

# OIN White Paper

## Table of Contents

<b>Introduction .....</b>	<b>2</b>
<b>Executive Summary.....</b>	<b>2</b>
<b>Mission .....</b>	<b>3</b>
<b>Overview .....</b>	<b>4</b>
<b>Our Technology .....</b>	<b>6</b>
<b>Cross-Chain Technology.....</b>	<b>6</b>
Demand .....	6
Architecture .....	6
Value Transfer Process .....	8
<b>Decentralization .....</b>	<b>9</b>
<b>Data Security.....</b>	<b>9</b>
<b>GIN Product Offerings .....</b>	<b>10</b>
<b>GIN-Swap V1 Pool (Ontology Version).....</b>	<b>10</b>
<b>GIN-Swap V2 Pool (Multiple Assets Swap).....</b>	<b>10</b>
<b>GIN-Wallet.....</b>	<b>11</b>
<b>GIN-DAO.....</b>	<b>12</b>
<b>GIN-Lend .....</b>	<b>14</b>
<b>GIN-Chain.....</b>	<b>15</b>
<b>Liquidity Mining and Staking .....</b>	<b>16</b>
<b>Token Economy .....</b>	<b>17</b>
<b>Token Allocation .....</b>	<b>17</b>
<b>Fundraising Schedule.....</b>	<b>17</b>
<b>Risk Management.....</b>	<b>18</b>
<b>Contract Audit.....</b>	<b>18</b>
<b>Dynamic Collateral Management, Collateral Ratio and Overcollateralization....</b>	<b>18</b>
<b>DISCLAIMER.....</b>	<b>20</b>

## INTRODUCTION

### **Executive Summary**

With blockchain technology finding more applications and use cases, more and more fields are joining the fray with exciting propositions. The DeFi space (Decentralized Finance), has seen its recent boom, becoming a \$5 billion industry. The cumulative value of tokens locked in DeFi applications has surpassed a milestone of \$1 billion. The blockchain industry is now more than ever legitimized by the DeFi players, garnering attention from the average retail investor, to prominent institutional investors.

The quickly growing DeFi industry has outpaced the development of blockchain technology, and is facing the same hurdles as most projects; ease of use, scalability, interoperability, and transaction costs.

Although the DeFi space has reached a massive size, 80% of the applications and value is within the Ethereum network. Despite the community's high expectations of Ethereum 2.0, the continuous delays in its release have created uncertainties of its timeline. The high transaction costs and network congestions continued to be a plague for high-volume projects relying on the network, and has been one of the key factors in limiting the growth of the DeFi ecosystem.

The purpose of the OIN project is to circumvent these hurdles and more by reconstructing the Ethereum DeFi ecosystem on the Ontology network through starting an ecosystem through OIN's lending platform. By developing cross-chain technology, OIN will be able to exchange ETH assets

natively. OIN will leverage ONT's low transaction fees and low congestion to freely expand the ecosystem and grow the userbase to new heights by becoming the easier to use, cheaper option. The DeFi space will now have room to grow without restriction through OIN.

At OIN, our mission is simple: becoming the gateway into DeFi, promote the space, and help grow it to maturity.

## **Mission**

Become the gateway into DeFi

Promote the DeFi industry

Help grow it to maturity

Our three-pronged mission is simple in thought, and ambitious in nature. By reconstructing the DeFi project in the ETH ecosystem on the Ontology network, we are at the forefront of the next big wave of crypto adoption that will eventually take real-world assets into the blockchain world. Our starting point and the current status of the industry gives us a great opportunity in which we can help the unbanked access a more inclusive financial system through technologies such as Digital IDs. By fleshing out our ideas and establishing an ergonomic, comprehensive DeFi platform starting with our own lending program, we will grow with the industry, along with our users. We are excited for what's to come, and we hope you are too.

## Overview

The OIN ecosystem is built upon the second layer of OINChain, giving it cross-chain capabilities and access to various public chains. This provides a powerful tool that will serve as the basis for building out a strong foundation.

Based on Ontology' s network, our platform first connects with the Ontology ecosystem to give rise to our initial platform: OIN-Swap, OIN-Wallet, OIN-DAO, USDO stable coin and OIN-Lend. The initial platform will shortly after be given a massive increase in accessibility through our bridge technology, opening up the other public chains such as the Ethereum network.

This two-step approach brings a stable and predictable growth to OIN' s development as the go-to DeFi platform. By initially focusing on the ONT network, the mechanisms in which leveraging low transaction costs and congestion can be set up and tweaked to perform on large scales, and cement a strong user base by being the only player in the ONT DeFi space. This platform lays out an ergonomic ecosystem in which a user can partake in the DeFi space in a simple and secure manner from staking and pledging, lending and borrowing, to governance. The first step also gives us a chance to reward our early adopters by getting a chance to take a bigger part in shaping OIN through governance and becoming the initial pool of stakers before opening up to a larger user base.

The second step in which we open up to Ethereum and other public chains, instantly brings about a massive jump in our accessible market, as well as their technologies. Leveraging our jump-start on Ontology, bridging into other platforms will allow our community to organically grow, while giving the

ecosystem to cooperate with the various DeFi and related projects in the blockchain industry. This two-step approach ensures that our path to becoming the entry point into the world of DeFi will be strong and stable.

## **Background**

Ethereum famously pioneered the smart contract and created a programmable Turing-Complete architecture for developers to easily create DApps. It enabled a variety of applications previously impossible, which gave rise to its current status as the second biggest platform. It allowed for businesses to not only offer completely new types of value proposition through features such as smart contracts, but it also became the foundation of reinventing existing businesses as well, such as the banking infrastructure.

DeFi, the most valuable blockchain application with the most potential, is able to address many of the pain points of traditional finance. For example, the current state of banking, economics, cultural trends and current events has shown a great distrust in the traditional banking industry by the public. This is exemplified by credit unions. Credit unions are a cooperative banking entity that provides services comparable to the larger traditional banks. They are owned and ran by its members and clients. This can be viewed as a watered-down traditional example of a decentralized entity. Credit unions are largely seen as more trust-worthy, with greater client satisfaction as compared to their larger, more centralized counterparts, the banks.

To address the pain points of the traditional industry, DeFi has started out on the Ethereum network like many other industries in blockchain. Nearly all of DeFi' s smart contracts are currently running on Ethereum, compounding on

its own problem with the already congested ETH network. This coupled with a further delay in Ethereum's upgrade to 2.0, has made performance and cost one of the bottlenecks for DeFi applications.

As industries in blockchain develop, they must branch out from one specific platform and take on a space of its own. This can be achieved through cross-chain technology that is becoming more mature of a concept. Cross-chain technology is a new form of blockchain architecture that allows for value transfer across multiple chains. It means that tokens on different chains can also be swapped. This allows a sub-industry within blockchain, such as DeFi, to truly take on a life of its own by connecting the different platforms and allowing free flow of value and technologies to be leveraged by the industry.

## OUR TECHNOLOGY

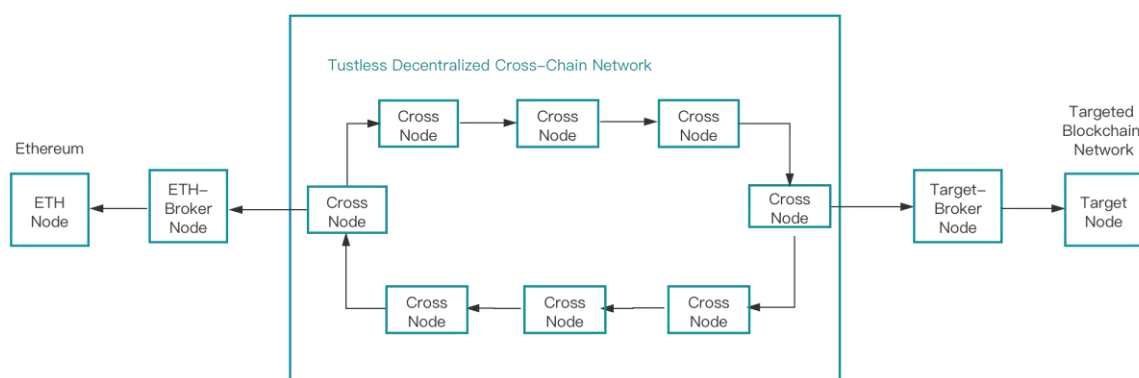
### Cross-Chain Technology

#### *Demand*

A good cross-chain platform in DeFi not only has to provide basic functions such as value transfer across chains, but also meet two high-level needs: decentralization and value transfer security. The latter two needs, once solved, can feed into one another; decentralization can increase security and confidence in the value transfer mechanism and a technical/governance means can increase the security and legitimacy of the data.

#### *Architecture*

The architecture of OIN has been designed to serve as the foundation of not only OIN' s lending pool, but also as a platform for DeFi itself. The cross-chain architecture enables OIN to hook into other blockchain networks and their applications, and vice versa. By opening up these existing networks, it boradens and strengthens OIN' s available offerings. The flexibility of the cross-chain capability also allows the communities that previously had no native access to DeFi offerings also gain a gateway into the service.



The overall architecture includes the Ethereum network, a trustworthy, decentralized cross-chain network, and the target network. The value on Ethereum, including token, smart contracts and other relevant data, can be transferred to the target network through the cross-chain network. As is shown in the diagram above, there are four different kinds of nodes in these networks.

- ETH Node: the ETH Node synchronizes Ethereum data.
- Broker Node: Broker Node listens to and bridges different blockchain networks. Each blockchain system (for instance, ETH, ONT, NEO, BTC, etc) corresponds to a Broker Node. For instance, As shown in the diagram above, the ETH-Broker Node retrieves data from the ETH

Node, listening to it and making judgments. The Target-Broker Node syncs data from the trustworthy decentralized cross-chain network, listening to it and making judgments.

- Cross Node: Cross Nodes are the consensus nodes in the distributed cross-chain network, able to execute transactions sent by the Broker Node.
- Target Node: Target Node is a node in the target blockchain network, able to send all types of transactions to the network.

### *Value Transfer Process*

- 1) The ETH Node continuously syncs data, including various transactions and smart contracts.
- 2) The ETH-Broker Node listens to the smart contract events created by DeFi applications and verifies the Merkle Proof of the corresponding transactions. Once verified, it will proceed to the next step, otherwise, it will pass this event.
- 3) The ETH-Broker Node automatically generates a special type transaction and sends it to the trustworthy, decentralized cross-chain network.
- 4) The Cross Nodes receive the special type transaction, packaging and executing it and the execution results be will processed by the other Broker Node.
- 5) The other Broker Node continuously synchronizes data. After it receives the execution results, it will send a smart contract transaction to the Target Node, which will achieve the same functions as the smart contracts in Ethereum.

## **Decentralization**

To achieve decentralization, our cross-chain network adopts Tendermint's consensus algorithm, which is based on byzantine fault tolerance (BFT). It allows for byzantine fault by some nodes while ensuring performance. It ensures consensus finality while avoiding the various problems that can lead to forking.

Our network uses the stable coin, USDO, as incentives to Cross Nodes to ensure the proper functioning of our network. Individuals or institutions can also stake and vote via our OIN token or try for node elections and participate in the network governance and get rewards.

## **Data Security**

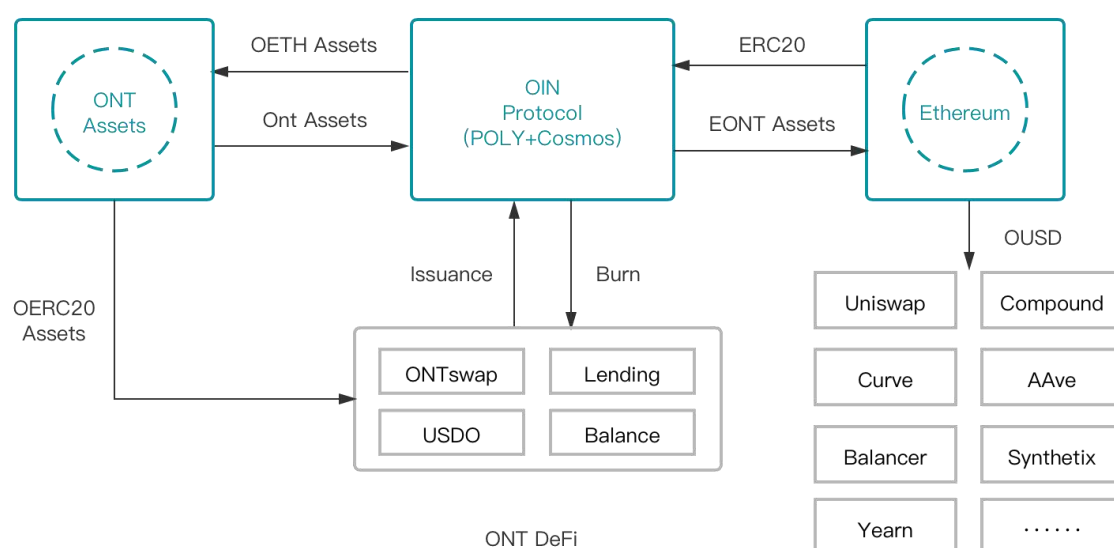
Data security in the process of value transfer is to guarantee the users' assets security. We protect data security via Merkle proofs. Any actions that take place on Ethereum relevant to OIN will be stored in a Merkle tree. The root of the Merkle tree will be written into the block header and a Merkle proof will be generated.

The ETH-Broker Node, after receiving the block header, will verify its Merkle proof to ensure the legitimacy of all recorded events.

## GIN PRODUCT OFFERINGS

### GIN-Swap V1 Pool (Ontology Version)

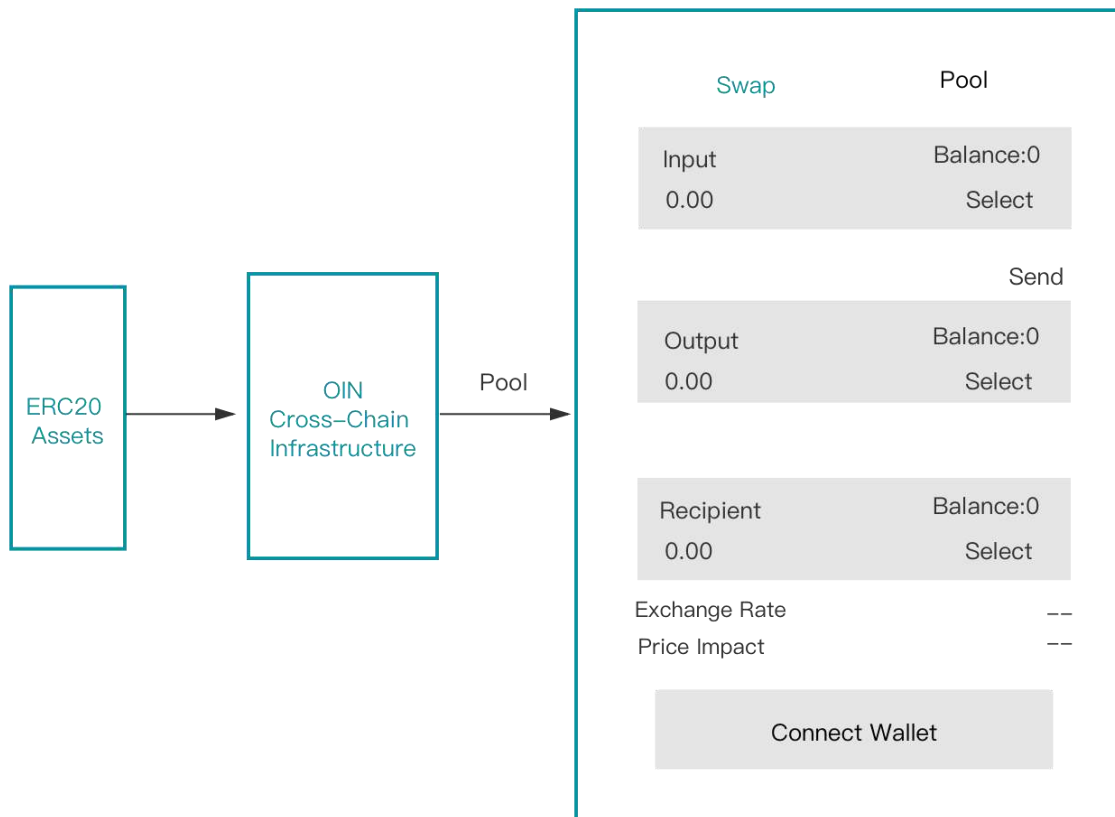
It is the first Decentralized Exchange (DEX) on Ontology to trade ONT assets. It allows users to build a pool of OIN or any ONT tokens. As the Swap pool is a DEX, the price is determined by market forces. An example is presented below:



### GIN-Swap V2 Pool (Multiple Assets Swap)

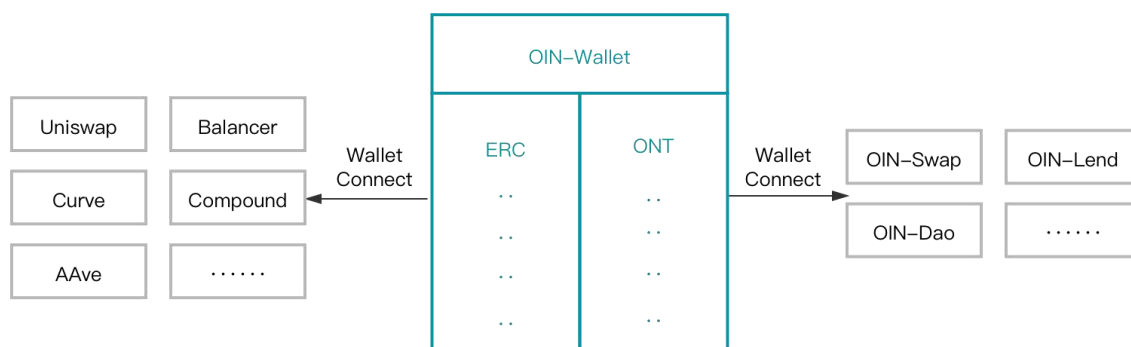
The OIN cross-chain technology allows ERC20 assets on Ethereum to be transferred into the Ontology ecosystem (e.g. ETH becomes OETH in the Ontology ecosystem). In other words, instead of the Ontology ecosystem issuing more assets, ERC 20 assets are mirrored into the Ontology ecosystem pro rata via verification by multiple nodes. This can greatly alleviate the congestion and exorbitant gas fee on Ethereum. In the future, when projects issue tokens on Uniswap, they can use OIN to mirror some of the tokens into

OIN-Swap. ERC 20 assets can form an interoperable pool with Ontology-based assets, as shown in the chart below:



## OIN-Wallet

The OIN-Wallet is based on the underlying cross-chain technology and users' security needs to simultaneously support Ontology and Ethereum assets, along with connections to DeFi projects on Ethereum. Once this second phase is completed, the OIN-Wallet will support Ethereum ecosystem projects such as Curve, Balancer, Compound, and more as needs arise. It will also support liquidity mining and mining by staking of DeFi projects in the Ontology ecosystem.



## OIN-DAO

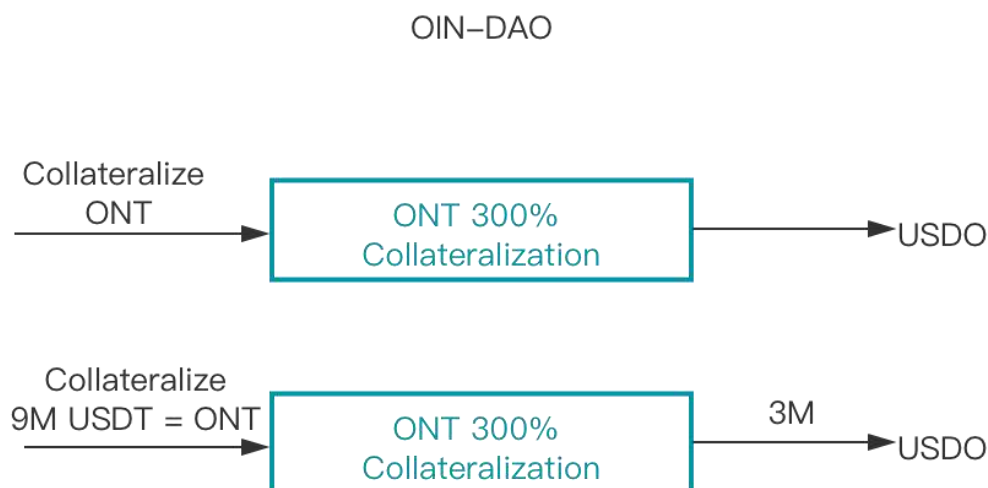
The first step into the OIN-DAO is the native token. OIN token will be circulated in the OIN-DAO as collateral rewards, governance and clearing compensation.

Our stable coin is underlying infrastructure in our lending platform. The OIN ecosystem has PAX which is pegged 1 to 1 to the US dollar. In the spirit of the never-ending pursuit of increasing trust that birthed blockchain technology, our stable coin will be controlled by smart contracts. The OIN-DAO comes with an embedded directive to issue USDO, a USD stable coin with OIN as the collateral, backed by the Ontology PoS network and the great liquidity of OIN. Our stable coin, the USDO, will be the first decentralized stable coin on the OIN network.

OIN will build a collateral pool in the Ontology ecosystem. OIN holders can collateralize their OIN to generate USDO, with an initial collateralization rate of 300%. If the collateralization rate hits 180%, the clearing mechanism will be triggered. Users can deposit their USDO into the OIN-Swap or OIN-Lend pool to earn rewards from liquidity mining and staking. Initially, USDO will only be generated by collateralizing OIN through this method. In the future, the

USDO will be incorporated into the Ethereum ecosystem by the OIN cross-chain function and participate in liquidity mining in Ethereum' s DeFi projects. After the launch of the cross-chain Mainnet, its governance token OIN will be used to vote for more collateral options.

The USDO will fluctuate along with the free market. The goal of the OIN-DAO is to ensure the stability of USDO' s peg to the US Dollar. USDO will be used to calculate the proportions of debt and how much USDO holders can receive when there is systemic debt position. As is shown below:



## Clearing Mechanism

If the collateralization rate drops to 180%, the OIN-DAO system will clear the Collateralized Debt Position (CDP) and auctions off ONT when there is insufficient ONT value to support the USDO. If it is lower than 180%, a clearing penalty of 13% will be imposed. Unlike clearing in a centralized exchange, anyone can initiate a clearing request in the OIN-DAO, so that economic incentive (buying the dips) will attract external participants to jointly ensure the platform' s security. The 13% clearing penalty will be given to the

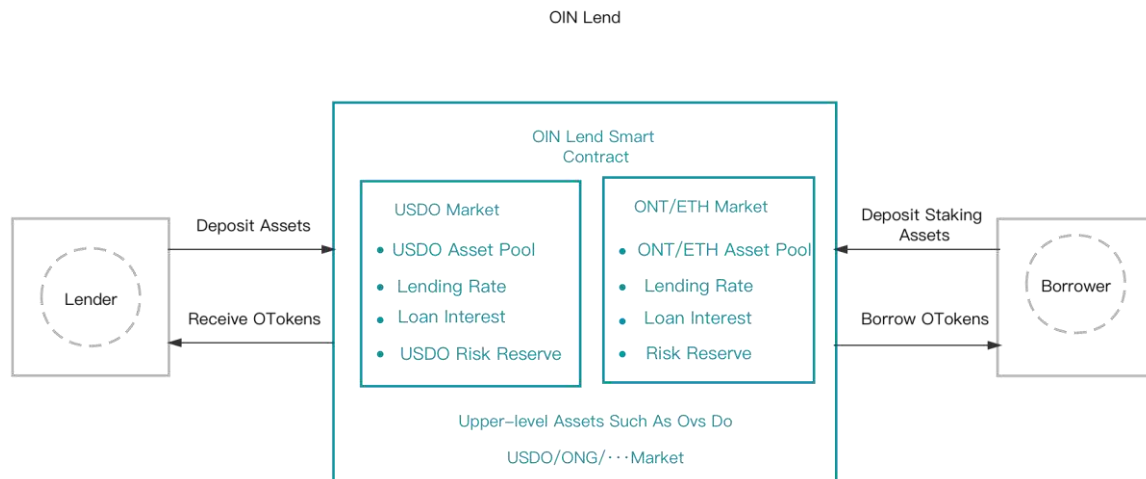
initiator of the clearing request as rewards. In times of emergency or when the market experiences a flash crash that results in the system becoming insolvent, it will issue new OINs on the market. All the funds received from the sale will be used to burn USDO to maintain the peg. If this is not enough to address the systemic risk, then the system will be shut down and all collateralized assets will be returned to the owner. USDO's peg to the USD will be abandoned. USDO holders can submit a request to withdraw their OIN at any time and the contract will burn the USDOs they hold and give them their OIN back.

### **OIN-Lend**

Our lending platform includes decentralized lending of Ethereum and Ontology assets. Loaners and lenders store their assets into the token market based on an OIN smart contract. The assets deposited by the lender/borrower become the underlying assets. OIN will select several tokens (OIN/USDO/ETH...) from the Ethereum and Ontology network that will be accepted to issue the OIN tokens to the user account at the specified exchange rate. After the borrower has over-collateralized his assets, he can borrow from the money market.

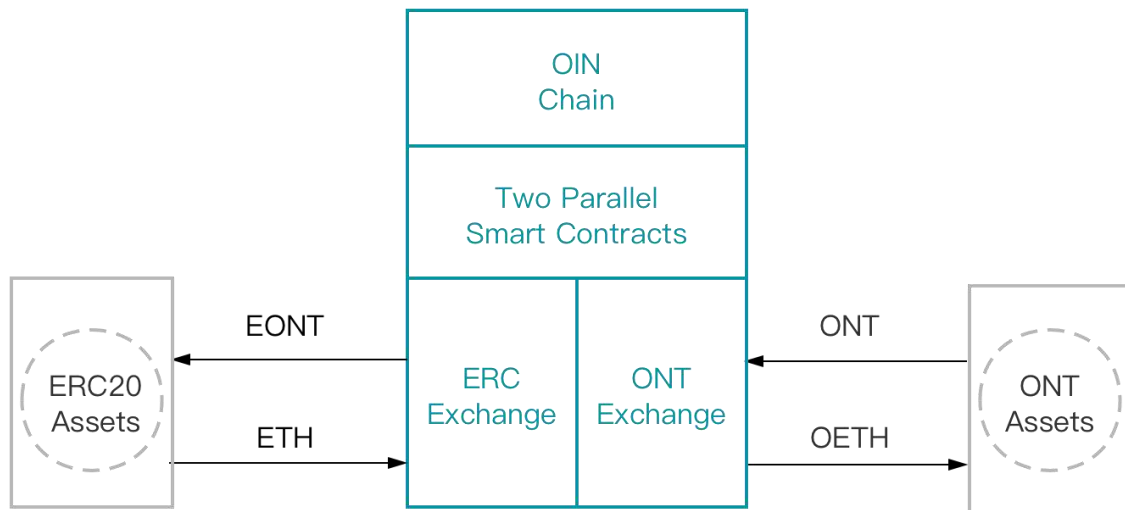
Unlike pure P2P lending, there is no need for borrowers and lenders to negotiate as long as there is liquidity in the pool. The interest rates will be determined by the OIN-Lend smart contract based on market supply and demand. Within the same block, the interest rate will be consistent for all borrowers. OIN-Lend will accrue interests block by block and set aside reserves for each loan to be available to the lenders that wish to withdraw their deposits. Borrowers can repay their loans at any time. If the value of the collateral provided by the borrower is below the clearing value, OIN-Lend will

automatically clear the loan. Unlike Compound, OIN-Lend does not charge by compounding rates. Instead, it will give an annualized rate based on market liquidity at the time of matching. If there is sufficient liquidity, the rate will be lower and if money is tight, the rate will also go up. Collateral must be more than 150% of the loan. An example is shown below:



## OIN-Chain

OIN-Chain is a Layer 2 Protocol that we will launch in the future. Its first use case will be the cross-chain function of Ethereum assets to the Ontology ecosystem to address the network congestion and high gas fees in the former, while enabling Ethereum's DeFi infrastructure to incorporate more assets. As OIN-Chain is a multi-functional adaptor, in addition to bridging ONT and Ethereum, it will connect more public chains with Ethereum in the future.



### Liquidity Mining and Staking

50% of the total OIN Tokens will be generated by liquidity mining and staking. The OIN tokens minted by staking will come from the USDO collateral pools in the OIN-DAO and OIN-Lend.

The OIN tokens minted via liquidity mining will be born into the OIN-Swap V1 Pool and OIN-Swap V2 Pool. After the launch of the OIN-Lend pool and the OIN cross-chain network, Ethereum assets can also be staked the ONT ecosystem and get liquidity mining rewards.

Initially, 40% of the daily minted tokens will be given as staking rewards, and 60% as liquidity mining rewards. Over time, the community can vote via the governance token to adjust the daily allocation.

## TOKEN ECONOMY



### Token Allocation

Total issuance: 100,000,000 OINs

Allocation:

15% for fundraising, hiring, and project development

50% for mining rewards, including liquidity mining, and staking

15% for team incentives

10% for Foundation Reserve for partnerships and community incentives

5% for ecosystem expansion & exchange listing

2% for advisors

3% for marketing

### Fundraising Schedule

2% Seed Round valuation at \$1 million USD

10.6% Private Round valuation at \$5 million USD

2.4% Public Round valuation at \$8 million USD

10% of the tokens sold during the Seed Round will be unlocked after exchange listing and the rest will be unlocked following a schedule of 20% every 3 months.

25% of the tokens sold during the Private Rounds will be unlocked after exchange listing and the rest will be unlocked following a schedule of 25% every 3 months.

Tokens sold during the Public round will not be locked.

The tokens for the team and advisors will be locked for half a year and follow a schedule of unlocking 20% every 6 months.

## **RISK MANAGEMENT**

### **Contract Audit**

We have reached agreements with the best contract auditing companies in both the Ethereum and Ontology ecosystems, to subject every contract to code audit by multiple players before it becomes effective. We will also hold periodical and irregular Hackathon and invite the best in the world to participate as attackers and defenders. We will also hire more external technical advisors to help safeguard the contracts.

### **Dynamic Collateral Management, Collateral Ratio and Overcollateralization**

Collateral is widely used in the OIN-DAO & OIN-Lend contracts. In such a contract, a borrower pledges tokens as collateral. A lender then transfers the

desired type of crypto to the borrower as the loan. After the contract matures, the loan is returned to the lender and the collateral is returned to the borrower. In addition, the borrower pays the lender interest on the loan.

In OIN, collaterals are held in safely guarded contracts managed by decentralized smart contracts on the blockchain – the Collateral Management Contract (CMC). The CMC will recalculate collateral values based on market prices of the crypto tokens held in the collateral and issue margin calls when a set of pre-agreed conditions are met. The CMC will terminate the loan and liquidate the collateral if the margin call is not satisfied before the counter-party risk is materialized. The CMC will also use a range of collateral maintenance ratios and pre-placed limit orders to liquidate the collateral during extreme market volatility to mitigate operational risk.

**DISCLAIMER**

This whitepaper ( "Whitepaper" ) is prepared by OIN Finance (the "Company" ) may be amended from time to time without notice. This Whitepaper is intended to provide general information and is not meant to be exhaustive, comprehensive or authoritative.

**Terms of Use**

This Whitepaper is solely for information and general circulation only and may not be published, circulated, reproduced or distributed in whole or in part to any other person without the written consent of the Company. By receiving or reading this Whitepaper, you agree to be bound by the terms and limitations set out below. Any failure to comply with these terms and limitations may constitute a violation of law. Whilst the Company has taken all reasonable care to ensure that the information contained in this report is not untrue or misleading at the time of publication, we cannot guarantee its accuracy or completeness, and you should not act on it without first independently verifying its contents. The Company, its affiliates and subsidiaries, and each of their agents, directors, contractors, assigns, partners and employees will not be liable for any and all claims, costs, liabilities, expenses, equitable or statutory damages or compensation, indirect, special, incidental, exemplary or consequential damages or loss of profits whatsoever, arising out of the use or access of, or any inability to use or access, or reliance upon, all or any part of this Whitepaper. Any opinion, estimate or other contents contained in this Whitepaper is subject to change without notice.

**Risks Disclosures**

The risks described below, and or other additional risks presently regarded to be immaterial actually materialise, the commercial viability of the OIN Protocol and its features and services may be materially and adversely

affected and could result in the destruction of OIN tokens and/or the termination of the development or operation of the OIN Protocol and its features and services.

OIN Protocol and its associated ecosystem solutions are under development and may undergo significant changes before they are released or implemented. While the Company intends for OIN Protocol and its associated ecosystem solutions to function as described in this Whitepaper, the Company may have to make changes to various features or specifications of OIN Protocol or its associated ecosystem solutions. During the course of development, the Company may also run into difficulties including financial, resourcing or technical difficulties. This may create the risk that OIN Protocol or its associated ecosystem solutions may not meet the expectations users may have and this may adversely impact OIN Protocol, its associated ecosystem solutions and the potential utility of OIN.

While OIN Protocol has a vision of making the OIN solution fully autonomous with community decision making using transparent and fair governance processes, in order to increase protocol development speed and react faster to environmental challenges, some initial decisions will be made in a centralized manner. This includes decisions about token listings, protocol variable adjustments and industry partnerships.

The products and services that are offered by third parties through OIN Protocol may be subject to applicable laws and regulation in the relevant jurisdictions and may create the risk of infringing such laws and regulations. This may negatively impact OIN Protocol, its associated ecosystem solutions and the potential utility of OIN.

The sale and creation of OIN and the development of its associated ecosystem solutions may fail, be abandoned or be delayed for a number of reasons, including lack of interest from the public, lack of funding, or lack of commercial success or prospects (e.g. caused by competing projects).

OIN Protocol, the sale of OIN and/or its associated ecosystem solutions are

based on blockchain technology which is still in a relatively early development stage. OIN is intended to represent a new capability on emerging technology that is not fully proven in use. Any malfunction, flaws, breakdown or abandonment of the underlying blockchain technologies used by OIN may have a material adverse effect on OIN, the sale of OIN and/or its associated ecosystem solutions. As the technology matures, new capabilities may dramatically alter the usefulness of OIN or the ability to use or sell them. The functionality of OIN is complex, will require enhancements and product support over time, and full functionality may take longer than expected. The full functionality of OIN is not yet complete and no assurance can be provided of such completion.

It is possible that certain jurisdictions will apply existing regulations on, or introduce new regulations addressing, blockchain technology, which may be contrary to OIN and/or its associated ecosystem solutions and which may, inter alia, result in substantial modifications of the overall ecosystem strategy relating to OIN and/or its associated ecosystem solutions, including termination and the loss of OIN.

The tax treatment and accounting of OIN is uncertain and may vary amongst jurisdictions. You must seek independent tax advice in connection with purchasing OIN, which has the possibility of resulting in adverse tax consequences.

The value of tokens or cryptocurrencies may fluctuate significantly over a short period of time as a result of various factors including market dynamics, regulatory changes, technical advancements, and economic and political factors. Due to such volatility, the Company may not be able to fund development of OIN Protocol and/or its associated ecosystem solutions, or may not be able to maintain OIN Protocol in the manner that it intended.

It is possible, due to any number of reasons including, but not limited to, an unfavorable fluctuation in the broad cryptographic token market, decrease in OIN utility, the failure of commercial relationships, or intellectual property ownership challenges, that the OIN Protocol may no longer be viable to

operate and the Company may dissolve or be wound up or face an uncertain or changing regulatory regime.

Cryptographic tokens such as OIN are a new and relatively untested technology. In addition to the risks noted above, there are other risks associated with your purchase, holding and use of the OIN that the Company cannot anticipate. Such risks may further materialize as unanticipated variations or combinations of the risks set out above.