



TONGTONG COIN_SOLANA

White Paper

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1. Introduction

Since Bitcoin was first developed in 2008 and the Bitcoin boom occurred in 2018, the blockchain network has been activated and technological advances have continued. With the activation of virtual asset projects based on blockchain technology, Tongtong coin(TTC) ¹ was also issued by Tomato chain, a blockchain development team of Tomato Group. It was the time that Tomato chain laid the foundation for the blockchain network. Following TTC, Tomato Chain has developed a Solana mainnet-based TTCS(Tongtongcoin Solana) token in line with the new blockchain trend NFT(Non-fungible Token) in 2021.

TTCS shares the same blockchain structure with SOL due to its feature that it is based on Solana mainnet. In addition, TTCS aims for the same monetary value as TTC, the key coin of Tongtong chain(TTChain) which is a blockchain network of Tomato chain. Therefore, TTCS and TTC can be swapped. TTCS also can be stored in both a Tongtong wallet ² - which operates on the Tomato Group's messenger platform Tongtong, and a cryptocurrency wallet - that supports SOL-based tokens. One of the representatives of SOL wallets is Sollet.

TTCS can be swapped with SOL and other SOL-based tokens since it is Solana mainnet-based token. In other words, users can freely swap the tokens by using TTCS with the structure of SOL-TTCS-TTC. This process is what Tomato Chain now targets, and it will allow us to create a new token economy by expanding TT chain ecosystem and suggesting the possibility of swaps between heterogeneous mainnet tokens.

Meanwhile, the following are the reasons why Tomato chain chose SOL to

¹ Refer to TTC white paper for more information about TTC

https://tongtongcoin.io/datafile/TongTongCoin_WhitePaper_Korean_v2.2.2.pdf

² Refer to p.23 of TTC white paper for more information about Tongtong wallet

https://wallet.tongtongchain.io/datafile/TongTongCoin_WhitePaper_Korean_v2.2.2.pdf

develop TTCS among many mainnets.

First, it has fast processing speed. SOL basically supports more than about 50,000 TPS with more than 200 nodes. When comparing TPS of Bitcoin and Ethereum - which are 3-7 TPS and 15-40 TPS respectively, it is quite speedy. It results from the Proof of History(PoH) technology that has been applied to SOL. Thus, delegater replacement decisions are made asynchronously, and network interruption does not occur unlike the other blockchains.

Second, it has a low commission. The commission of SOL is \$0.00025. This is way much cheaper than Bitcoin - \$3 per case, and Ethereum – averagely \$8 to \$40. Thanks to a small fee, the burden of transactions that the users previously had will reduce.

Third, its rapid growth in the NFT market. SOL is now also showing strong performance in NFT market in 2022. Ethereum(ETH) grabbed more than 90% of NFT market share as of 2021; however, with the advent of SOL in 2022, ETH's market share has fallen to 80%.

As noted above, SOL's strong points and growing trend in the NFT market indicate that SOL has unlimited potential for development in the blockchain ecosystem in the future. Therefore, Tomato chain will not only strengthen the advantages of TT chain such as stability, convenience, and expandability, but also commercialize TTCS to open a new chapter of the blockchain network.

2. Goals and Prospects of TTCS

2.1 Swapability between heterogeneous mainnet tokens

TTCS aims to have the same currency value as TTC - the main coin of TT chain. If 1 TTC is worth 1,000 Korean won, then TTC will also have a similar value. TTCS is actually based on different mainnet though, it will act as a bridge between TTC and SOL - since both TTCS and TTC are invented by TT chain. Ultimately, we want to enhance user convenience by introducing the possibility of swapping between heterogeneous mainnets and expand the scope of coin transactions in the NFT market.

1) Problem posing

The following context explains why Tomato chain – as a blockchain development team – set up the goals as above.

With the popularization of virtual asset transactions, not only several mainnet-based coins and tokens such as Ethereum and Bitcoin were created, but also NFTs which is the combination of virtual currency and the copyright of contents emerged. Under this circumstance, the user's virtual property P2P transaction has been now extended to NFT transactions. At this point, however, considering the fact that Ethereum accounts for the majority of the NFT market - where heterogeneous mainnet tokens cannot be exchanged, some limitations exist to the expansion of the NFT market.

Efforts have been made to decrease the expensive Ethereum commissions. Polygon, layer2 of Ethereum, has appeared and is used as a payment method for the OpenSea, an NFT market; however, it is fundamentally an ERC20-based token. Clayton, which requires relatively small commissions compared to Ethereum, also exists as a payment method at the OpenSea. Unfortunately, its sales volume is remarkably smaller than the Ethereum-based NFTs. As the NFT market is becoming increasingly popular around the world, NFTs issued by other mainnets besides Ethereum need to be actively traded for further growth.

NFT, currently issued by the game industry as well as the virtual asset industry, has become a main agent of business in various fields. To follow the trend, Tomato chain set up the goal to realize swaps between heterogeneous mainnet tokens. Swaps are related to the activation of NFT transactions that goes beyond simple trading between tokens and tokens. If it becomes possible to purchase Ethereum-based NFT with Bitcoin, the range of users' NFT trades will expand endlessly.

For example, since Ethereum and Bitcoin have different mainnet and based on dissimilar protocols, the two are incompatible. Based on this logic, it is also impossible to purchase Ethereum-based NFT with Bitcoin. Swaps between TTC and SOL or other tokens based on SOL go the same. To address 1) Ethereum-focused NFT markets and 2) the swap problem between heterogeneous mainnet coins, Tomato chain has adopted SOL and issued TTCS, and came up with the solutions.

2) Solutions

TTCS can be exchanged with SOL and SOL-based tokens through ORCA(www.orca.so), which is Solana decentralized exchange. Swapping TTC with TTCS first and then trading TTCS with SOL in ORCA allows exchanging TTCS to SOL to the ultimate.



Figure 1 Structure of swap between SOL-TTCS-TTC

This is not a P2P transaction between TTC and SOL: however, TTS acts as a medium which enables the two coins to be compatible in a broad sense. By expanding the scope of swaps that were only possible within the same mainnet, users are allowed to swap more freely and the TTC ecosystem can be extended

to the Solana mainnet. From a macro perspective, it is expected to open a new horizon for the coin ecosystem by laying the foundation for swaps between heterogeneous mainnet tokens.

2.2 Entering NFT Market and Metaverse

Solana, the mainnet of TTCS, supports NFT. The company, therefore, aims to enter the NFT market by issuing TTCS-based NFT.

In 2021, NFT formed a new blockchain trend by integrating the concept of the virtual currency, contents, and copyright. In the early stages, it was limited to music and art, but is now actively used in various industries such as games and distribution industries.

As of January 2022, NFT is issued and traded based on Ethereum. Since the OpenSea, however, is discussing introducing the cryptocurrency wallet led by SOL-based NFT, several mainnet-based NFTs will be distributed and traded in the future. In line with this trend, SOL-based TTCS will also issue NFTs and participate in the NFT ecosystem starting with the OpenSea.

Additionally, NFT is inextricably related to Metaverse, a virtual space where various users interact. It is sometimes issued as goods in partnership with the Metaverse platform and traded or utilized directly within the platform. TTCS is planning to join in by converging NFTs into the metaverse platform.

3. TTCS Token Ecosystem

3.1 Building internal ecosystem in TTChain

Reliable use is needed to maintain the token ecosystem. It is because Tomato chain pursues to create a virtuous cycle that goes beyond the virtual asset cycle which is simply operated by the users' selling and buying. The good circle appears when virtual assets are used by users, retired by issuers, and then finally returned to users again. To achieve this goal, Tomato chain has established the ecosystem to some extent through TTC based on the TT chain DApps.

Tomato Group offers application services in various fields including real estate, used item trading, e-commerce, etc with Stocktong at the forefront, which has 400,000 users. In DApps of TT chain, coins issued by the TT chain and tokens that are TTC, TTMI(Tongtongmile) are provided as a reward or used to pay for paid merchandise/services. TTCS will also be applied to the applications in the same way as TTC and TTMI.

Furthermore, TTCS of Tomato Group will not only utilized in the conventional platform but also in the new metaverse platform called "Sotong" of 2022. Most customers of "Stocktong", which has the largest number of users among Tomato Group's applications, are in their 30s and 40s. In contrast, "Sotong" is a metaverse which is a trend for the MZ generation. In this respect, it is expected that we will be able to have a customer base that encompasses all ages through "Sotong" in addition to "Stocktong". NFT items that decorate 3D avatars - a means of revealing individuals in "Sotong" - will be issued by Tomato chain and can be purchased by both TTC and TTCS.

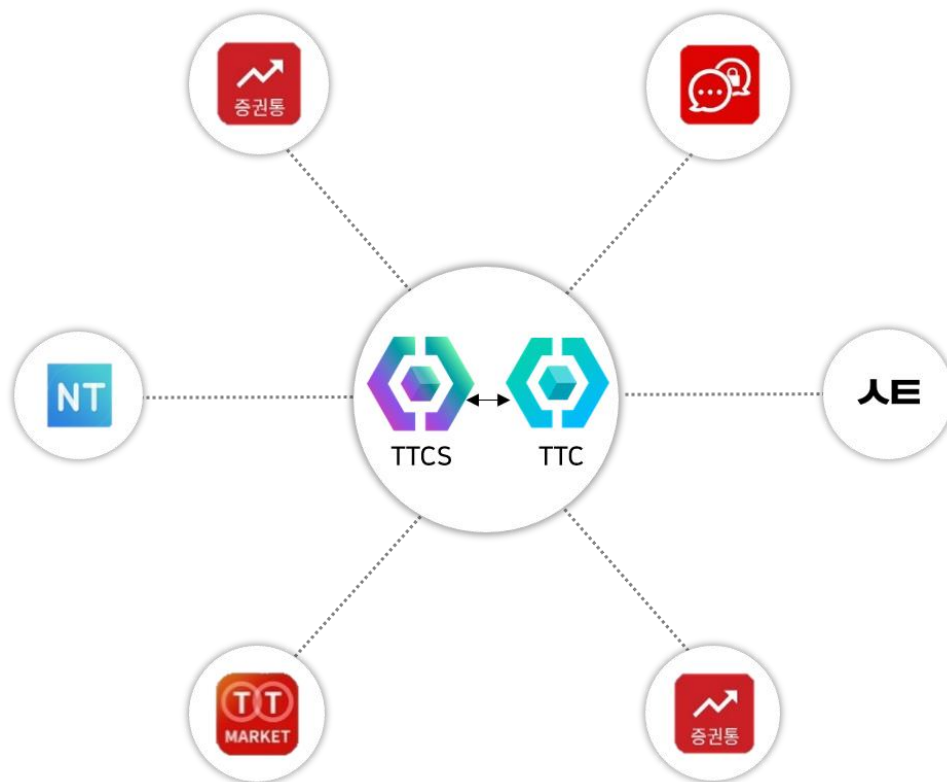


Figure 2 TTCS-TTC economy with TTChain Dapps

In the long run, Tomato chain has a goal to expand the Solana ecosystem along with the TT chain ecosystem by using TTCS as an NFT payment method. Unlike the utility coins, which are issued to simply lead users to enter the digital platforms, TTCS is highly expandable in that it is based on Solana mainnet which targets global users and can be freely traded over nation borders. By those features, TTCS targets to build an external coin ecosystem of TT chain by using the formation of a virtuous cycle structure in TT chain's DApps, focusing on its connection with TTC.

3.2 Building external ecosystem of TT Chain

Tomato chain is planning to build an external coin ecosystem of the TT chain, focusing on the connection between TTCS and TTC. In this way, NFT sales in overseas NFT markets will be conducted online and the TTCS project as a payment

method will be carried out offline. Those events will give TTCS a chance to be commercialized as a means of payment online and offline.

1) Online – Sales of NFT

TTCS was developed on the premise of NFT issuance as described above in p.4(2.2 Entering NFT market and Metaverse) in this manual. In line with this intention, Tomato chain plans to issue and sell TTCS-based NFTs.

First, domestic users can purchase it at the NFT mall, which is scheduled to be updated in Tongtong wallet. NFT is issued based on TTCS; however, since the token is based on Solana mainnet and can be swapped with TTC, it can be purchased with TTC and SOL.

Meanwhile, we are planning to introduce TTCS-based NFT to overseas NFT markets targeting global users. As mentioned earlier, Solana-based NFT sales are currently being considered at the Opensea. To start with the Opensea, we are going to sell NFTs for global users. In this case, NFT can only be purchased by SOL and TTCS. To sum up, our goal is to create a new coin ecosystem to imprint the existence of TTCS to global users and facilitate its use.

2) Offline – TTCS as a payment method

Coin payments have reached the stage of commercialization online, such as purchasing NFT or purchasing Tesla accessories through Dodge Coin. On the contrary, offline coin payment is still in its early stages with only a few stores available using Bitcoin and Paycoin.

Accordingly, Tomato chain plans will provide a service that can be paid with coins and credit cards stored in Tongtong wallet in partnership with offline stores such as restaurants and convenience stores. TTCS will be used as one of the offline payment methods at this point. It will allow TTCS token ecosystem to be extended offline. Moreover, it is expected that these projects will not only contribute to the commercialization of coin payments offline but

also enhance user convenience in payments.

4. ROAD MAP

The main functions of TTCS as stated in the white paper will be developed through continuous updates. Through this process, we will achieve a new token economy.

2022. 1Q

- Issue 1billion TTCS
- Opening TTCS white paper and brand page
- Listed TTCS in DEX exchange

2Q

- Update Solana-based token functionality in the Tongtong wallet
- Update TTCS storage and payment functionality in the TT chain's DApp

3Q

- Update Swap functionality with TTC
- Update on TTCS payment system in Tomato group

4Q

- Issue TTCS-based NFT
- Sales of TTCS-based NFT to global NFT markets

2023. 1Q

- Developing NFT Mall at Tongtong Mall
- Issue NFT on a trial basis for "Sotong" avatar items in partnership with clothing brands

2Q

- Open NFT sales service for "Sotong" avatar items
- Development and partnership of offline store payment services

3Q

- Open offline store payment service on a trial basis

4Q

- Open offline store payment service