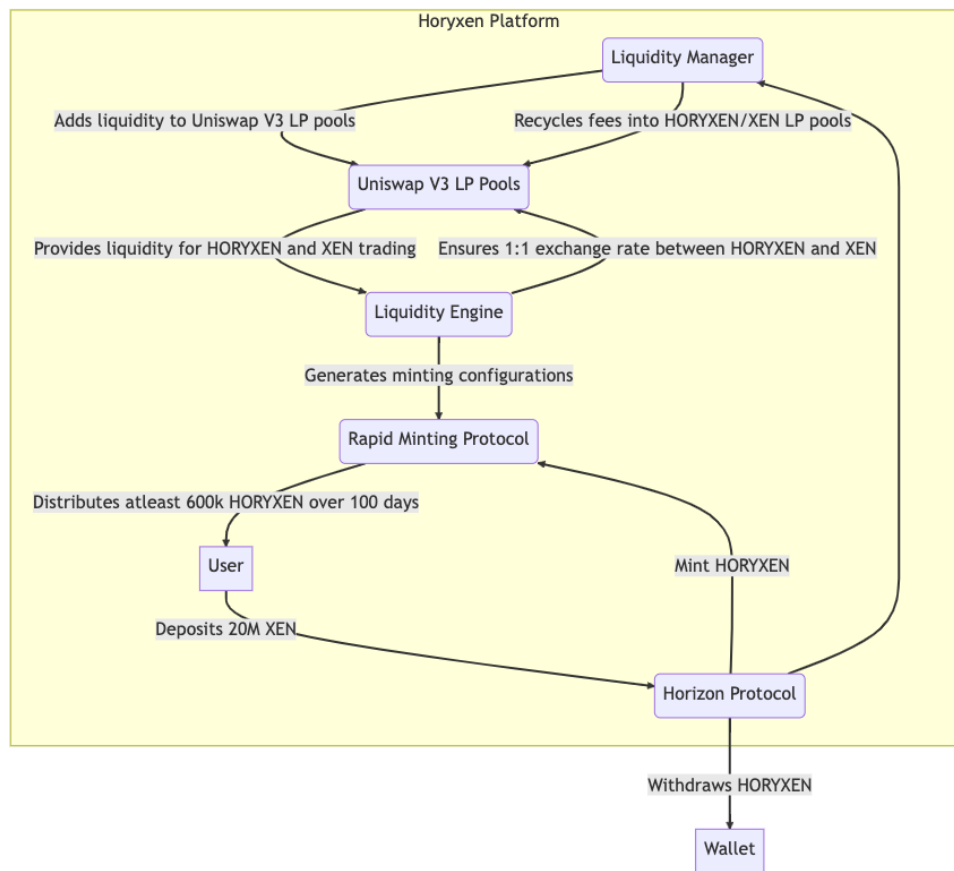
The Horyxen platform leverages the power of the XEN network to provide users with a fast, secure, and scalable DeFi experience. It consists of three main components:

1. The Horyxen Protocol: This is the rapid minting protocol that allows users to mint HORYXEN tokens using XEN. The Horyxen Protocol is designed to be fast and efficient, allowing users to mint HORYXEN tokens in just a few clicks.
2. The Liquidity Manager: This component manages the liquidity pools for HORYXEN and XEN on Uniswap V3. It ensures that there is always enough liquidity in the pools, which helps to stabilize the peg of HORYXEN and XEN.
3. The Liquidity Engine: This component ensures that the exchange rate between HORYXEN and XEN is maintained, ideally, at a 1:1 ratio. It does this by generating mint configurations that are used by the Horyxen Protocol to ensure sustainability. If the exchange rate deviates from 1:1, the Liquidity Engine can intervene by updating the mint configurations.

What is the HORYXEN token?

HORYXEN is a utility token that gives users access to the Horyxen platform, and its primary service, the Horyxen rapid minting protocol. HORYXEN can be minted using XEN, the native token of the XEN network. The exchange rate between HORYXEN and XEN is maintained algorithmically at a 1:1 ratio, ensuring that users can easily convert between the two tokens.

The Horyxen Platform Architecture



The Horyxen Protocol

The Horyxen Rapid Minting Protocol (Horyxen Protocol) is an innovative solution for minting HORYXEN, an algorithmically pegged token, in a decentralized, trustless manner. It enables users to mint HORYXEN tokens by depositing XEN into a liquidity pool, which is used to create new HORYXEN tokens at a 1:1 ratio with XEN. The rapid minting protocol is designed to utilize Uniswap V3 LP pools to provide peg stability and security, while also minimizing the risk of impermanent loss for platform users, additionally providing an open market for obtaining either token.

The rapid minting protocol is a unique component of the Horyxen platform. The Horyxen Protocol enables the creation of an algorithmically pegged token, HORYXEN by automatically adjusting the supply of on-protocol XEN tokens in response to changes in demand. This is achieved by dynamically generating mint configurations, which are used to determine the amount of XEN tokens that should be minted at any given time in relation to deposit and withdraw transactions.

The Horyxen Protocol relies on the use of an oraclized EVM protocol, known as the Liquidity Engine, to provide real-time protocol-controlled supply data for both HORYXEN and XEN, which is used to adjust the minting configurations as needed. If the supplies of HORYXEN and XEN deviate from their target peg, the Liquidity Engine can automatically adjust the minting configurations to bring the peg back into line.

To use the rapid minting protocol, users must deposit XEN into the Uniswap V3 LP pool, via the Liquidity Manager protocol. Once the XEN is deposited, an equivalent amount of HORYXEN is minted by the Horyxen Protocol. Users can then use their HORYXEN tokens for a variety of purposes, including trading, providing liquidity on decentralized exchanges, or use in other protocols.

One of the key benefits of the rapid minting protocol is that it provides a low-risk way for users to gain access to XEN in a presumably shorter frame of time. By providing liquidity through the Horyxen platform, users gain a multiple on their XEN deposits and lock in a gas price that either appreciates over time or allows users to average down. In addition, because the value of HORYXEN is pegged to the value of XEN, users can be confident that their multiple will maintain its value over time.

Overall, the rapid minting protocol is a groundbreaking solution for earning a multiple against an inflationary asset in a decentralized, trustless manner. By providing supply stability and security, while also minimizing the risk of impermanent loss for liquidity providers, the rapid minting protocol offers a compelling alternative to traditional minting methods.

The Horyxen Liquidity Manager

The Horyxen Liquidity Manager protocol is a key component of the Horyxen platform architecture. Its main purpose is to provide liquidity to the HORYXEN and XEN LP pools on Uniswap V3, ensuring that the exchange rate between HORYXEN and XEN remains stable.

The Liquidity Manager protocol is based on Uniswap V3, which is a decentralized exchange protocol that allows users to swap tokens directly on the Ethereum blockchain. In the case of Horyxen, the Uniswap V3 protocol is responsible for managing the liquidity of the HORYXEN and XEN LP pools via Horyxen's Liquidity Manager.

The Liquidity Manager protocol works by transactionally monitoring the supply of HORYXEN and XEN tokens. If there is a shortage of liquidity in either pool, the Liquidity Manager protocol will

add more tokens to the pool. Conversely, if there is an excess of liquidity in either pool, the Liquidity Manager protocol will remove tokens from the pool.

The Liquidity Manager protocol achieves this by using an algorithm that considers the established peg between HORYXEN and XEN, as well as the liquidity in the LP pools. This algorithm determines the optimal ratio of HORYXEN and XEN tokens to maintain in the LP pools, to provide the most efficient trading experience for users.

One important feature of the Liquidity Manager protocol is its ability to recycle fees earned by LP managed by the Liquidity Manager in the Uniswap V3 LP pools. These fees are used to further increase the liquidity of the LP pools, which in turn helps to stabilize the exchange rate between HORYXEN and XEN.

Overall, the Liquidity Manager protocol is a critical component of the Horyxen platform architecture, as it ensures that there is always sufficient liquidity in the HORYXEN and XEN LP pools on Uniswap V3. This helps to provide a stable trading environment for users and enables the Horyxen platform to achieve its goal of becoming a significant provider of decentralized financial services.

The Horyxen Liquidity Engine

The Horyxen Liquidity Engine is another key component of the Horyxen platform architecture that ensures that the exchange rate between HORYXEN and XEN is maintained at a 1:1 ratio, through the generation of minting configurations.

The Liquidity Engine achieves this by monitoring the supply of HORYXEN and XEN on protocol-controlled Uniswap V3 LP pools and on-protocol supply of un-minted XEN and comparing this to the demand of the HORYXEN token throughout the Horyxen platform. If there is a discrepancy in the peg, the Liquidity Engine generates a minting configuration that is used by the Horyxen Rapid Minting Protocol to claim cRank or mint XEN to bring the exchange rate back into balance.

The Liquidity Engine also generates reward opportunities that incentivize minters to claim or mint XEN to take advantage of supply discrepancies between the Horyxen platform and Uniswap V3. For example, if the peg ratio between HORYXEN and XEN ever becomes positive or negative than that of the Horyxen platform, the Liquidity Engine will generate a minting configuration that allows Horyxen users to mint and or claim XEN tokens through the Horyxen platform, and then deposit them to the protocol controlled Uniswap V3 LP pool. This opportunity rewards

participants with instant HORYXEN bonuses for helping to stabilize the exchange rate between HORYXEN and XEN.

In summary, the Horyxen Liquidity Engine plays a critical role in maintaining the 1:1 exchange rate between HORYXEN and XEN and ensures that the Horyxen platform remains an efficient and stable platform for users.

The Horyxen Minting Configuration

Mint configurations in Horyxen protocol refer to the transaction bundles in which XEN tokens can be claimed or minted, each with its own set of parameters and conditions. These configurations define sets of transactions for how many XEN tokens would be claimed or minted based on the state of the Uniswap V3 LP pool, the amount of liquid XEN held by the protocol and the un-minted XEN under the protocol's control. All of these conditions are monitored by the Horyxen Liquidity Engine, which generates all configurations. Additionally, mint configurations determine HORYXEN bonuses for all transactions.

Programmatically, mint configurations are custom data structures that describe a mint request as the number of XENfts to mint the amount of VMUs per each XENft and the timeframe, respectively. In addition to mint requests, mint configurations describe a claim request as a collection of XENft IDs to claim.

MintConfiguration<Shape>
int24 id
List<List<int24>> claimants
List<int24> resignerIDs
BigInt bonus

The mint configurations in the Horyxen Rapid Minting protocol, allow users to mint HORYXEN tokens at a multiple of their XEN holdings based on difficulty over the minting period, are generated in the following example. Users connect their wallet to the Horyxen platform, select the Rapid Minting option then specify the amount of XEN they want to use for minting. The smart contract then does a shallow evaluation of the HORYXEN/XEN ratio. If there is a discrepancy between the shallow evaluation and the default peg, the Horyxen protocol requests a minting configuration from the Liquidity Engine, using the optimal amount of gas and based on the amount of XEN the user has specified, according to the difficulty and minting timeframe,

otherwise the Horyxen protocol requests a default configuration. The user is distributed the HORYXEN tokens over the minting period.

Overall, mint configurations in Horyxen provide users with flexible and customizable options for generating HORYXEN tokens, based on their specific goals and preferences. These configurations are designed to ensure a fair and transparent distribution of HORYXEN tokens, while also incentivizing user participation and engagement with the Horyxen platform.

The Potential of Horyxen's Features

Horyxen has the potential to revolutionize the DeFi landscape by providing users with a fast, secure, and scalable DeFi experience. By using XEN, users can mint HORYXEN to trade, and earn XEN. Horyxen's most notable feature is rewarding a multiple on deposited XEN while maintaining the default peg using Horyxen's signature mint configuration applied via a yield curve. More advanced features are burning XEN to gain access to native token rewards such as Ethereum and access to a secondary market for discounted XEN. Horyxen is also designed to be interoperable, allowing users to easily connect with other DeFi platforms and service for power user experiences.

How does Horyxen provide multiples on \$XEN?

Most deposit/withdraw contracts regardless of whether a yield curve is applied are described as hourglasses due to the supply inflating, in turn deflating value until the value is drained, and the supply goal has been reached. In principle, this is effective at providing a multiple because supply/demand theories can be applied but in practice, has been unsustainable due to hyperinflation. Horyxen solves this using mint configurations.

By utilizing mint configurations Horyxen allows deposit and withdrawal transactions to claim and mint XEN respectively to provide multiples and address the peg in the most efficient manner possible. By interfacing the XENft framework the Horyxen protocol, through the Horyxen Liquidity Engine's generation of mint configurations, will select the best combination of VMUs and days to satisfy supply/demand deficiencies.

Mint configurations are data structures derived from the amount of HORYXEN requested (HRX_r), the share-rate of the requesting address, the status of the HORYXEN/XEN peg ratio deficit (pR_d) and the user requested time horizon (T_h).

$$Mint_{cfg} = [HRX_r * (shareRate(address) * pR_d), T_h]$$

When requesting HORYXEN users have the option to determine the difficulty at which they mint HORYXEN. The difficulty chosen determines the multiple at which their XEN mints new HORYXEN and ultimately the cost of their transaction on an EVM network.

Conclusion

Horyxen is a next-generation DeFi platform that is built on top of the XEN network. It provides users with a fast, secure, and scalable DeFi experience, with the ability to mint, trade, and earn HORYXEN tokens. With its innovative technology and potential for growth, Horyxen is poised to become a significant protocol in the DeFi space.

Glossary

1. XEN network - a blockchain network that utilizes the Proof-of-Stake consensus algorithm to validate transactions and secure the network.
2. XEN token - the native cryptocurrency of the XEN network also used for staking and burning.
3. Horyxen platform - a decentralized finance application built on top of the XEN network that allows to gain access more readily to XEN during the XEN claim process.
4. HORYXEN token – an algorithmically pegged token built for use in the Horyxen platform. It is used for transactions and trading on the Horyxen platform.
5. Liquidity Manager - a protocol on the Horyxen platform that maintains liquidity by adjusting the supply of HORYXEN tokens in response to market demand.
6. Liquidity Engine - a protocol on the Horyxen platform that maintains the exchange rate between HORYXEN and XEN at a 1:1 ratio by adjusting the minting configurations used by the rapid minting protocol.
7. Rapid Minting Protocol - a protocol on the Horyxen platform that enables the creation of new HORYXEN tokens by staking XEN tokens as collateral.
8. Mint Configuration: A Mint Configuration is a set of parameters used by the Rapid Minting Protocol to mint or claim XEN tokens. These parameters include the XEN:HORYXEN exchange rate, VMUs, bonuses and the number of tokens to be minted.
9. Decentralized Exchange (DEX): A Decentralized Exchange (DEX) is an exchange that operates on a decentralized blockchain network, allowing users to trade cryptocurrencies without intermediaries. The Horyxen platform employs a DEX that enables users to trade HORYXEN and XEN tokens.
10. cRank: A unit of measurement that represents the number of unique wallet addresses that have interacted with the XEN smart contract.

11. EVM protocol: The Ethereum Virtual Machine protocol, which allows for the deployment of smart contracts on the XEN network, enabling interoperability with other EVM-compatible blockchains and applications.
12. Difficulty: The effort required to perform a series of operations. In the scope of Horyxen, the effort required to process claim and mint configurations generated by the Horyxen Liquidity Engine, expressed through EVM transaction fees.
13. Minting Timeframe: Period for a user's guaranteed Horyxen mint to be distributed.