Digital Currency DCJPY (tentative name) White Paper

November 2021

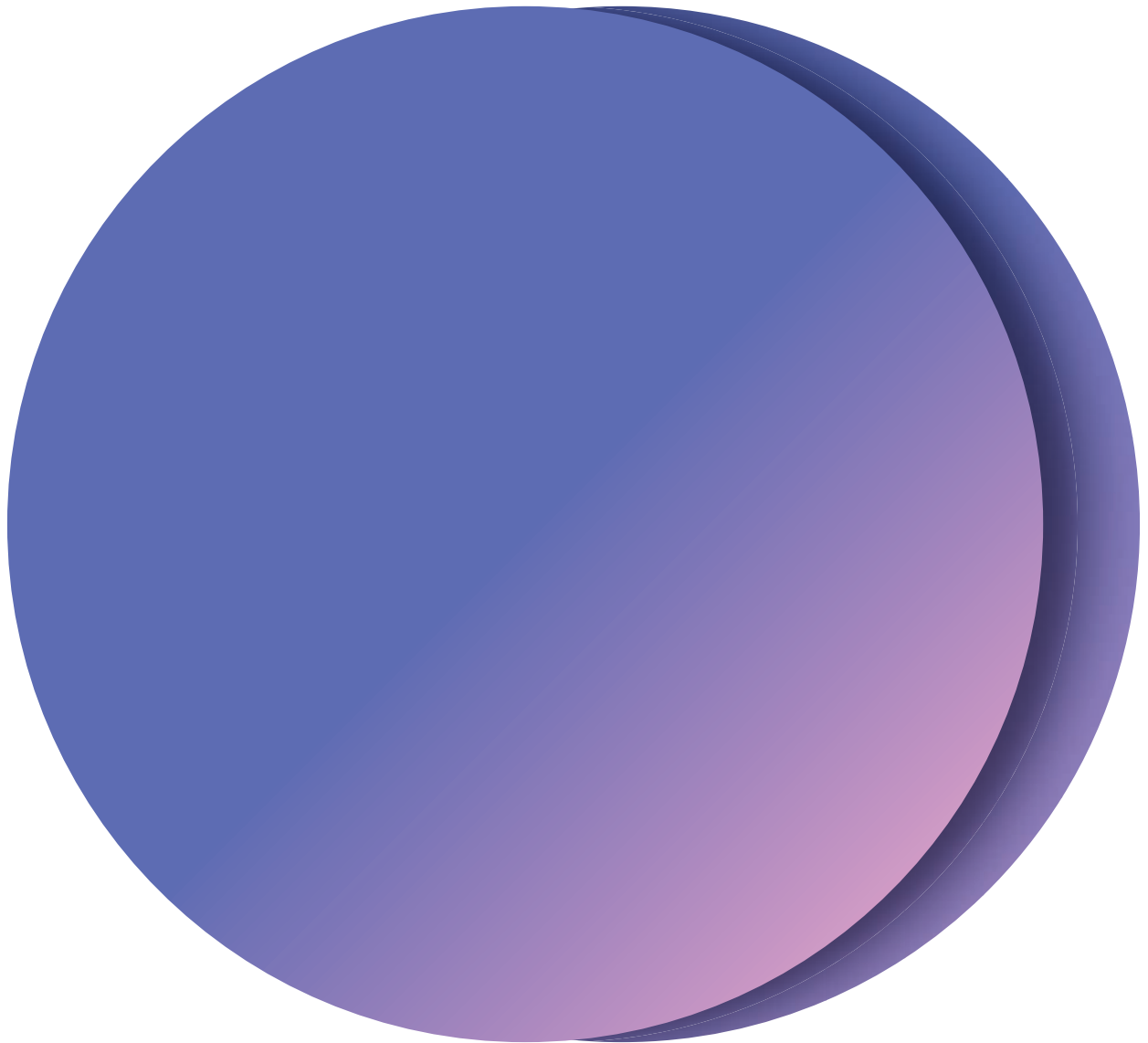## Table of Contents

About the name of the Digital Currency

The digital currency being developed by the Digital Currency Forum is tentatively called as "DCJPY". The Forum will continue considering how its digital currency should be entitled.

Executive summary

Recently, there has been a significant increase in social demand for economic digitalization and digital transformation ("DX"). This is due to recent innovation of digital technologies, rapid popularization of smartphones and other digital devices, drastic increase in the volume of data, and expanding possibilities for data utilization. Furthermore, the spread of Covid-19 infections disease has prompted digitalization efforts from the perspective of developing an infrastructure that can sustain economic and social activities while avoiding physical contact of humans.

Increasingly sophisticated and complex societal demands are also working towards accelerating the application of digital technologies and DX. The policy goals for sustainability and decarbonization are increasing the need to track and ensure traceability through digital technologies, including carbon foot-printing. New assets class such as Non-Fungible Token ("NFT") and security token ("ST") are also emerging through digital technologies. Furthermore, the social issue of regional revitalization is also leading to expectations for the application of digital technology.

To drive a DX and link digital technologies to economic growth and increased social welfare, there is a payment and settlement infrastructure that can be driven by private-sector-led innovation. It must be secure, reliable, fast, inexpensive, widely available, and able to meet a variety of needs.

To achieve this aim, it is important to proactively utilize digital technology in the payment and settlement infrastructure itself. Currently, such efforts are accelerating worldwide. For example, BigTechs, which are giant tech companies, are entering the digital payments. These also include the emergence of crypto assets, "stable coins" based on new digital technologies and aiming to stabilize their value, and the Central Bank Digital Currency ("CBDC") initiatives.

One of the most promising technologies is Blockchain or distributed ledger technology ("DLT"). These were originally introduced along with crypto assets as technologies to prevent alteration of ledgers and double transfers. More recently, they are expected to create a programmable infrastructure that can be used to write "smart contracts" tailored to individual business needs. These functions are attracting attention not only for payment settlements, but also for the creation of new investment products, and as an infrastructure that enables trading of various digital contents such as digital art and music.

Considering recent advances in digital technology and the demands of the economy and society, the Digital Currency Forum has been actively studying the ideal form of digital payment and settlement infrastructure, which could contribute to enhancing people's welfare and to fostering the developments of the economic society. The forum has decided to develop a yen-denominated digital currency with a two-tiered structure that incorporates new technologies, and to move forward with efforts to put it into practical daily usage. This digital currency will be tentatively called DCJPY. The name of the digital currency will be further discussed and officially be announced at the earliest opportunity by the Forum.

The "Common Area" of the DCJPY digital currency will be a structure shared by all the digital currencies issued under the scheme and will contain information on value and will be in charge of them for issuance and burn. This area is expected to ensure "interoperability" between digital currencies.

The "Business Process Area" of the digital currency DCJPY can be programmed to meet various business needs (i.e., programmability), and will be responsible for the distribution of the digital currency. In this way, it will be possible to respond to a variety of business needs, such as linking payments and settlements with logistics and commercial distribution, and simultaneous delivery of goods and services and fund settlement payments (Delivery versus Payment, "DvP").

There are various options for stabilizing the value of such digital currencies in Japanese Yen. For example, a method of storing an amount equivalent to the balance in a safe and liquid asset in a bankruptcy-remote manner could be considered. Based on the idea that the infrastructure for such a digital currency should be realized as soon as possible, the Digital Currency Forum has decided to first consider a scheme in which the digital currencies are issued by banks as their liabilities, similar to deposits. This is based on the fact that the safety and soundness of bank deposits are secured by bank regulation, supervision and deposit insurance. Individuals and firms use bank deposits as payment instruments without worrying much about their soundness. Therefore, the Forum considered that the digital currencies issued by banks could be the fastest way to incorporate digital technologies in payment infrastructure.

Currently, so-called "stabled coins," which are designed to stabilize their value, are seen as a promising means of payment. However, there is a global concern about regulatory gap among them and bank deposits. In this regard, the scheme of "turning bank deposits into digital currency DCJPY" will be able to overcome such problems. It also avoids the risk that digital currency will erode bank deposits and reduce financial intermediation through banks. The Digital Currency Forum is not limiting itself to this scheme and will continue to explore and study other options.

The Digital Currency Forum also envisions that digital currency, DCJPY, will be able to connect organically with other digital platforms. In other words, the Forum aims to realize a form of "Digital Payment as a Service," in which various economic activities and businesses can add payment and settlement functions as one of their wide-ranging services by incorporating the scheme of digital currency in accordance with their own business needs. The Digital Currency Forum will post future updates on a regular basis.

About the Digital Currency DCJPY (tentative name)

[1] Overview

This chapter describes the characteristics of DCJPY, the Two-tiered Digital Currency that the Digital Currency Forum is working on, and the platform which is the mechanism making it usable.
The platform itself, which handles DCJPY, is not necessarily limited to yen-denominated digital currencies, and the Forum believes that a wide range of applications including cross-border instruments are possible, although addressing money laundering and other relevant issues are yet to be explored.

a. Features of the Digital Currency "DCJPY"

This chapter describes the characteristics of DCJPY, the Two-tiered Digital Currency that the Digital Currency Forum is working on, and the platform which is the mechanism making it usable.
The platform itself, which handles DCJPY, is not necessarily limited to yen-denominated digital currencies, and the Forum believes that a wide range of applications including cross-border instruments are possible, although addressing money laundering and other relevant issues are yet to be explored.

b. Nature of the digital currency DCJPY

It is assumed that the digital currency DCJPY will be issued by commercial banks as their liabilities, which are similar to bank deposits.

The minimum currency unit of DCJPY is one Japanese Yen. The Digital Currency Forum will continue to consider how to handle cases where there is a need for smaller currency settlement of funds in less than a unit.
It is assumed that DCJPY will not bear interests and will be insured by deposit insurance.

The act of transferring DCJPY to another user based on a user's request is assumed to be regarded as an exchange act by a private commercial bank as an issuer. The exchange of DCJPY between users in the Business Process Area is assumed to be "the act of a user instructing the issuer bank to transfer DCJPY in the Common Area. In this way, the series of operations recorded in the Business Process Area is positioned as a record of the transmission of instructions, and the transfer of DCJPY itself is based on the record of DCJPY account balances in the Common Area.

c. Digital Currency DCJPY Scope of Offer

For the time being, the users of the digital currency DCJPY are assumed to be corporations and individuals within Japan, and the places where DCJPY can be used are also assumed to be within Japan.

In the near future, The Digital Currency Forum would like to profoundly research and may consider the possibility of use by non-residents and use outside Japan.

d. "Mint", "Transfer", and "Burn" of the digital currency DCJPY

The digital currency, DCJPY, will be minted by withdrawing deposit from the user's bank account and posting the equivalent amount of DCJPY to the digital currency account opened by the user on the digital currency platform.

DCJPY will be transferred from a user's account to another user's account by (i) direct transfer instructions in the Common Area as described below, or (ii) receiving transfer instructions in the Business Process Area as described below, which transfer instructions are automatically transmitted to the Common Area.

DCJPY is also burned in the form of a reduction in the account balance of the digital currency upon the user's request and the delivery of an equivalent amount of cash or deposit to the user.
(i.e., At the initial stage, users who wish to exchange DCJPY for cash are required to do so via bank deposits.)

e. Common Area and Business Process Area

To issue, transfer, and burn the digital currency DCJPY, the Digital Currency Forum has defined and established two-tiered area, so called "Common Area " and "Business Process Area", and envision a mechanism to link them. This is also called the "Two-tiered Digital Currency Platform.

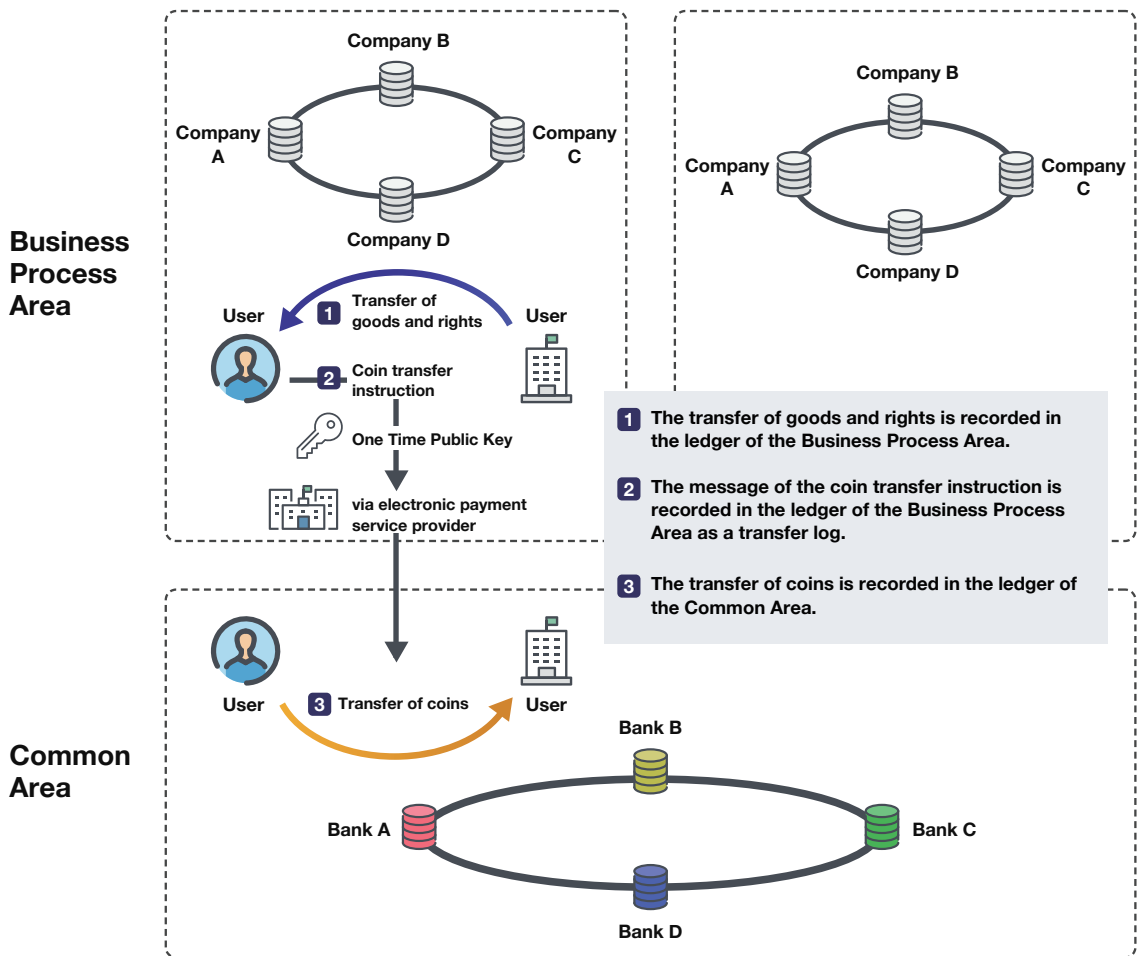The functions of the Common Area and the Business Process Area are as follows.

Figure 1-1: Common Area and Business Process Area in Two-tiered Digital Currency

f. Common Area

The Common Area provides functions for managing the ledger, which records the balance of the digital currency DCJPY, and related operations, as well as mechanisms for linking with the ledger systems of commercial banks when they issue digital currency.

To open a digital currency account, a user must first have a bank deposit account with a commercial bank that manages digital currency accounts. Upon receiving a request for the issuance of DCJPY from the user, the bank will debit the user's bank account and credit the same amount of DCJPY to the balance of the user's Common Area account.

The DCJPY issued in this way can be transferred to other users' accounts in the Common Area. Currently, this service is limited to transfers between digital currency accounts managed by the same bank, and the Digital Currency Forum will continue to study proactively the possibility of transfer service among digital currency accounts managed by different banks, with a view to more practical daily commercial usage.

Functions such as issuance and burn of DCJPY using the Common Area, checking the balance of the account for the Common Area, and designating the Business Process Area are expected to be performed through the common application, "Common App" for DCJPY or through applications provided by individual commercial banks.

The Common Area will also contain an account for the Business Process Area, in which will be linked to the exchange of DCJPY through the Business Process Area as described below. Users will be able to transfer their account balances between the Common Area account and the Business Process Area Sync account within the Common Area.

g. Business Process Area

The Business Process Area is an area where programs can be programable and written to meet a variety of service needs. This makes it possible, for example, to use DCJPY for payment settlement in a way that links it to the flow of goods.

Specifically, within the Common Area, DCJPY is transferred from the user's Common Area account to the Business Process Area Sync Account. The Business Process Area Account is created in the form of a link to this account. When the balance of the Business Process Area (the Business Process Area Coin) in the Business Process Area Account is transferred by a user operation or smart contract, etc., DCJPY in the Business Process Sync Account in the Common Area will be transferred between users, reflecting the transfer in the Business Process Area.

In this case, the record of the transfer in the Business Process Area can be regarded as the record of the instruction for the transfer of DCJPY in the Business Process Sync Account that exists in the Common Area (the transfer of digital currency itself is conducted in the Common Area).
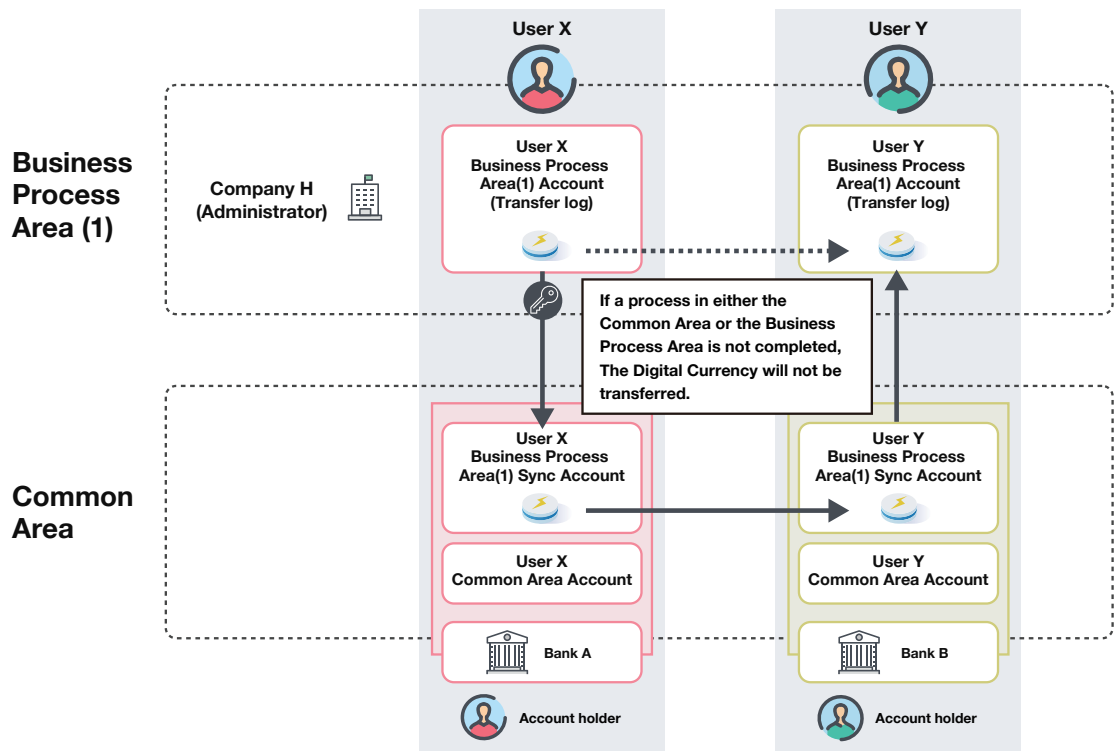
Figure 1-2: Linkage between the Business Process Area and the Common Area

By introducing such a mechanism, the transfer of DCJPY linked to the transfer of goods, services, and digital assets can be realized using smart contracts and other methods. Also, by linking the Common Area with the Business Process Area, it becomes easier to transfer digital currency between different Business Process Areas.

For example, as shown in the following diagram (Figure 1.3), when multiple economic spheres exist, such as Peer to Peer ("P2P") transactions between power generators and consumers via a dedicated platform such as an electricity trading platform, and security token ("ST") transactions, each transaction has conventionally required payment settlement by means such as interbank transfer only.

The platform envisioned by the Digital Currency Forum will allow for flexible use within the platform. For example, using DCJPY obtained through power trading to purchase ST in a flexible timely manner within the platform.
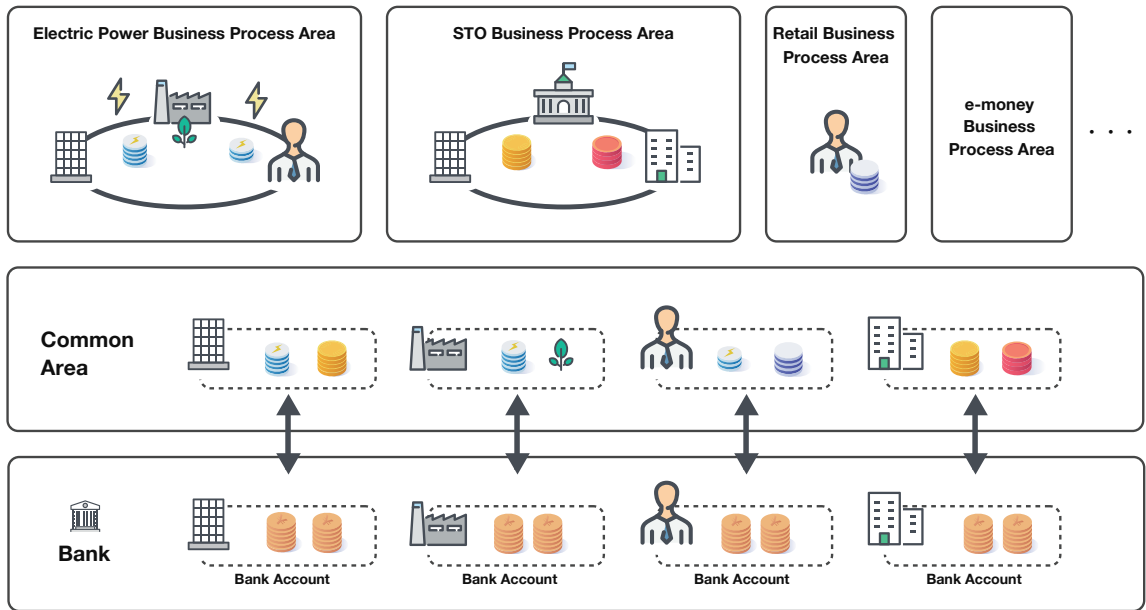
Figure 1-3: World view realized by Business Process Area and Common Area

[1] Platform

In building the Two-tiered Digital Currency infrastructure, it is important that the balances in the Common Area and the balances in the Business Process Area are linked real time. A promising technology to achieve this is so called "blockchain, or distributed ledger technology" (thereafter "DLT").

As mentioned above, a digital currency platform has a two-tiered structure consisting of the Common Area managed by commercial banks, which issue, transfer, and burn the digital currency DCJPY, and Business Process Areas managed by users such as companies and individuals, which provides various services and values. The technical features of each are introduced as below.
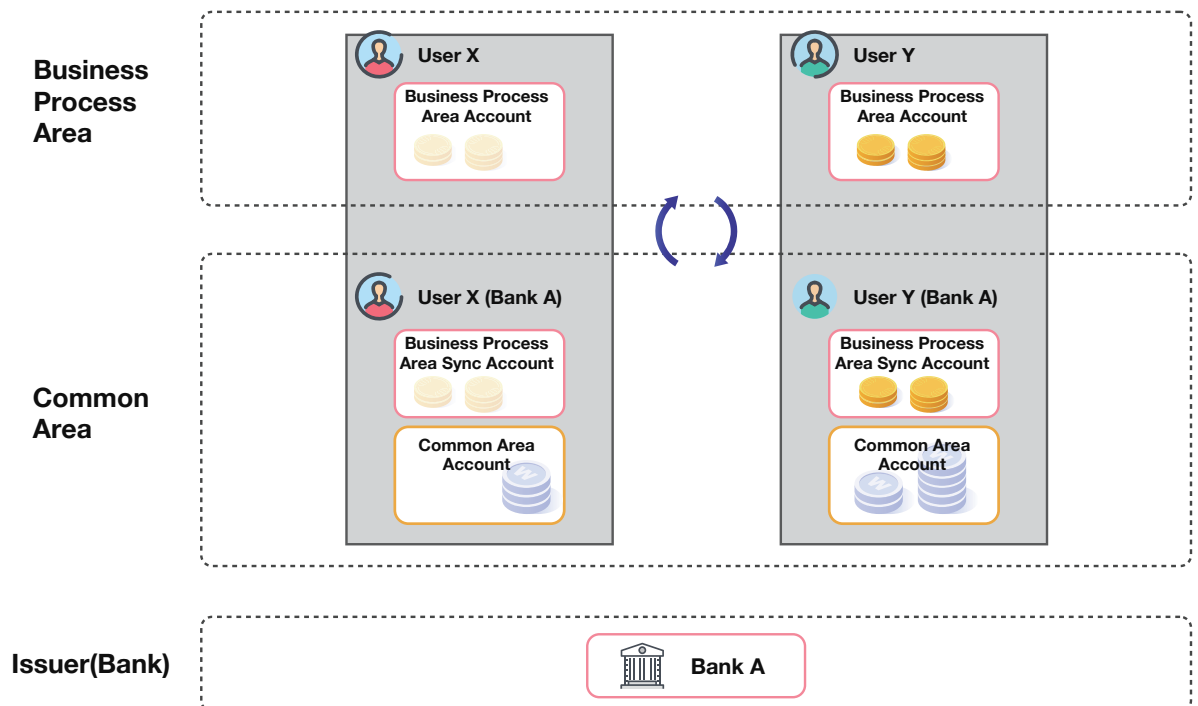

Figure 1-4: Two-tiered Digital Currency Platform

a. The Common Area

a-1. Common Area Outline

It is a structure using blockchain to issue, transfer, and burn DCJPY by commercial banks. In addition, the use of smart contracts makes it possible to implement complex business flows. Furthermore, interoperability is ensured, and data can be mutually exchanged with other blockchains on timely manner.

As the following explanation, the features of the Common Area from four perspectives will be described.

a-2. Features of the Common Area

Feature 1. Compatibility of Management Control and Confidentiality

The Common Area consists of a permission-based blockchain technology. Thus, the entities which can process or refer data on the blockchain are limited to specific nodes.

In the digital currency platform that handles DCJPY, it is temporarily assumed that all nodes in the Common Area will be managed and operated by commercial banks. These banks will be responsible for processing and referencing the database in the Common Area. In addition, cryptography will be used to ensure data confidentiality and privacy protection. The Common Area account associated with a user will be individually managed by commercial banks and will not be shared by DLT. Therefore, it is not possible to inquire the account balances of users at other commercial banks.

Feature 2. Byzantine Fault Tolerance

A consensus algorithm based on PBFT (Practical Byzantine Fault Tolerance) has been implemented to determine the correctness of the data in the Common Area.

The blockchain will continue to function even if (N-1)/3 or fewer of the N specific nodes that can verify the correctness of a block and be involved in the determination of a new block are incorrect or faulty (this property is called Byzantine Fault Tolerance).
The validators responsible for block generation can be added or removed during the operation with the consent of a majority of all validators.

Feature 3. Tamper-Resistant

Each block of the blockchain that constitutes the Common Area has the hash value of the previous block. To tamper with a block that has been determined in the past, everything from the block in question to the latest block must be tampered within a consistent manner. Also, to tamper with a block, it is necessary to have enough nodes as accomplices to outperform the BFT described in section 2. This is quite difficult, and the tamper-resistance is extremely high.

In the Common Area, as a function of distributed ledger technology ("DLT"), it is possible to verify the state of all nodes, thus ensuring transparency of transactions. On the other hand, by utilizing cryptographic theory, it is possible to verify the authenticity of DCJPY transfers without knowing the contents of the transactions.

a-3. Functions of the Common Area

DCJPY issued by each bank based on instructions from the user will be issued to the "Common Area account" in the user's Common Area, which is linked to the user's bank account.

In the Common Area, the commercial bank is the primary operator. The main operations that can be performed in the Common Area are as follows

(1) Create a digital currency DCJPY account
(2) Retrieve list of digital currency accounts, retrieve and update attributes
(3) Obtain balance of digital currency account
(4) Issue digital currency
(5) Set and obtain permission to remit digital currency
(6) Remit digital currency
(7) Burn digital currency
(8) Inquire Transaction and inquiry list

Furthermore, DCJPY transfer linked to transactions using Business Process Areas will also be possible. (See below;)

b. Business Process Area

The Business Process Area is a domain in which allows a wide range of businesses to incorporate services and functions while retaining the features of DLT described in the Common Area section.

In the Business Process Area, users can develop and implement their own smart contracts. For example, they can issue their own "tokens" and incorporate various functions as smart contracts. Such smart contracts can also be executed from outside the digital currency platform through APIs. This makes it possible to integrate the digital currency platform with existing systems.

Companies and local governments are expected to be the main administrators of the Business Process Area, while businesses and individuals as their customers are also expected to operate them. As with the Common Area, the main operations that can be performed in the Business Process Area are as follows

(1) Create an account in a Business Process Area
(2) Get the list of accounts in the Business Process Area, and get/update their attributes
(3) Obtain the balance of the Business Process Area account
(4) Issue the Business Process Area Coins
(5) Set and obtain transfer permission for the Business Process Area Coins
(6) Transfer the Business Process Area Coins
(7) Burn the Business Process Area Coins
(8) Transaction inquiry and list inquiry

To send transfer instructions from the Business Process Area to the Common Area, an interoperability package is introduced. This makes it possible to instruct DCJPY transfer from the Business Process Area to the Common Area.

c. Flow from Creation of a Digital Currency Account to Transfer

The following describes the image of how the Common Area and the Business Process Area function in conjunction, looking at the flow ("sequence flow model") from the creation of a digital currency account in the Common Area to the transfer of digital currency through transfer instructions from the Business Process Area.
For the sake of technical accuracy, the DCJPY on the Common Area is referred to as the "Common Area Coin" and the token for transfer instruction, which is shadow of the DCJPY on the Business Process Area, is referred to as the "Business Process Area Coin"

Step 1

User "X" and User "Y" have deposit accounts at a Bank A. Upon receiving an application from each user, Bank A creates the Common Area Account linked to each user's bank account, respectively.
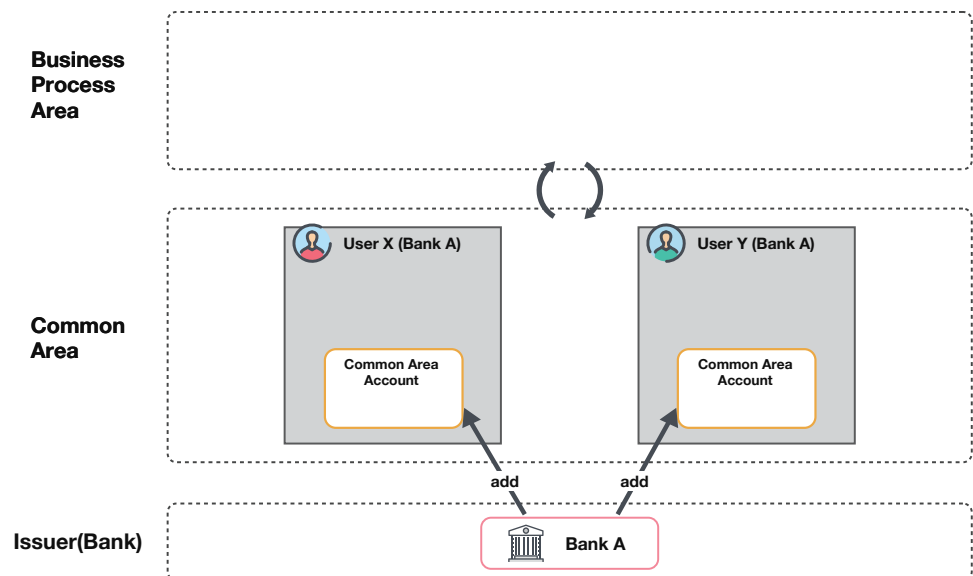

Figure 1-5: Creating a Common Area Account

Step 2

Furthermore, upon receiving a request from each user, the commercial bank will create a Business Process Area Sync Account in the Common Area. In addition, upon request from the user, the Business Process Area Account for each user's Business Process Area Coins will also be created in the Business Process Area by the company or municipality.
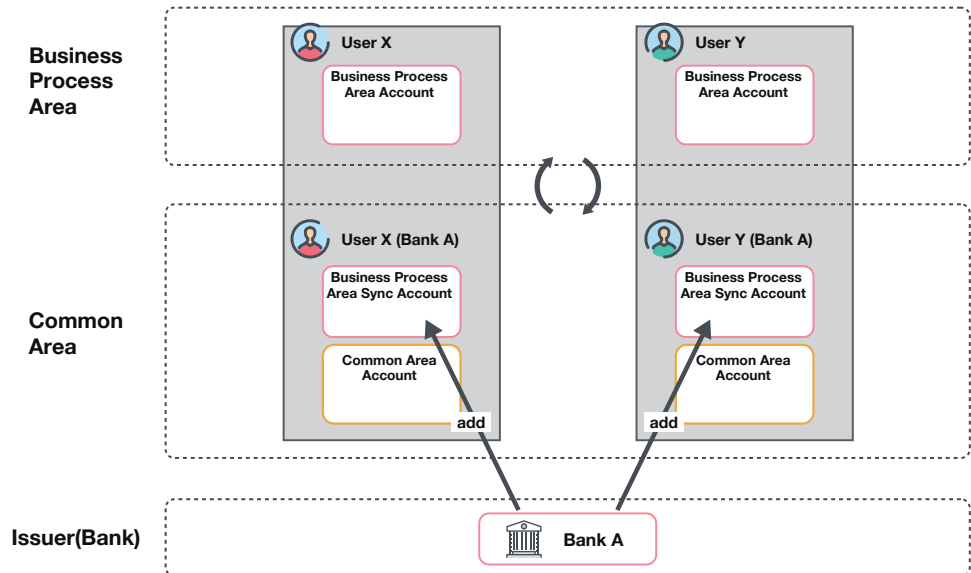

Figure 1-6: Creating an account for a Common Area

Step 3

Based on the instruction from each user, Bank A issues digital currency to the Common Area Accounts of User X and User Y (this DCJPY is called a Common Area Coin).
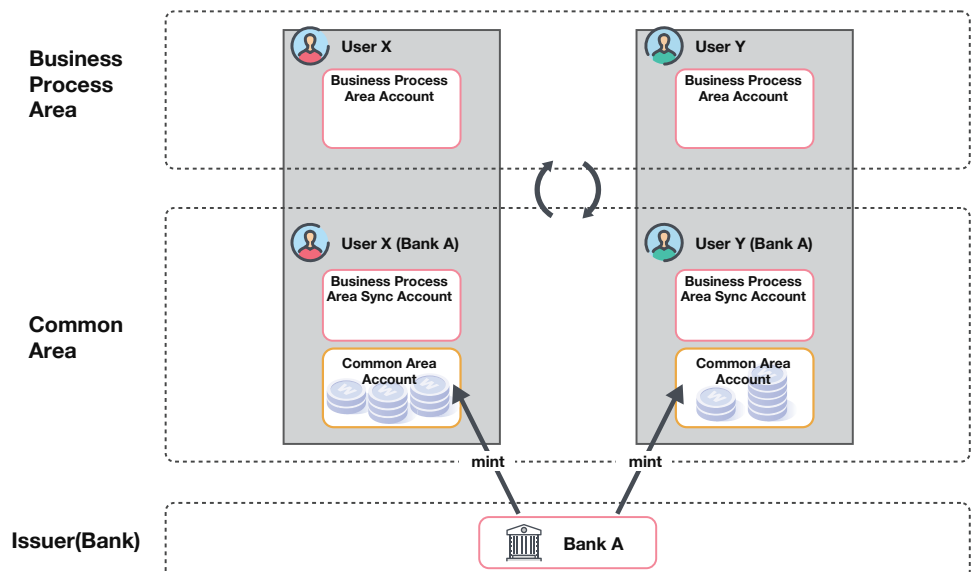

Figure 1-7: Issuing a digital currency

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Step 4

Based on the instruction from User X, Bank A transfers the digital currency in User X's Common Area Account to the Business Process Area Sync Account. And then, the balance of the Common Area Coin in the Business Process Area Sync Account and the Business Process Area Coin in the Business Process Area Account will be synchronized simultaneously.
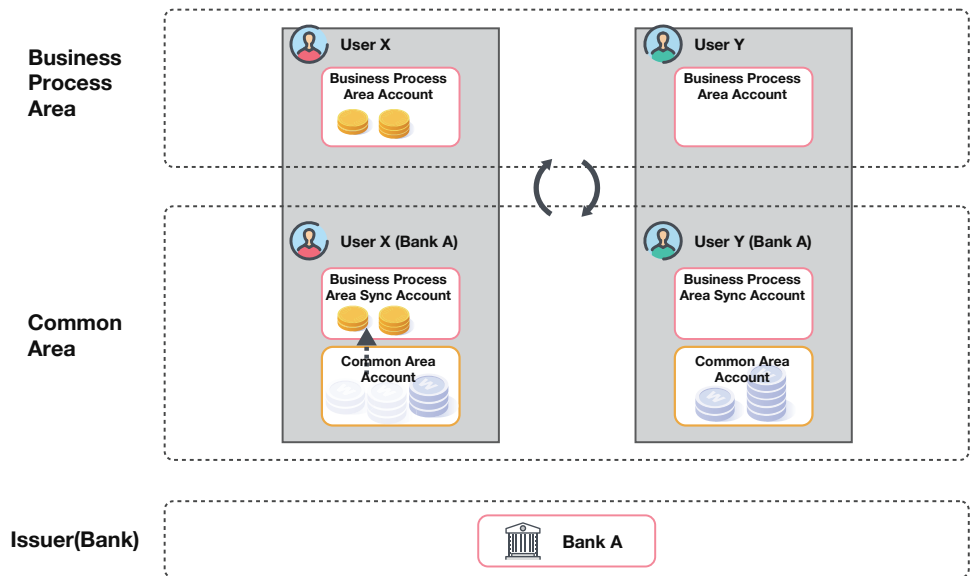

Figure 1-8: Transferring the Common Area Coin to the Business Process Area Sync Account and synchronization of the Business Process Area Coin Balance

Step 5

When User X transfers the Business Process Area Coin to User Y in the Business Process Area, this information is transmitted to the Common Area as a transfer instruction, and the Common Area Coin are transferred from User X's Business Process Area Sync Account to User Y's Business Process Area Sync Account within the Common Area.
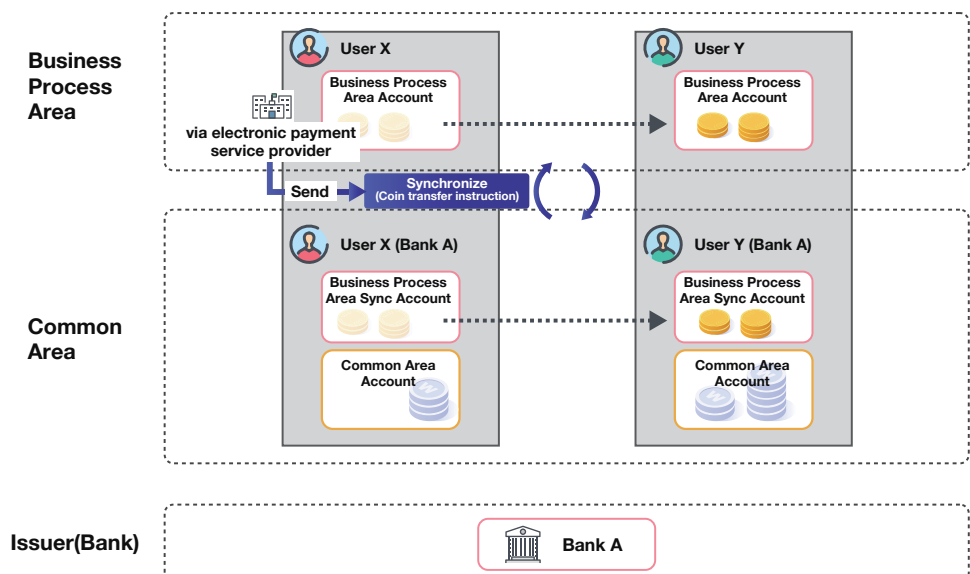

Figure 1-9: Transfer of digital currency with instructions from the Business Process Area

As shown in the above the step 5 process, the transfer of the Business Process Area Coin and the synchronization of the Common Area Coin balance are considered finalities (i.e., finalization of settlement). The transfer of the Business Process Area Coins in the Business Process Area constitutes the instruction to transfer the Common Area Coin in the Common Area.

d. Custom Contracts

The ability to deploy user-developed programs (custom contracts) in the Business Process Area is one of the features of digital currency platforms.

When transmitting the transfer instructions described in the previous section, various processes can be linked by executing them synchronously with the transmission of the transfer instructions created by the user.

How this is achieved is explained below.

In the Business Process Area, a custom contract called "Custom Transfer" to add various elements to the transfer of the Business Process Area Coin ("Transfer") is implemented. It can be called Custom Transfer by setting the contract address of Custom Transfer in the Common Area contract.
Custom Transfer allows us to add various functions to the transfer of additive coins, and here is an example to give us an idea of how it works (the oracle in the explanation is the mechanism that receives information from outside the blockchain).

Example 1
Linking supply ratio and price to solve the food loss problem

Custom Transfer Processing Details
1. Refer to the Key (product name) and Value (supply ratio) registered in Oracle*
2. Calculate the reduction rate from the supply rate of the product in 1
3. Execute Transfer with the result of 2

Using this process, a system that adjusts the balance between supply and demand by increasing the reduction ratio (i.e., selling at a lower price) for products that are in excess and sending a smaller amount of money based on the supply ratio of the product obtained from the outside in 1.
Example 2: Delivery versus Payment ("DvP") in Non-Fungible Token ("NFT") transactions

*The digital currency platform implements an "oracle" function that imports external data into the blockchain. An oracle is a generic term for a mechanism that receives information from outside the blockchain and reflects it in smart contracts. Systems that send information to oracles are not limited to software; there are also use cases where information is sent from hardware such as Internet of Things ("IoT") devices.

DvP in NFT transactions is realized by a custom contract that performs NFT transfers in conjunction with Transfer.

Process of Custom Transfer: What Custom Transfer does
1. Refer to the Token ID (bytes32) of the NFT registered in the oracle
2. Transfer of the NFT whose Token ID is specified in 1 is also performed as a result of the transfer of the Business Process Area Coin

Using this process, it is possible to send money and receive NFTs in the same transaction. This enables so-called DvP, where the transfer of assets and settlement are executed simultaneously, and if either of parties fails, the transaction itself becomes invalid.

e. FAQs

The Digital Currency Forum has received questions at the sessions and other events. Here are some of them with answers.

Q1 As a technical element, when the transfer cannot take place unless the Business Process Area and the Common Area are synchronized, will one transaction that has been transferred be unwound, or will the transfer not occur in the first place?

A1 If either the transfer of the Business Process Area Coin in the Business Process Area or the transfer of the Common Area Coin in the Common Area fails, the transaction will not be completed, and the balance will not change.

Q2 What controls are in place to ensure that the payment instructions in the Business Process Area match the transfers in the Common Area?

A2 Transfer instructions in the Business Process Area are linked to the status in the Common Area. The balance of the Common Area and the balance of each Business Process Area (lock balance) are managed separately, and the synchronization of the payment instruction in the Business Process Area and the digital currency transfer in the Common Area is achieved by checking both.

Q3 Will the transfer of the Business Process Area Coin and the transfer of the Common Area Coin be synchronized in "real time", or will some parts be handled in batch?

A3 Transfer transactions are processed in blocks, so there could be a slight delay in the order of block creation time. This is a quasi-real time system in the sense that there is a delay of a few seconds rather than completely simultaneous.

Q4 Please tell us about the range of data that can be stored in the Business Process Area, including restrictions on size, security, and confidentiality control.
Is it possible to store sensitive information, or is it possible to store only the key and control the data itself by storing it in a side chain or another DB?

A4 The data handled by the platform should be organized and used in the transactions between the parties to be shared.
It is also possible to share only the key (e.g., a hash that can be verified after the fact) to objectively guarantee authenticity, but not to share the data. Since the data layout varies from company to company, the information management functions will be implemented outside the platform.

Q5 Where will the program be written? Can it be written in the token, outside the token, or some other variation? Can the program be corrected or modified later?

A5 The program (contract) is written and shared in the blockchain. It also has upgradability features such as version control.

Q6 Can this system be stopped in case of some fatal bug or mistake? If so, what are the steps (authority control) and scope?

A6 Since the interfaces that accept requests, such as transfers in transactions are implemented outside the platform, it is possible to stop them by stopping the acceptance of requests.
(Depends on the make of the system outside the platform)

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[3] UI of the digital currency DCJPY

When users use the digital currency DCJPY, they will do so through the application. The Common Area application will be a bank-connected app that issues the digital currency, and multiple Business Process Areas (corporate applications) will be connected to it.
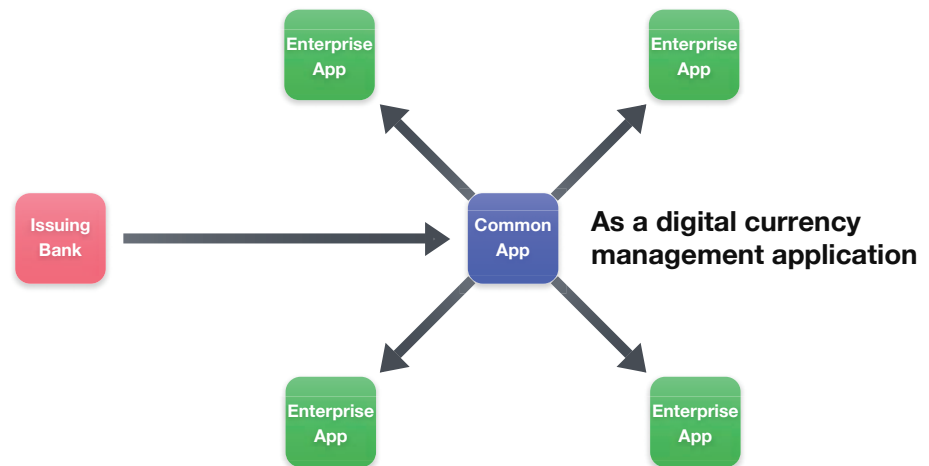
Figure 1-10: Application Connection Image

a. The Common Area Application

The Common Area application will be a digital currency management application. It is assumed that users will use the common specifications regardless of whether they are corporations or individuals. The main operations that can be performed in the Common Area application are as follows.

- Create a digital currency account
- Issue Digital Currency (the Common Area Coin) from commercial bank fiat deposits
- Transfer the Common Area Coin from the Common Area Account to the Business Process Area Sync Account
- Burn Digital Currency (the Common Area Coin) to commercial bank fiat deposits
- Send and receive the Common Area Coin to other users
- Search for nicknames of users within the same commercial bank account
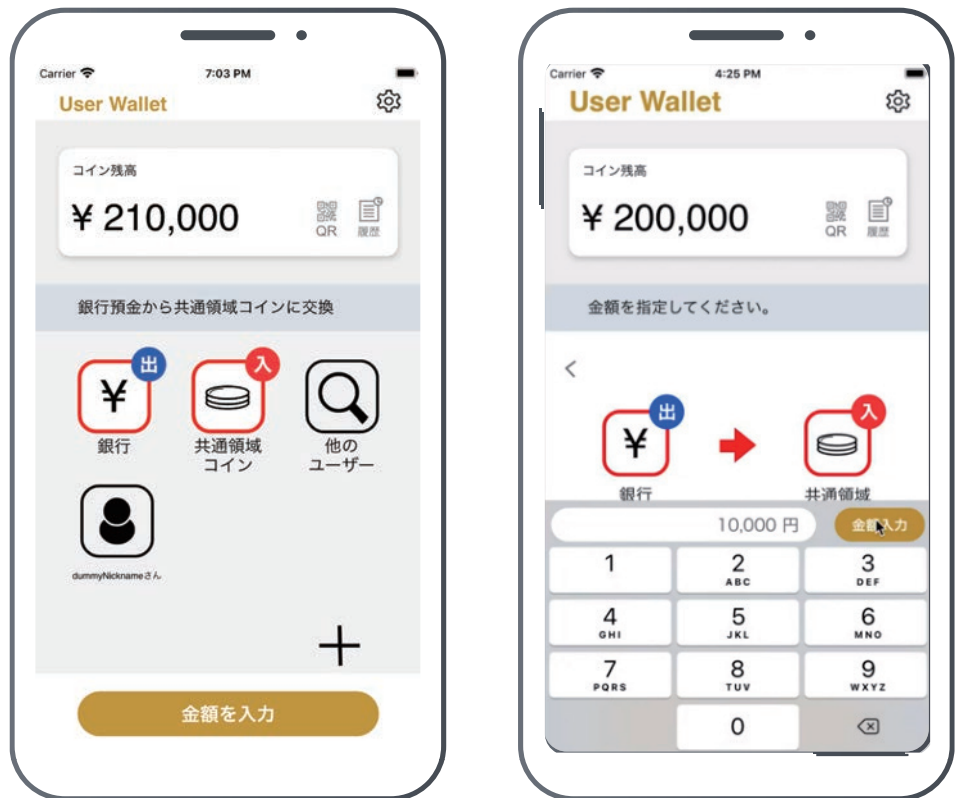
Figure 1-11: The Common Area application operation screen (reference implementation)
Issue Digital Currency, the "Common Area Coin" from commercial bank fiat deposits

b. Business Process Area Application (corporate applications)

Business Process Area applications (corporate applications) are developed and released by companies and municipalities that provide services in the business process of the digital currency platform according to their requirements. The entity that operates the application in the Business Process Area is the business or individual who is a customer of the service provided in the Business Process Area.

Value Provided by Digital Currency

The digital currency DCJPY is expected to (1) stabilize value in Yen by taking the form of banks' liabilities, (2) ensure interoperability through the Common Area, and (3) meet various needs through Business Process Areas. Also, a brief mention of the value that Digital Currency creates.

a. Foster innovation, reduce costs, improve efficiency

As a digital currency issued by a commercial bank, DCJPY avoids the problem of competition with bank deposits. This will also encourage private-sector innovation and contribute to cost reduction and efficiency improvement.

Various companies and municipalities can use this digital currency platform to think about how they can add value to it.

For example, they can digitize paperwork such as purchase orders and invoices between companies and use smart contracts in the Business Process Area of digital currency to liberalize manual settlements, thereby reducing costs and improving administrative efficiency. Furthermore, if the entire supply chain in the manufacturing industry and the delivery chain in the distribution industry can be settled in DCJPY, it is possible to improve the efficiency of supply chain management (SCM) and the productivity of the entire business model. In addition, the use of DCJPY as a payment method will contribute to cost savings in hard cash handling, change preparation, hard cash storage, hard cash transportation, and security.

b. Cooperation among economic zones by ensuring interoperability

Until now, digital payment methods such as e-money provided by private companies have often been limited in interoperability as a result of their aim to expand their own economic sphere and promote customer loyalty within the economic sphere. In contrast, the DCJPY digital currency ensures interoperability through the Common Area, allowing it to be used beyond the economic sphere established by each company. This will increase convenience for customers, and for companies, the digital currency platform will function as an infrastructure for building new services to be offered across economic spheres.
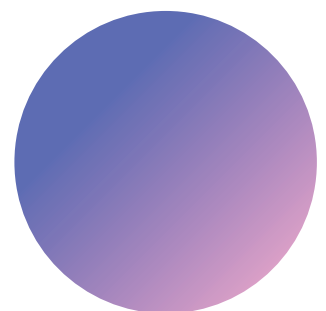
Furthermore, by incorporating DCJPY functions into some of the applications developed by the company and linking these to the Common Area, digital payment settlement services can be provided as if they were part of the company's own wide-ranging services in the form of "Digital Payment as a Service". In this way, it will be possible to provide digital payment services as if they were part of a broader range of services.

c. Improving people's economic welfare

Blockchain and distributed ledger technology (DLT) are no longer limited to the realm of cryptographic assets but are now actively being used to create new financial products such as security token (ST) and new assets such as non-fungible tokens (NFT). It is also expected to be used as a technology to ensure traceability of products and primary commodities. For example, with the growing global interest in Environmental, Social, and Governance ("ESG") and The Sustainable Development Goals ("SDGs"), it is becoming increasingly important to trace and prove the energy used to manufacture products, and there are high expectations for blockchain and distributed ledger technology in this regard.

In this way, the use of blockchain and distributed ledger technology in the payment and settlement of transactions for goods, services, and assets that use blockchain and distributed ledger technology is a competitive advantage from the perspective of using smart contracts to coordinate the two. From this point of view, the digital currency DCJPY is expected to become a useful payment instrument for efficiently conducting transactions of new assets, and ESG/SDGs-conscious transactions.

Appendix

Glossary

1. Roles

Word	Definition	
	Common Area	**Business Process Area**
Roles	An entity with a specific function	
Administrator	Operators who are responsible for preparing the Common Area, providers, validators, and issuer as administrators of digital currency platforms.	
Provider	The entity responsible for creating the token	The entity that is responsible for preparing the Business Process Area and creating the token.
Validator	An entity that synchronizes the Common Area Coin with the Business Process Area Coin and transfers the Common Area Coin	Entities that are responsible for transferring the Business Process Area Coin
Issuer	Entities responsible for the issuance and burn of digital currency	(Not present in the Business Process Area)
User	Digital currency account holder/operator	
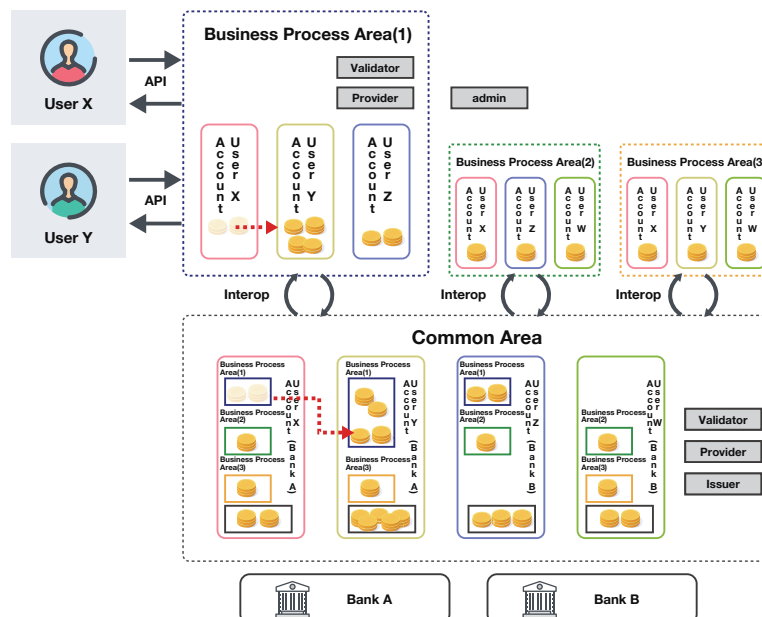
2. Item

Word	Definition
Item	Means of handling digital currency
Digital Currency	In a broad sense, a digitized currency Digital currency DCJPY in the narrow sense
Common Area Coin	A deposit in the Common Area, a digital currency entity
Business Process Area Coin	A token that poses as the Common Area Coin in the Business Process Area. Direction Token
Locked Common Area Coin	The Common Area Coin locked in the Common Area (can only be moved by instruction from the Business Process Area)
Digital Currency Account	An account in the Common Area that holds the Common Area Coin.
Common Area Account	A digital currency account in the Common Area that holds unlocked the Common Area Coin
Business Process Area Sync Account	A digital currency account in the Common Area that holds locked the Common Area Coin for a specific Business Process Area
Business Process Area Account	In the Business Process Area, an account to insert the Business Process Area Coin.
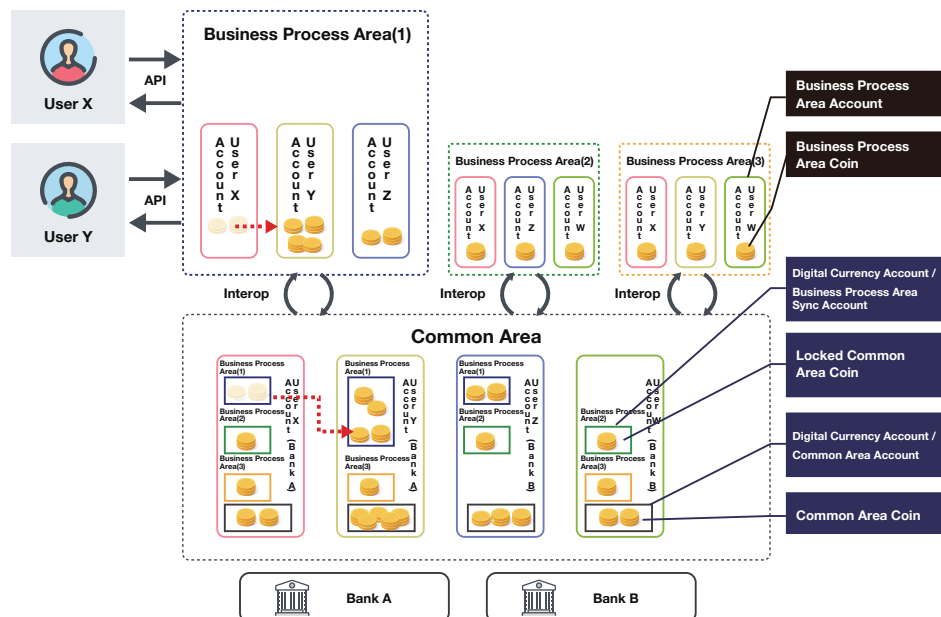
3. Action

Word	Definition
Action	The act of handling digital currency
Mint	Transferring part or all the User's bank balance to the User's digital currency account
Synchronize	Synchronization of the balance of locked the Common Area Coin and the Business Process Area Coin
Burn	The transfer of digital currency held by a user to that user's deposit balance.
Transfer	Transferring the Common Area Coin between users in Common Area
Transfer	Transferring the Business Process Area Coin between users in the Business Process Area.