

THE BALANCE PROTOCOL

Whitepaper
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Overview

42DAO, the initiator and manager of Balance Protocol, oversees a DeFi protocol that features a USD-pegged stablecoin, Balance Coin (BLC). BLC is designed to maintain a steady value relative to the USD, serving as a dependable medium for exchange in the crypto economy and across fiat currencies. For the protocol's governance and future development decision-making, 42DAO utilizes governance token known as FTD, which enables its holders to actively participate in shaping the direction of Balance Protocol.

1. Balance Protocol

Balance Protocol, as a USD stablecoin primarily backed by Bitcoin Cash (BCH), can bolster the web3 ecosystem by offering a stable repository of value for users. This allows them to retain their assets in a steadfast currency, mitigating the risk of price volatility. It supports multiple currency exchanges with BLC and each supported currency comes with its own dedicated pool for executing BLC and B-Stablecoin trades. As more users opt for Balance Protocol, it will enhance liquidity in the web3 ecosystem, simultaneously affording users the ability to access credit without resorting to conventional financial intermediaries.

2. The algorithmic based Balance Coin (BLC)

BLC is an algorithmic stablecoin backed by reserves and pegged 1:1 to the US dollar. It supports the collateral swap of stablecoins, stable tokens, and non-stable tokens, each with a distinct overcollateralization ratio, for the minting of BLC tokens. Since it supports multiple tokens as reserves, theoretically, there is no upper limit to the supply of BLC. With the support of the **BCH Ecosystem Fund**, Balance Protocol will initially launch with BCH as an over-collateralized asset for the minting of BLC.



- BLC will initially support BCH as an primary and over-collateralized asset.
- For mainstream tokens like BTC, ETH and BCH, they will initially require overcollateralization of at least 150%.
- For stablecoins like USDC and DAI, they will be collateralized based on their market value in exchange for BLC.
- Currently Balance Protocol will start form supporting USDT with a Pool called USDT Pool, which will be used for exchanging BLC. Users's USDT will be locked in smart contract for exchanging BLC, but they can unlock their USDT by paying BLC under certain conditions. More details on this will be discussed later in this paper.
- For non-stable tokens such as DOGE, the excess collateralization rate will be determined through voting by FTD holders before any exchange for BLC can occur.
- Users can re-pay their BLC for the collateral assets they pledged at any time before their FRV is liquidated. A **Collateral Management Fee** of 1% per annum will be charged by the Balance Protocol during the redemption process.

Conditions must be applied over all protocol by:

- No single asset (except BCH and USDT) can account for more than 30% of the total collateral to prevent any asset from introducing too much single-point risk to the entire protocol.
- The excess collateralization rate for each type of token will be determined through 42DAO voting.

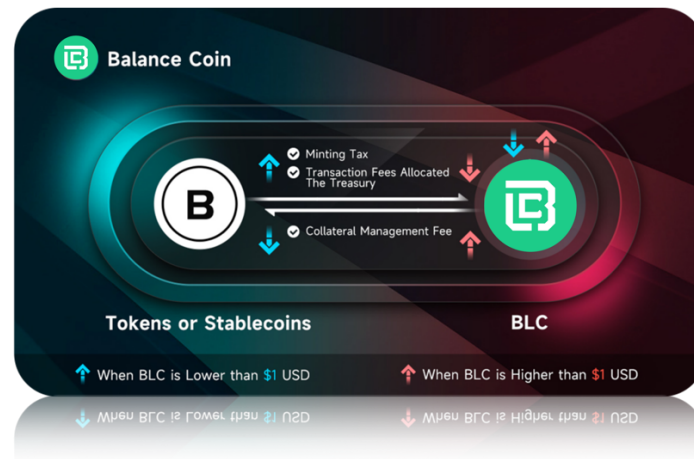
Once the user has accepted and confirmed the excess collateralization rate, the deposited tokens will be stored in the user's First Reserve Vault (FRV) and cannot be used until redeemed. Each token corresponds to a separate first reserve vault. For example, if a user deposits BCH, BTC and ETH, they will have three different FRVs - one for BCH, one for BTC and one for ETH.

3. Mechanisms applied for stabilizing the price of BLC

The supply of BLC is related to its USD unit price:

- When the value of BLC is less than 1 USD, the market demand for BLC decreases, and the circulation of BLC is high, which requires a reduction in the circulation of BLC.
- When the value of BLC is higher than 1 USD, the market demand for BLC increases, and the circulation of BLC is low, which requires an increase in the circulation of BLC.

To maintain the BLC's price at \$1 USD, the primary focus should be on designing the supply changes of BLC from a different perspective including the adjustable **Minting Taxes**, **Transaction Fees Allocated to The Treasury** and **Collateral Management Fee**. The proposed mechanism shown below represents dynamic control of the supply of BLC to adjust when its price above or below \$1 USD.



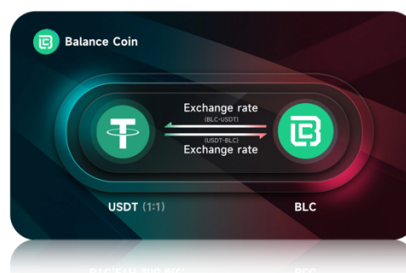
Scenarios and responses when price of BLC changed over tolerance range:

- When the value of BLC is higher than \$1, lowering the **Minting Taxes** and **Transaction Fees Allocated to the Treasury**, while increasing the **Collateral Management Fee**, will encourage users to mortgage assets to exchange for BLC, while preventing users from exchanging BLC back for their own collateral. Ultimately, the supply of BLC in the market will be maintained/increased, helping BLC fall back to around \$1.
- When the value of BLC drops below \$1, increasing the **Minting Taxes** and **Transaction Fees Allocated to The Treasury**, while reducing the **Collateral Management Fee**, will reduce users' willingness to collateralized assets and exchange for BLC, while encouraging users to exchange BLC back for their own collateralized assets. In the end, the circulation of BLC in the market will be maintained/reduced, helping BLC rise back to around \$1.

4. Core components of Balance Protocol

4.1 USDT Pool

The USDT Pool is designed to offer users an official tool to exchange between BLC and USDT with ratio of 1:1 under specific conditions. Users can use USDT to exchange an equivalent value and amount of BLC through a smart contract with a paid exchange fee (USDT-BLC). Alternatively, they can exchange USDT with a paid exchange fee (BLC-USDT) under certain conditions.



The USDT Pool can be viewed as a tool for maintaining the stability of the BLC price, as users respond to market fluctuations in the following scenarios:

- When $BLC > \$1.01$ USD, for example, users exchange more BLC with USDT, then sell BLC for profit. This increases the supply of BLC, which leads to the price of BLC decreasing to \$1.
- When $BLC < \$0.99$ USD, users exchange USDT with BLC, then sell USDT for profit. This decreases the supply of BLC, which leads to the price of USDN increasing to \$1.

When a user uses USDT to exchange BLC with a ratio of 1:1, the user will receive the same value of virtual BLC (vBLC) along with exchanged BLC. Here are the specifics pertaining to vBLC.:

- 1) BLC minted through BTC, ETH or BCH collaterals will not generate vBLC.
- 2) Users will receive the same amount of vBLC as BLC exchanged by using USDT.
- 3) Exchange fees will be charged, but it will be different compared to fees charged during collateralized minting. The Exchange fees are adjustable with a dynamically changing mechanism to control the supply of BLC when its price is above or below \$1.
- 4) vBLC holders can share the returns generated from the following sources:
 - a. Part of the exchange fees collected from exchanging BLC by using USDT (controlled and managed by 42DAO, but initially decided by the Balance Protocol).
 - b. Part of the governance tokens (FTD) will be rewarded to vBLC holders. vBLC holders will receive FTD as a return according to the proportion of vBLC they hold. This reward will gradually decrease when the total paid exchange fees reach an appropriate level.

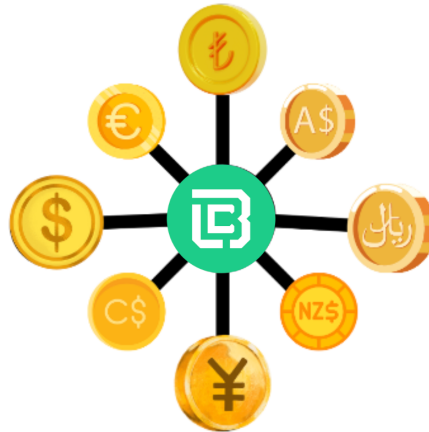
The overall reward of holding vBLC will be less than the reward granted through collateralized minting.

- 5) Users can choose to burn vBLC to get partially fee-free exchanges when using BLC to exchange USDT. The amount of vBLC burnt will determine the amount of chargeable USDT that will be deducted. For example, if the exchange fee is 1% and James has 100 BLC and 100 vBLC, he can choose to burn 50 vBLC when he wants to use all of his BLC to exchange USDT. Then, 50 USDT will be the chargeable amount for exchange fee, and the exchange fee payable will be 0.5 USDT instead of 1 USDT. The amount of vBLC burnt depends entirely on the user's decision (0, partially, or fully burnt).
- 6) When exchanging USDT with BLC, for example, only 10% of the total amount of USDT in the pool each day is allowed for exchanging, with additional information provided for setting limits for each address.

4.2 Currency-Stablecoin Exchange Hub

The Currency-Stablecoin Exchange Hub (CSEH) is an important component of Balance Protocol that enables users to convert their BLC into a specific currency-stablecoin (B-Stablecoin). CSEH provides support for multiple currency exchanges in relation to BLC. For

each supported currency, there's a distinct pool designed for BLC and B-Stablecoin transactions.



For example, if James wants to obtain a stablecoin anchored to the dirham (AED), he can transfer 100 BLC to the AED-Pool. The AED-Pool will then provide AEDC (B-Stablecoin) based on the Balance Protocol's exchange rate between USD and AED and deposit it into James' wallet address, now James can then freely use these AEDC. The user who ultimately holds AEDC (perhaps James or other AEDC holders) can transfer it back into the AED-Pool and exchange it for BLC based on the Balance Protocol's exchange rate between AED and USD. This mechanism does not involve pledging BLC by the original B-Stablecoin owner but facilitates the exchange (swap) between BLC and B-Stablecoin.

At present, the production of B-Stablecoins with relatively stable fiat prices is the only supported feature. However, in the future, the protocol will establish which new B-Stablecoins will be produced based on the 42DAO voting outcome.

4.3 Buffer Pool

The Buffer Pool is a Balance Protocol owned pool that generates income primarily from liquidation penalties in USDT. Once the USDT balance in the Buffer Pool exceeds a certain threshold, the excess funds are used to purchase FTD tokens for the purpose of burning them.

If the Buffer Pool has a relatively small amount of funds, such as less than \$10,000 USD, the smart contract will be triggered to mint BLC and use it for auction to supplement the buffer pool and ensure normal liquidation. Alternatively, if the funds in the Buffer Pool are insufficient during liquidation, BLC can be temporarily minted and used for auction until assets value of Buffer Pool reach \$10,000 USD. Buffer Pool details will be pre-defined by Balance Protocol until 42DAO votes to change.

5. Oracle

Token prices are pushed through price oracle feeds, which can be modeled after the mechanism used by MakerDAO. MakerDAO relies on a group of trusted oracle nodes, selected through voting, to provide price information to the Maker system. The number of nodes in the group is also controlled by MKR voters. To prevent attackers from controlling

most of the oracle nodes, the Maker protocol uses an Oracle Security Module (OSM) to obtain price information, rather than directly relying on the oracle nodes. The OSM is a defense layer between the oracle nodes and the Maker protocol, which delays price updates by one hour. During this time, if an Oracle node is found to be compromised, it can be frozen through emergency feeders or Maker governance voting. The decision-making power for emergency feeders and price delays lies with MKR holders.

The proposed Oracle mechanism will be officially implemented once the 42DAO community reaches an appropriate level of growth. This approach will ensure that the Oracle system is deployed in a way that is most beneficial to the community and its needs.

BLC and B-Stablecoin transactions will entail the deployment of another Oracle for exchange rate determination. The Balance Protocol will leverage a minimum of two official financial market data sources for obtaining an average exchange rate, with necessary adjustments being made for the accurate reflection of real-time market values. In turn, modifications to the Exchange Rate Oracle and adjustments in tune with the averaged exchange rates will be driven by the voting outcomes of 42DAO.

6. Risk Control

The Balance Protocol is designed to consider various potential risks that may arise, including "black swan" events such as a significant drop in the price of a particular collateral token. To ensure the safety and stability of the protocol, the system will monitor the total value of the FRV and activate the liquidation process if it falls below the liquidation ratio.

This mechanism ensures that the protocol remains secure and protects users' collective assets in the event of a market downturn. By proactively managing risk and implementing robust risk control measures, the Balance Protocol aims to provide a reliable and trustworthy stablecoin solution for users.

6.1 Liquidation activation mechanism

Different collateralized asset will adopt a different liquidation rate to prevent the liquidation of collateral assets in the event of a black swan incident or a sharp drop in the currency's value in a short period of time.

6.2 Liquidation mechanism

When the total value of a user's FRV falls below the liquidation rate, the liquidation mechanism will be triggered. The system will then initiate the liquidation process of the collateral.

If current collateral ratio (149%) < liquidation ratio (150%), then Liquidation mechanism triggered.

When the price of assets such as BTC, ETH or BCH that users have pledged drops to the liquidation price (i.e., when the excess collateralization ratio is lower than the liquidation ratio), the assets will be sold on a decentralized exchange or through auctions, and the

resulting USDT will be deposited into the USDT pool. A liquidation penalty can be set, which can also be combined with redemption fees.

In the event of a liquidation, the Balance Protocol will initiate a Debt and Collateral Auction mechanism (modeled after the successful liquidation process used by the DAI) to ensure the stability of the protocol. When a user's collateral falls below the required threshold, the system will automatically buy the collateral and sell it in an auction to cover the debt.

To take over the collateral of the user's position, the system will first need to raise enough BLC tokens to cover the debt. This is called a Debt Auction, and it works by diluting the supply of the BLC token and selling it to bidders in an auction format.

In parallel, the collateral of the user's position is sold in a Collateral Auction where all proceeds (also denominated in BLC) up to the user's debt amount plus a Liquidation Penalty (a risk parameter determined by Balance Protocol governance token - FTD) is used to buy BLC and remove it from the supply. This directly counteracts the BLC dilution that happened during the Debt Auction.

If enough BLC is bid to fully cover the user's debt plus the Liquidation Penalty, the Collateral Auction switches to a reverse auction mechanism and tries to sell as little collateral as possible. Any leftover collateral is returned to the original owner of the position. This mechanism ensures that the Balance Protocol remains stable and secure even in times of market volatility.

7. Governance

As the governing body of the Balance Protocol, 42DAO plays a pivotal role in maintaining and enhancing this pioneering DeFi protocol. Its responsibilities include managing the stability of the Balance Coin (BLC), directing strategic decision-making, and ensuring the adaptability and sustainability of the protocol in the evolving crypto economy.

7.1 Introduction of 42DAO

42DAO operates as the governance entity for the Balance Protocol, and the **BCH Ecosystem Fund** is one of the founding members of 42DAO, which endorse and back 42DAO with full supports, including funds, resources, and strategic cooperation. Its goal is to bring persistent vigor and innovative attraction to BCH, thereby enhancing its fundamental stability.

7.2 Governance Token

The FTD is the governance token of the Balance Protocol and 42DAO. As a holder of FTD, users have the ability to participate in the governance of the protocol and shape its future direction.

FTD holders can participate in votes on important decisions such as changes to the protocol's parameters, upgrades to the system, and the addition of new collateral types. This gives users a direct say in the development of the protocol and ensures that the Balance Protocol remains responsive to the needs of its community.

In addition to governance rights, FTD holders may also receive rewards for participating in the protocol's governance process. This incentivizes users to actively engage with the platform and contribute to its growth and success.

7.3 Tokenomic

The total supply of FTD tokens will amount to 100,000,000.

The initial token distribution plan for the Balance Protocol is designed to balance the protocol's operations and promote decentralization by reducing the allocation for Seeds and Strategic Investment. The plan also increases the allocation for the Ecosystem to support further development and growth of the Balance Protocol.

Note: The primary goal of allocating tokens to initial liquidity is to ensure there is enough liquidity available in the market from the start. This can help in providing price stability and facilitating smooth trading operations. Immediate availability without a lock period can help achieve these goals effectively.

Token Distribution	Token Supply	Percentage	Vesting
BLC Minting Rewards and BLC Ecosystem Applications	40,000,000	40.00%	Vesting is the gradual release of BLC minting rewards over time, promoting long-term commitment within the BLC ecosystem.
Community and BLC Staking Rewards	27,000,000	27.00%	Gradual release of rewards over time, encouraging ongoing participation and commitment.
DAO Governance	20,000,000	20.00%	6-month cliff, then 36 months of equal monthly vesting.
Seeds and Strategic Investment	10,000,000	10.00%	6-month cliff, then 36 months of equal monthly vesting.
Initial Liquidity	3,000,000	3.00%	Fully Unlocked

7.4 Ecosystem of 42DAO

42DAO aims to create an ecosystem of investment, incubation, and collaboration based on the BLC stablecoin. This ecosystem will fully utilize the potential of the BLC stablecoin and its B-Stablecoin fiat stablecoin, effectively integrating and fusing virtual currency assets, online and offline trade, and real-world assets. 42DAO is also dedicated to promoting the application of the BLC stablecoin in blockchain projects, such as metaverse games, aiming to provide stable, efficient, and convenient payment scenarios for high-quality metaverse

games.

In its initial phase, 42DAO will utilize B-Stablecoin CNYC (CNY), AEDC (AED), and IRRC(IRR) to explore and apply the CSEH feature in its newly developed metaverse game. This is to promote market expansion of the BLC stablecoin and B-Stablecoin, thereby realizing a DeFi ecosystem centered on the BLC stablecoin.

7.5 Organizational Structure

1. **The 42DAO Council**, responsible for proposals, which can be submitted to the community for voting once approved by an absolute majority internally. Proposals include key system parameters such as the over-collateralization ratio, BLC loan interest, and exchange rate adjustments with various fiat stablecoins, along with other matters relating to the development of 42DAO.
2. **The 42DAO Committee**, responsible for tracking and implementing proposals, representing the project in communication with the community and partners, and promoting community development. The committee is selected and employed by the 42DAO Council, and Committee members must hold a regular meeting every week and report their work progress to the community, and submit a monthly report to the council. The council arranges a coordinator to work with the committee.
3. **Project Operations Team**. Council members and committee members can initiate project working groups and receive financial and resource support from 42DAO.