Built on the TRON Ecosystem

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Abstract

From V1, Whale's mission to empower retail users and redistribute market

influence from centralized entities to retail communities has not changed. The high barriers to entry in market-making, arbitrage, and liquidation keep retail from participating and profiting from these essential and highly profitable activities. Whale's goal is to lower these barriers by providing the relevant infrastructure to allow everyone to participate in arbitrage, liquidations, and market making.

Whale (WHL) V2 is an Interchain Liquidity Solutions protocol. WHL creates a unifying hub for a token's liquidity and then sub-divides this token's liquidity in LPs across all the TRON chains, distributing liquidity where it is most needed. With hundreds of future blockchains coming to the TRON ecosystem, liquidity will be severely fragmented across the blockchains with shallow LPs. WHL's architecture combats this by creating: (i) greater capital efficiency for the token liquidity because token liquidity is a coordinated pool of pools rather than multiple independent pools and (ii) improved inter-chain price stability because of greater coordinated liquidity.

TRON users benefit from stable and efficient markets that are more robust than if a few entities controlled the system. Whale V2's infrastructure is not in competition with other DEXes; rather, is an ally to other DEXes by improving price stability between blockchains and directing bot traffic to DEXes which increases volume and liquidity. Markets stabilized and rendered more reliable by the WHL protocol and infrastructure will attract more investors!

Interchain Vision

Speed or the number of transactions per second is an important parameter for the

success of a blockchain. Typically, as more applications are implemented on a blockchain, more transactions occur and slow down the chain. The Interchain Vision is a potential solution to this problem. The Interchain Vision is multiple independent blockchains that are interoperable with each other through Inter Blockchain Communication (IBC). Instead of launching an application on several different disjoint monolithic blockchains, projects will trend towards having their own custom blockchain for their application that communicates through IBC.

A team could even decide to implement multiple blockchains for a single application. A gamefi application might require hundreds of thousands of tx/s. The team could spin up not one but 10 chains, form a cluster, and validate the transactions separately. Teams could also build applications that are interchain that exist on multiple application chains but are all connected.

The IBC allows for enormous advancements in scalability and control for project deve- lopers, because the ecosystem is no longer limited to one monolithic chain but to any number of interoperable blockchains. Peng Zhong, the former CEO of Ignite (formerly Tendermint), envisions a future with a million interoperable blockchains.

Ecosystem Problems

Problem 1
Market Inefficiencies — Fractured Liquidity, Price Disparities

The interchain future will severely fragment liquidity because the available liquidity will be spread across thousands of chains instead of a single or even a few chains. Fragmentation of the available liquidity results in shallow pools with high spreads when swapping large amounts; in the worst case, failure to execute due to no liquidity. Widespread adoption of the interchain future requires stable, reliable swaps on each constituent chain.

Prices will differ between the chains, and fractured liquidity will exacerbate price differences between chains. Without the improved infrastructure, there will be too many places to arb efficiently and too shallow of pools. The result likely will be a poor user experience and consequently minimal adoption. Our proposed infrastructure addresses fractured liquidity and price disparities.

Problem 2
Capital Inefficiencies — Idle Arbitrage and Liquidation Capital

Every arbitrageur and liquidator will need their own capital sitting on every app chain locally to efficiently arb a local dex or to liquidate borrowers. When there are no arbs or liquidations, the capital is idle and not earning yield.

Our flash loan vaults provide a mechanism to arbitrage and liquidate without the need for keeping idle capital.

Problem 3

Centralized Market Making — Capital Barriers, Knowledge Barriers, Trust

As the number of chains increases, arbitrageurs and liquidators will need markedly more capital. The capital requirements to arbitrage and liquidate across thousands of app chains will be substantial, and therefore exclusive to whales and institutions.

There is a large asymmetry of information in crypto which makes profiting from arbitrage and liquidation exclusive to top developers.

In crypto, the goal is a trustless network. For crypto to succeed, we also need a trustless market. Small traders shouldn't be at the whim of large market makers and where they decide to park their liquidity. Liquidity should move freely and without permission. Our proposed infrastructure will provide many users with the tools to participate in arbitrage and liquidations.

Introduction to V2

Problem in TRON Ecosystem

Liquidity is fragmented across constituent chains (e.g., TRON, Osmosis, Secret, etc) and across Dexes on each of the constituent chains (e.g., Astroport, TRXswap, Loop, Phoenix). Fragmented liquidity results in poor swap performance (price discrepancies) and may even seize up in severe crashes when LPs are drained. Conversely, good performance provides the confidence in the system needed to weather massive, rapid withdrawals and decrease the likelihood of a crash occurring. Fragmented liquidity is also capital inefficient: the liquidity may not be where it is needed.

Solution

Whale V2 will provide interchain arbitrage infrastructure (i) inter-blockchain connected Liquidity Pools that represent the interchain price (ii) Flash Loan vaults and (iii) open-source arbitrage bots to decrease the fragmented liquidity, fix price disparities, and decentralize market-making by lowering capital and knowledge barriers all in a capital-efficient method for the TRON ecosystem.

Summary Features of Whale

- Interchain Liquidity: new liquidity infrastructure provides liquidity on the chain where it is needed.

- Stabilizes Interchain Prices: coordinated pool of LPs provides deeper liquidity and infrastructure as a service (arbitrage) both stabilize interchain pricing of the token.

- Decentralizes market participants: flash loans and arbitrage/liquidation bots enable small and medium users to participate in arbitrage, liquidation, and hence price stabilization, decentralizing these tasks.

- Improves Capital Efficiency: interchain liquidity reduces capital requirements; flash loans are highly capital efficient for users.

- Supports Local Dexes: increases volume through arbitrage trading improves liquidity and pricing stability.

Summary Benefits for White Whale

▌ Stable Revenue: fees from liquidity pools, flash loan vaults

▌ Critical infrastructure that is not easily displaceable: Interchain aggregator and LP; flash loans, arbitrage, and liquidation bots provide key (irreplaceable) infrastructure to the TRON ecosystem.

▌ First mover advantage: as a first mover, the infrastructure develops, improves, and grows; with time, it becomes harder to replicate and/or compete against.

▌ TRON Community Service: WHL protocol and infrastructure are necessary for TRON to implement the interchain future.

▌ Everyone benefits: all users, dapps, stablecoins, tokens, and chains of TRON benefit from WHL protocol and infrastructure.

Benefits for Crypto Users

▌ Base and Intermediate Users: Interchain liquidity, Dex Aggregator, Stable Prices, Decentralized Market Making, Stable Reliable Revenue, Flash Loan Vaults Yield (No Impermanent Loss)

▌ Power Users: Reduced capital requirements, reduced knowledge requirements, increased capital efficiency, more opportunities for arbitrage and liquidations

▌ Stablecoin Issuers: Peg-maintenance; liquidity, market coverage

▌ Layer 1s: improved liquidity, volume, community, advanced defi tools (Flash Loans and bots), connection to interchain liquidity

▌ dApps: stabilized token price, liquidity follows demand, advanced defi tools(Flash Loans)

The Whale protocol consists of 2 main components: the Liquidity Hubs, the Interchain Command.
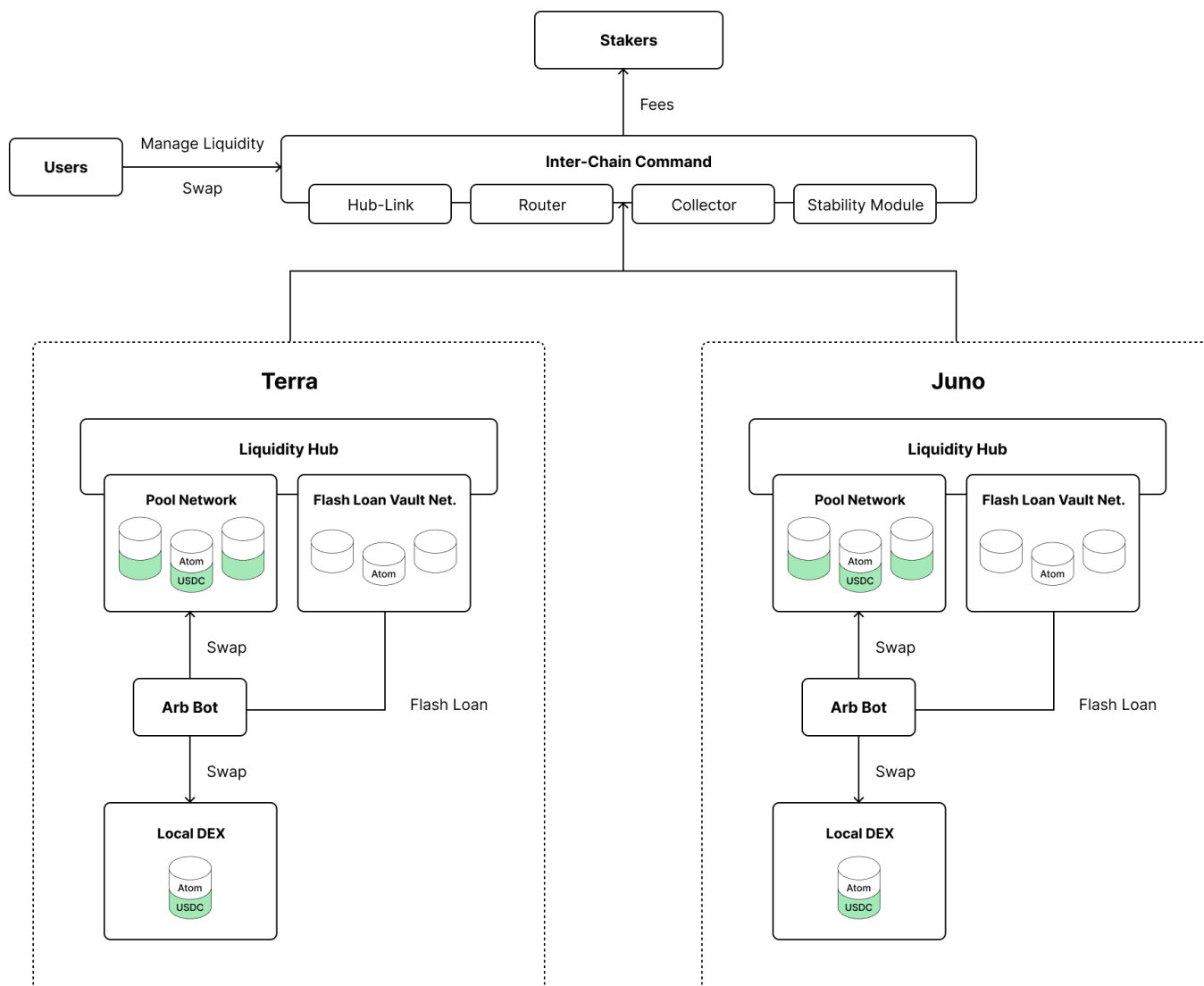
Liquidity Hubs (LH)

Liquidity Hubs (LH) are established on TRON blockchains selected by WHL governance. The Liquidity Hubs are the point of interaction for bots and depositors with the WHL protocol and infrastructure. Arb bots request flash loans to arb price differences between WHL LPs and Local Dex LPs. Depositors earn fees for their deposits into vaults used for flash loans or into LPs accessible by bots. The LH components and mecha- nisms of action are described below.

Summary of Components

- Pool network: a coordinated network of LPs (e.g., Atom-Luna; and Atom-USDT) for each supported token on selected chains (e.g., TRX and USDT)

- WHL Pool: each LP in the network of LPs (e.g., Atom-Luna; and Atom-USDT) is primarily accessible by bots and not users.

- Vault Network: vaults (e.g. Atom, Luna, and USDT) store tokens needed to make flash loans.

- Flashloan vaults: vaults of tokens selected for the Vault Network.

- Pool Factory and Vault Factory: each manages the deployment and parameters of WHL pools and vaults. Requires governance permission.

- Fee collector: contract that collects fees for WHL.

Components and mechanisms of action

The pool network is a WHL-controlled collection of Automated Market Maker (AMM) pools of WHL-selected tokens (WHL pools) relevant to the chain of the pool network (e.g., Atom-Luna and Atom-USDT LPs on both TRX and USDT chains). The token price exchange in each pool in the local pool network loosely represents the "interchain price" for the token because when the price changes of one pool on one network (e.g., USDT) then the Interchain Command (see below) will take action to balance the price of the same pool on the other network(s) (e.g., TRX). These WHL pools allow bots to arb the local dexes versus the "interchain price"[1] that effectively decreases price disparities. Currently, users can find price disparities of up to 20% for the same token trading on different TRON blockchains.

The pool router allows end-users to swap tokens in and out of pools on the liquidity hub. This pool router is primarily accessible by bots (including WHL-developed ones) for arbitrage purposes, so WHL pools do not compete with local Dexes.

The Vault Network is a WHL-controlled collection of single asset vaults that bots use to access flashloan capital for arbitrage, liquidation, and other DeFi uses. By using the Flash Loan Vaults, arbitrage and liquidations happen locally in a capital-efficient manner and without capital requirements. That is, each arbitrageur or liquidator will no longer need their own capital on each local chain waiting idly to arb or to liquidate because they can access a flash loan for their capital needs. When an arbitrage opportunity arises, an arbitrageur takes a flash loan, arbs the local dex price versus the WHL pool, and then pays back the loan plus the flash loan fee. The arbitrageur then keeps the profit without having used any of their own capital.

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[1] Only considered "interchain price" when all pools are at equilibrium. It can take an extended period of time for the ICC to balance one pool with the rest of the pools. When the pools are unbalanced, a local pool is not at the "interchain price."

Depositors of tokens into flash loan vaults benefit from fees paid when their vault is accessed for flash loans; the greater the volume, the more fees generated. Flash loan vaults are a great source of yield with no impermanent loss.

The local fee collector charges the fees for usage of the pool and vault network on a specific blockchain. Part of the collected fees goes back to the depositors of the WHL pools and/or the single asset flash loan vaults. The remainder is sent to the interchain collector as protocol revenue. The protocol revenue is then distributed to WHALE stakers in the form of token buybacks.

The pool and vault factory manages which WHL pools or flash loan vaults are created on which chains. Each factory requires WHL governance approval to launch new WHL pools or vaults.

WHL governance of LH. Multiple critical parameters of LH are determined by WHL governance. New WHL pools and flash loan vaults are contingent on a successful WHL governance vote. Additionally, 50% of the WHALE token supply will be used for liquidity incentives for WHL pools and vaults. Therefore, for future protocols that want WHL infrastructure to keep their token price stable and have sufficient liquidity across the ecosystem, these protocols will need WHL governance votes for the deployment of the infrastructure and for the liquidity incentives. Infrastructure without incentives for liquidity may struggle to attract the necessary liquidity to keep prices stable across the TRON ecosystem.

To summarize, a Liquidity Hub (LH) is made of a network of liquidity pools and single asset flash loan vaults. It has a fee collector to distribute fees. There is only one LH per chain, but each LH will have multiple WHL pools and flash loan vaults. Each LH is a closed system and can operate on its own and has only a local scope. The interchain command is needed to command and control the LHs on each chain.

Interchain Command

The Interchain Command (ICC) is the aggregator and controller of all the Liquidity Hubs. The ICC components and mechanisms of action are described below.

Summary of Components

Hub Link: Controls the flow of liquidity between the LHs established on selected chains so that liquidity is optimally deployed across the chains based on where it is needed most (demand). Depositors in WHL pools or Flash Loan Vaults deposit on one chain but are actually providing liquidity across all the WHL-selected chains in the TRON ecosystem.

Interchain Router: Aggregates and routes users to optimal swap across all liquidity hubs in the TRON ecosystem.

Collector: collects fees from each LH fee collector and distributes to WHALE stakers

Stability Module: Post collateral to do Interchain arbitrage.

Interchain Command

The Hub Link coordinates liquidity flow between LHs (separate chains) to balance cross-chain liquidity and optimize liquidity depth based on the volume needed on each chain. Additionally, as opposed to interacting with each Liquidity Hub individually, a user will interact with the Interchain Command's Hub Link to provide "Interchain Liquidity." Interchain Liquidity is liquidity that is spread across LHs.

As opposed to having to provide liquidity across various blockchains and dexes individually, a user can make a single deposit into the ICC's Hub Link to provide liquidity across various chains all at once.

The Interchain Router allows end-users to aggregate the liquidity of all the LHs to perform distributed swaps. By swapping, with the ICC's Interchain Router users are getting the best interchain price. Instead of having to check across multiple chains which local dex has the best price. The constant arbitrage between the Liquidity Hub's pools and local dexes guarantees the aggregate price of all the liquidity hubs is the true interchain price of an asset.

The Interchain Fee Collector routinely accumulates protocol fees from all the Liquidity Hubs. The ICC's Fee Collector will use the fee revenue for token buybacks to distribute to WHALE Token stakers.

The Stability Module allows users to post collateral and then perform multiple risk-on arb trades on different WHL pools. Unlike flash loans, these cross-chain swaps cannot be canceled if the trade is not profitable. In the event of negative trades, the collateral will be sold to make WHL whole. WHL will collect fees from the use of the pools as well as the fee to liquidate collateral if the arb is not profitable. The Stability Module is still a work in progress and is subject to change.

The WHALE Token

The native digital cryptographically-secured fungible token of Whale (WHALE) is a transferable representation of attributed governance and utility functions speci- fied in the protocol/code of Whale, which is designed to be used solely as an interoperable utility token on the platform.

The WHALE token also provides economic incentives that will be distributed to encou- rage users to contribute to and participate in the ecosystem of Whale, thereby creating a mutually beneficial system where every participant is fairly compensated for their efforts. The WHALE token is an integral and indispensable part of the Whale platform because without the WHALE token there would be no incentive for users to expend resources to participate in activities or provide services for the benefit of the entire ecosystem of Whale. The tokenomics are designed such that incentive WHALE tokens will be awarded to active users based on their actual usage, activity, and contribution on the Whale platform and/or proportionate to the frequency and volume of transactions.

The WHL Treasury is an ecosystem fund holding 10% of the WHALE initial supply. The Treasury will be governed and controlled by WHALE token holders. The WHL Treasury will be used to issue grants or make investments in outside teams for further develop- ment of the WHL protocol.

Governance

Whale aims to be a pioneer in the rapidly evolving area of decentralized community-led governance. The ethos of this protocol is to empower regular users and redistribute market influence from centralized entities to retail communities; this will be reflected at the heart of Whale within its governance structure.

Staking WHALE tokens will enable users to create and vote on on-chain governance proposals to determine future features and/or parameters of Whale, with vo- ting weight calculated in proportion to the tokens staked. Some examples of the more common governance proposals that we expect will be submitted include: adjusting parameters and fees of the protocol, listing new WHL pools and/or flash loan vaults, community fund spending, and directing WHALE token liquidity incentives.

Here are some standards that the governance process will adhere to:

1. Community members will be encouraged to initiate community discussions on a forum page prior to submitting a governance proposal.

2. Governance proposals will require a deposit of WHALE tokens to submit; the deposit will be reimbursed upon execution of the proposal if the vote reaches a quorum. If a quorum is not reached, the deposit will be forfeited by the proposer and will be distributed to stakers as additional rewards

3. The Whale platform will continue to partner with new projects being built in the TRON ecosystem to discover and implement the new best practices of community governance as we believe these systems are currently still being developed and experimented with.
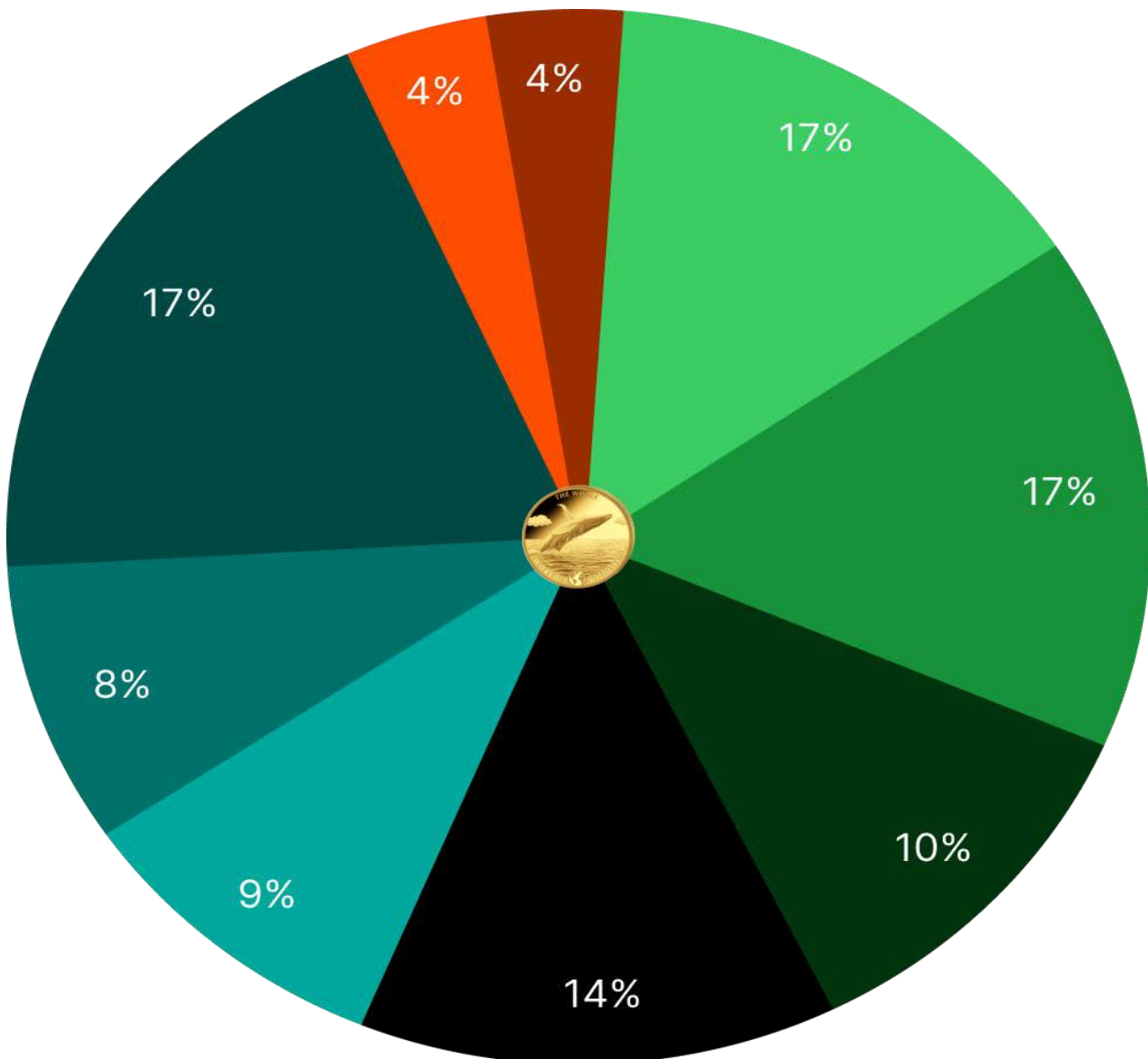
Token Distribution

Total Max Supply

70 million

Distribution

●	Team	**100**	●	Investors I	**85**	●	Investors II	**100**
●	Airdrop I	**100**	●	Infrastructure	**55**	●	Foundation	**25**
●	Airdrop II	**60**	●	Liquidity	**50**	●	Ecosystem Growth	**25**

in million

Roadmap

Q3 2022

Local Liquidity Hubs on TRX & USDT

Airdrop Whale Token to previous V1 holders

Q3-Q4 2022

Deploy Liquidity Hubs on additional TRON chains

Q4 2022

Interchain Command
- Fee Collector
- Hub Link
- Interchain Router

Open source Arb bots

Q1 2023

Protocol Governance

Stability Module

Team

Background

Launched Protocol to Decentralized Arbitrage on TRX V1

• Users earned risk-free arbitrage yield on top of Anchor yield simply for depositing UST into our vault.

Largest protocol-owned treasury on TRX (30M)

• Accumulated the largest treasury on TRX and actively managed the Treasury with community buy-in.

• Performed a Treasury Swap with Apollo DAO and was an active participant in the Astrowars.

Protocol-owned liquidity (12M)

• Avoided having to provide liquidity incentives, thereby decreasing our token's inflation which in turn stabilized our price.

• During the TRX classic collapse, our liquidity pool became the largest pool on Terraswap because all the other pools had their liquidity providers remove their funds.

Pioneered Cosmwasm Flash Loans

• A Flash Loan is a crypto primitive that exhibits billions in volume each year on Ethereum.

• Flash Loans are often misconceived as being only bad because they are often used in protocol exploits. However, exposing deficiencies in the crypto economy using flash loans may make it more robust and hardened.

• Flash Loans empower less capitalized users. By utilizing Flash Loans, arbitrage trades or liquidations that require enormous amounts of capital become available to anyone as long as the trade is profitable. Flash Loans are an underappreciated, equalizing force in the world of decentralized finance.

Launched First IBC Enabled NFT Collection on TRX 2.0

• Fallen Guardian Collection - 10K collection with cw721-ibc token standard

Members

Sara
Founder & CEO

Maira
Head of Smart Contract

Auston
CTO, Tech Lead

Shifu
COO, Smart Contract

Brandom
Front End Developer

Powell
Dev, BD

Julian
Head of Bots

Levo
Smart Contract

Walker
Designer

🐋 References and Footnotes

1. *WHALE token is a functional utility token that will be used as the medium of exchange between participants on Whale in a decentralized manner. The goal of introducing WHALE token is to provide a convenient and secure mode of payment and settlement between participants who interact within the ecosystem on Whale, and it is not, and not intended to be, a medium of exchange accepted by the public (or a section of the public) as payment for goods or services or for the discharge of a debt; nor is it designed or intended to be used by any person as payment for any goods or services whatsoever that are not exclusively provided by the issuer. WHALE token does not in any way represent any shareholding, participation, right, title, or interest in the Company, the Distributor, their respective affiliates, or any other company, enterprise or undertaking, nor will WHALE token entitle token holders to any promise of fees, dividends, revenue, profits or investment returns, and are not intended to constitute securities in Singapore or any relevant jurisdiction. WHALE token may only be utilized on Whale, and ownership of WHALE token carries no rights, express or implied, other than the right to use WHALE token as a means to enable usage of and interaction within Whale.*

2. *The right to vote is restricted solely to voting on features of Whale; it does not entitle WHALE token holders to vote on the operation and management of the Company, its affiliates, or their assets or the disposition of such assets to token holders, or select the board of directors of these entities, or determine the development direction of these entities, does not constitute an equity interest in any of these entities or any collective investment scheme; the arrangement is not intended to be any form of a joint venture or partnership).*

Risks

Whale is currently in the initial development stages and there are a variety of unforeseeable risks. You acknowledge and agree that there are numerous risks

associated with acquiring WHALE token, holding WHALE token, and using WHALE token for participation in Whale. In the worst scenario, this could lead to the loss of all or part of WHALE token held.

If you decide to acquire whale token or participate in whale, you expressly acknowledge, accept and assume the following risks.

Uncertain Regulations and Enforcement Actions: The regulatory status of White Whale, WHALE token and distributed ledger technology is unclear or unsettled in many jurisdictions. The regulation of digital assets has become a primary target of regulation in all major countries in the world. It is impossible to predict how, when or whether regulatory agencies may apply existing regulations or create new regulations with respect to such technology and its applications, including WHALE token and/or White Whale. Regulatory actions could negatively impact WHALE token and/or White Whale in various ways. The Company, the Distributor (or their respective affiliates) may cease operations in a jurisdiction in the event that regulatory actions, or changes to law or regulation, make it illegal to operate in such jurisdiction, or commercially undesirable to obtain the necessary regulatory approval(s) to operate in such jurisdiction.

Inadequate disclosure of information: As at the date hereof, White Whale is still under development and its design concepts, consensus mechanisms, algorithms, codes, and other technical details and parameters may be constantly and frequently updated and changed. Although this whitepaper contains the most current information relating to White Whale, it is not absolutely complete and may still be adjusted and updated by the White Whale team from time to time. The White Whale team has neither the ability nor obligation to keep holders of WHALE token informed of every detail (including development progress and expected milestones) regarding the project to develop White Whale, hence insufficient information disclosure is inevitable and reasonable.

Failure to develop: There is the risk that the development of White Whale will not be executed or implemented as planned, for a variety of reasons, including without limitation the event of a decline in the prices of any digital asset, virtual currency or WHALE token, unforeseen technical difficulties, and shortage of development funds for activities.

Security weaknesses: Hackers or other malicious groups or organizations may attempt to interfere with WHALE token and/or White Whale in a variety of ways, including, but not limited to, malware attacks, denial of service attacks, consensus-based attacks, Sybil attacks, smurfing and spoofing. Furthermore, there is a risk that a third party or a member of the Company, the Distributor or their respective affiliates may intentionally or unintentionally introduce weaknesses into the core infrastructure of WHALE token and/or White Whale, which could negatively affect WHALE token and/or White Whale. Further, the future of cryptography and security innovations are highly unpredictable and advances in cryptography, or technical advances (including without limitation development of quantum computing), could present unknown risks to WHALE token and/or White Whale by rendering ineffective the cryptographic consensus mechanism that underpins that blockchain protocol.

Other risks: In addition, the potential risks briefly mentioned above are not exhaustive and there are other risks (as more particularly set out in the Terms and Conditions) associated with your participation in White Whale, as well as acquisition of, holding and use of WHALE token, including those that the Company or the Distributor cannot anticipate. Such risks may further materialize as unanticipated variations or combinations of the aforementioned risks. You should conduct full due diligence on the Company, the Distributor, their respective affiliates, and the White Whale team, as well as understand the overall framework, mission and vision for White Whale prior to participating in the same and/or acquiring WHALE token.

Whale