

# Cross-Chain Tokens Whitepaper

Convenient cross-chain transactions  
and more utility for your crypto

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## **1. Abstract**

Cross-Chain Tokens(ccTokens) are pegged tokens backed 1:1 with blockchain assets like BTC. It enables the seamless integration of various crypto assets into the DeFi ecosystem. All ccTokens are fully backed and safeguarded by qualified third-party custodians or validators. Meanwhile, a multi-party confirmation mechanism is adopted for its crucial aspects: mining, burning and allowing on-chain verification. It provides cross-chain asset services that are both transparent and reliable.

## **2. Background**

The exponential growth of Dapps, DEXes, DeFi, GameFi, and other technology has prompted the prosperity of the blockchain ecosystem. It has attracted a diverse group of digital asset holders to invest their assets into relevant projects in a seamless manner. As various chains progress, it will provide improved applications and higher demand in its interoperability across multiple chains.

1) Different blockchains have different value propositions. Bitcoin is “Digital Gold”, Stellar is an open network for storing and moving money, and Ethereum is positioned as an operating system for many decentralized economies and applications. Multiple chains and tokens will co-exist. However, with Ethereum gaining market share, it wouldn't be surprising that more and more cross-chain assets will flow into the Ethereum network.

2) In Q4 of 2020, multiple EVM compatible chains went live, ushering in a new era of blockchain competition that attracted a large number of DeFi projects. More and more projects migrated to EVM compatible chains. Instead of Ethereum, projects can be tested at a low cost with fast confirmation. More cross-chain interoperability is inevitable for the future of DeFi. It ensures that different blockchains are not isolated.

Therefore, a platform that can bring digital assets into multi-chain ecology in a fast, convenient, and secure manner will become an essential infrastructure.

Although some wrapped tokens or bridge projects have met the aforementioned requirements to some extent, we have barely seen any projects that provide a cross-chain solution between non-EVM compatible chain and EVM compatible chain, as well as a solution between different EVM compatible chains. If users want to convert their assets in different chains, they will need to go through multiple cross-chain projects to do so. There is no doubt that ccTokens will perfectly solve the problem.

### **3. ccTokens**

ccTokens' vision is to become the bridge of each asset on any blockchain. Our unique advantages will let users participate in DeFi projects on different blockchain networks. ccTokens are backed by a 1:1 crypto assets reserve of the native token, preventing misappropriations or losses.

Since each blockchain has different value propositions and features, ccTokens has designed a flexible solution and smart contracts for different types of blockchain cross-chain. The solution is designed in strict accordance with the following two principles:

In terms of technical aspects, smart contracts and hash mapping are adopted. The reserve deposit addresses, outstanding balances, and transaction records are made 100% public. The reserve addresses are disclosed on the [Cross-Chain website](#). Anyone can check the balance of reserve addresses on-chain in real-time.

In terms of governance aspects, checks and balances are achieved through a multi-institutional framework, roles/rights segregation, and decentralization. This will facilitate the prevention of malice committed by any individual or entity. Moreover, the blacklisting mechanism lays a foundation for ongoing governance and regulatory compliance.

### **4. Governance**

Cross-Chain Network is introducing the “Merchant” role and “Custodian” role to establish a strong correlation between the native assets and ccTokens. Merchant’s ETH address, custodial address to store the native assets, and the Merchant’s address for receiving native assets all need to be verified. It also needs to check the correspondence one by one by the governance parties. The reserve amount published by the custodian is ready for all merchants/users to track and audit. In this scheme, the power and responsibility of each role are as follows:

#### **Governing Bodies:**

- a) Are responsible for the management and optimization of smart contracts.
- b) Handling the entries and exits of custodians and merchants.
- c) Management of the blocklisted addresses and relevant assets.

#### **Custodian:**

- a) Are responsible for maintaining the secure reserve for ccTokens.

- b) Are responsible for the distribution and maintenance of reserve addresses.
- c) Are responsible for the approval or rejection of merchants' minting requests and handling of merchants' burning requests. To also ensure that the reserves transferred, burned, or minted are consistent with the corresponding instructions.
- d) Are responsible for freezing up the reserve for the blocklisted ccTokens and the required execution according to the applicable laws, regulations, or the resolution of the community.

**Merchants:**

- a) Are responsible for initiating minting or burning requests.
- b) Are responsible for maintaining the blockchain address(es) for receiving the transferred reserves (native assets) when ccTokens get burned.
- c) Are responsible for retails of ccTokens.

**End Users:**

Individuals or institutions intend to participate in Defi through ccTokens. The exchange between the end users' native assets and ccTokens must be carried out by the merchants and is abided by the merchants' business policies.

## **5. Governance Parties**

The governing parties are constructed by multiple independent institutions/individuals in the crypto community. This will facilitate the prevention of malice committed by any individual or entity. Moreover, the blacklist mechanism lays a foundation for ongoing governance and regulatory compliance. Governed by an m-of-n multi-signature. Any relevant proposals will come into effect only after the governing members have gone through an m-of-n multi-signature (m being an odd number, while n is greater than m/2) approval procedure.

## **6. Custodian**

The custodian manages the private keys of the reserve in the industry's highest-grade security hardware through a multi-signature mechanism. The custodian will guarantee the highest level of business continuity through system heterogeneity, multi-location setup, and a remote disaster recovery mechanism. Sufficient segregation of duties, rights management, and zero-trust system design need to be in place to ensure safety and the availability of the reserve without dependency on a single or few individuals. Furthermore, the custodian is required to provide an audited record regularly.

## **7. Blocklisting Mechanism**

The blocklisting mechanism is implemented to meet the regulatory requirements. When an end-user or merchant believes that an address is involved in activities violating the regulations or law, he or she can submit a blocklisting request to the governing bodies with sufficient proof. Once the governing bodies confirm it, the corresponding address will be added to the on-chain blacklist. ccTokens on the blacklisted addresses cannot be transferred out or burned and no new deposits are allowed into the blacklisted address. At the same time, the custodian will freeze the corresponding reserve until a further resolution is made by the governing bodies. If a blacklisted address is later found to be innocent, it will be removed from the list upon approval by the governing bodies through multi-sig.

## **8. Future Development**

### **1) Adoption**

Currently, ccTokens are solely for transferring value across native blockchains assets. However, as blockchain adoption becomes prevalent and widely adopted, the ccTokens solution could allow tokenization of various off-chain assets: precious metals, intangible assets, securities, etc, given proper regulation in place. In these scenarios, traditional banks, community warehouses, brokerages could also act as custodians.

### **2) Muti-networks Supported**

Due to the congestion of the Ethereum network and the outrageous gas fees, the DeFi ecosystem has branched out into multiple networks. ccTokens will continue to pay attention to the development of these networks and support cross-chain assets other than Ethereum.