



CannaFinex Corporation

Secure Payments System for Cannabis Industry



CannaFinex™ System

Payment System for Cannabis Industry

Whiter Paper

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Executive Summary

CannaFinex™ (Payment System for Cannabis Industry) system is a global, distributed, secure system that supports business parties, service users, transactions, and data in the cannabis marketplace. The system supports all parties and all business transactions in two types of markets: medically prescribed and recreational use cannabis.

The system provides the following services: registration of all parties and their roles, security and privacy of system members and their transactions, all administrative documents of the business transactions, and payment services. The system is based on use of new and innovative concepts and technologies: secure distributed blockchain ledger – (BIX™ Ledger) and virtual currency (BIX™ Coin.) The CannaFinex™ system supports registration and security services by managing and distributing BIX™ Identities, BIX™ Certificates, and BIX™ Reliable IDs/KYC.

Payment transactions are internally supported by using virtual digital currency BIX™ Coins that have a stable financial value pegged directly to the U.S. dollar or any other fiat currency in the country of deployment. The BIX™ Coin digital currency is therefore liquid and is easily converted back to the U.S. dollar.

The system provides secure registration of all parties, validation of their identities and roles, verification of their transactions in a manner fully compliant to with requirements and official local regulations. The procedures and data are compliant with regulations established by regulatory authorities, today in the United States by those states that have approved sale and use of medically prescribed or recreational use of marijuana.

For business transactions, the system provides standard e-/ m-commerce transactions that follow the business "chain" of cannabis – from cultivators, to manufacturers of end-user products, processors, wholesale distributors, dispensers, and patients and customers.

Payment transactions are based on combined use of fiat currency (US\$) and virtual currency – BIX™ Coins. Fiat currency is used outside of the CannaFinex™ system i.e. all prices are expressed in US\$. Internally, for settlement of transactions, the system uses virtual currency – BIX™ Coin which represents a “digital fiat” currency. For processing of US\$ transactions, the system is connected to the standard financial Institutions, banks and card transaction processors, through the ACH and Bankcard Networks. Therefore, CannaFinex™ system is compliant with all current financial regulations.

In summary, the CannaFinex™ system supports all types of users and their roles, it performs all business and financial transactions, and follows and enforces all official regulations. As such, the system solves several core problems in the medical/recreational cannabis market: security and privacy of individuals, handling payment transactions using cash, and enforcement of rules and regulations.

1 Cannabis: Market and Its Problems

The Cannabis market for medical and recreational use is an emerging market in the USA and also in other countries. Due to sensitive nature of its core substance and its effects, the overall system is currently overburdened with many issues and problems, not normally found in other commercial markets. On one hand, cannabis use is currently legal and regulated in 29 States, but not legal at the Federal level. State regulations are very strict and complicated and they are not the same in all of the states where the market is approved. This diversity represents difficulty in implementing supporting IT systems since one solution can not be applied to all States.

The second important aspect is enforcement procedures. Documentation for these procedures are either not yet established or varies widely. Most of the procedures are manual in nature and require a physical presence in order to complete them. As a result of these diversified documents and procedures, enforcement and controls of roles and transactions are problematic.

The most significant problem is the lack of a viable payment system. Since the existing systems and associated business entities are not federally recognized, the majority of banks and financial services providers (bankcard processors) are reluctant to accept and perform payment transactions. As the consequence, the cannabis ecosystem is overloaded with cash representing a very large problem for all parties involved, including market and financial authorities. By handling payments using cash, the system is fertile ground for illegal financial transactions such as money laundering, not to mention the enormous security issues created when possessing and storing significant amounts of cash.



Figure 1: Legalization of Marijuana by States (July 2018)

2 The Solution: Secure Ledger and Virtual Currencies

One very efficient and effective solution for all the described problems is to use secure distributed ledger technology and virtual currency. These two innovative technologies provide transactions and services with strongly protected objects and are an ideal solution for all current major problems in the cannabis ecosystem.

Secure distributed ledger technology supports management, distribution, validation and use of identities and crypto keys of all parties while validating transactions. Identities are encrypted, so the ledger provides privacy and anonymity of participants. Virtual currencies “separate” parties making transactions using virtual currency from the purpose of these payments and the roles of parties. In principle, payment transactions between two parties in the system, using virtual currency, are not considered “payments of invoices”, but in fact are simply transfers of virtual currency from one (sender’s) account to another (receiver’s) account. In other words, one account is debited and the other account is credited and the system does not attach interpretation of the purpose of the transfer to the transaction.

With this approach, by abstracting parties, their roles, and purposes of transactions, the system is suitable for all types of financial transfers, beyond payments.

Most virtual tokens / currencies are not pegged to a fiat currency and they handle digital values as loyalties, promotion benefits, service points, etc. The CannaFinex™ system abstraction of parties, currency, and their transactions from real world interpretation is the ideal solution for payments in the cannabis market. Use of virtual currencies and validation of transactions using secure distributed ledger has many other advantages compared to the today’s classical payments with cash,

bankcards, and paper payment instruments (check, money orders, etc.).

First and foremost, the transactions are *direct, instantaneous, peer-to-peer*. This means that no third parties are involved in processing of individual transactions improving privacy and reducing transaction costs.

Next, transactions are digital, i.e. they in fact do not have any basic or operational costs. So, the system is competitive and effective against all current payment systems with high costs and attendant fees.

Finally, using strong cryptography, the system provides security of all transactions, privacy of users and is not vulnerable to fraud and illegal transactions. Therefore, financial system based on use of virtual currencies has clear benefits and applications for the cannabis markets.

3 Secure Distributed System: BIX™ Ledger

3.1 BIX™ Ledger – Infrastructure

BIX™ Ledger Infrastructure is a global collection of servers, mutually inter-connected by special ledger protocols and the functions of each server are managing and distributing special ledger objects – simple records and complex BIX™ Ledger chains.

Each BIX™ Ledger Server may be considered as an IT container, comprising special ledger software modules and data storage capabilities. Software modules perform BIX™ Ledger protocols and with them maintain simple ledger objects and complex BIX™ Ledger chains stored in the data storage areas.

Contrary to the concept created by and evolving from the *Bitcoin* ledger, followed by nearly all ledgers that existed at the time when BIX™ Ledger was established, the BIX™ Ledger Infrastructure is designed with different principles. It contains two types of BIX™ Ledger Servers and they are organized as a two-layered infrastructure: Global BIX™ Ledger Servers and Local BIX™ Ledger Servers.

Global servers comprise an international, global, infrastructure and they represent the “backbone” servers of the BIX™ Ledger Infrastructure. Individual Local BIX™ Ledger Servers are associated with instances of applications that use the Ledger. They communicate (a) with local applications that they support, (b) with Global BIX™ Ledger Servers, and (c) with their peer Local BIX™ Ledger Servers when assisting in execution and protection of peer-to-peer application transactions.

The architecture of the complete BIX™ Ledger System with two instances of an application, is shown in the following Figure:

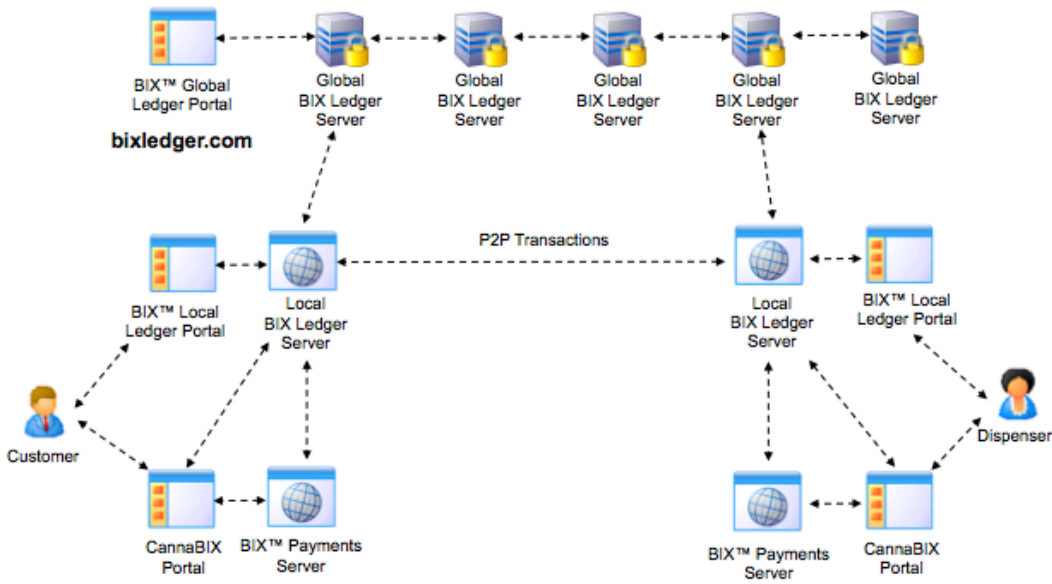


Figure 2: BIX™ Ledger and Global CannaFinex™ System

3.2 BIX™ Ledger – Services and Protocols

BIX™ Ledger System is an infrastructure that enables security and privacy of users As well as execution, validation, and protection of applications, transactions, and data. At the same time the BIX™ Ledger is itself an application that provides four types of services. With each of these services, it handles different types of objects. With each service the BIX™ Ledger applies a different set of security services to these objects, managing them with different types of protocols.

The Four types of BIX™ Ledger services and their corresponding protocols are the following:

- *BIX™ Ledger as a Broadcast System:* When providing the service as a broadcast system, BIX™ Ledger accepts objects from one BIX™ member and distributes them (broadcasting) to all other members of the BIX™ Community. Objects managed by the broadcast service are public and therefore accessible to all members of the BIX™ Community. Security services applied to this type of object(s), during upload into the BIX™ Ledger, are the creator's authenticity and BIX™ Ledger notarization.
- *BIX™ Ledger as Immutable and Reliable Archive:* When used as an archive of reliable and immutable records, BIX™ Ledger accepts objects from one BIX™ member, permanently stores them, and distributes them to all or only to members of the BIX™ Community authorized by the owner / creator of the record, document or transaction. This service handles both, public and private objects, which are accessible to all (public) or only to the members of the BIX™ Community authorized by the owner / creator (private). Security services applied with this service are: for public objects the creator's/owner's authenticity and BIX™ Ledger notarization and for private objects, in addition to these two, the receiver's authorization.

- *BIX™ Ledger as Security Infrastructure:* When BIX™ Ledger provides security services it manages security credentials (BIX™ Identities and BIX™ Certificates) of the members of the BIX™ Community, distributes BIX™ Certificate of individual members to all other BIX™ members while distributing BIX™ Identities only to members authorized by their owner. BIX™ Identities are private objects and BIX Certificates are public objects. BIX™ Ledger provides the following services to these security objects: For BIX™ Certificates, the issuer's authenticity, certificate integrity (name – key binding), and verification of certificate's validity. For BIX™ Identities – owner's privacy and authenticity, BIX™ Ledger notarization, and receiver's authorization.
- *BIX™ Ledger as Transactions Infrastructure:* The purpose of the BIX™ Ledger as a transactions infrastructure is to support complex, multi-party, multi-documents, and multi-step applications and transactions with automated execution of "business chained" transactions with protocols for resolution of business conflicts ("smart contracts"). These services handle private objects accessible only to a group of authorized BIX™ Community members registered in a group and authorized to perform certain actions and handle/access various objects with the complex transaction. The Security services applied to each object in a transaction are the creator's authenticity, BIX™ Ledger notarization, and the receiver's (group) authorization.

4 BIX™ Payments System: Concept and Transactions

4.1 The Concept of the BIX™ Payments System

The essence of any payment system is its procedure for validating legality and correctness of transactions. The core aspects of that procedure are: (a) Verifying that the sender has in his/her possession a sufficient amount of legal and correct virtual currency, one that is recognized and accepted by other participants in the system, and (b) That double-spending is impossible. Being in possession of legal virtual currency means that the currency in the sender's account has not been fabricated and the sender has a sufficient amount to pay the transaction. Prevention of double spending means to prevent the user from spending the same amount of currency more than once. Both properties may be achieved by accurately updating a sender's account when performing payment transactions, so that his/her virtual account is correctly debited or credited and therefore always has the correct balance.

The problem with this straight forward approach is validation of the transaction, i.e. validating the resulting balance of the sender's account after each transaction. The solution to this problem is also straight forward if a trusted third party (i.e. bank) is used as an intermediary. But, if the system operates without such third parties then validation of the possession of sufficient amount of virtual currency and elimination of the possibility of double spending, becomes a very difficult problem.

Using illegal virtual currency or using legal virtual currency but not correctly received to the sender's account means, in essence, printing money, or double-spending. It is clear that the solution for all illegal activities and problems in the system is verification of the correct balance of each account. If the balance of an account is correct, it means that the amount of currency at the sender's disposal is correct and therefore, payments based on such an account balance are correct.

Bitcoin system has one possible solution for this problem. It uses a very specific approach to validate account balances: it stores locally at user's workstation or mobile device the complete blockchain of all transactions performed in the system and reconstructs the sender's current account balance by tracing all transactions in the blockchain starting from the trusted "Coinbase" transaction. This approach works, but it has many problems and disadvantages:

1. The local copy of all transactions in the system is large; it is mainly redundant; and it requires a long time to update.
2. Because the transaction verification takes a long time, the update of the recipient's virtual account, after the transaction is performed by the sender, is significantly delayed.
3. Due to the use of public keys as account numbers, Bitcoin accounts are vulnerable to the theft of private keys.

The essence of the solution used by the BIX™ Payments System described in this white paper is to store user accounts and their balances on the public ledger instead of transactions. In this way, reconstructing the balance of an outgoing account is not needed because the balance is readily available in the ledger. Updating the recipient's account balance is instantaneous and by keeping an account's chain of balances in the ledger, the account balance can be fully and accurately validated by tracing the account chain.

Another problem with unprotected peer-to-peer transactions is that after completion, they can be illegally inserted, removed, or modified. To prevent the illegal modification of complete blocks, Bitcoin uses two specific techniques: The first of which involves special hashing protocols performed by special participants in the system known as "miners" and chaining of transaction blocks.

In the BIX™ Payment System described in this paper, illegal manipulations of payment data are prevented by the cryptographic encapsulation of accounts and their so called "multiparty digital signatures". This operation is instantaneous and much faster than Bitcoin's hashing procedure (proof-of-work). Obviously, if these accounts, as data objects, are cryptographically encapsulated by their owners, then they could be re-encapsulated after illegal manipulation. This reasoning leads to the equally obvious conclusion that accounts belonging to individual users cannot be encapsulated by their owners.

Because there are no third parties in the proposed system, the conclusion is that user accounts are updated and encapsulated by other parties in the system. This

approach may seem strange – users cannot update, control, or protect their own accounts and their accounts are manipulated, maintained, updated, and protected only by other parties or participants in the system. But, as it will be shown, this solution is very effective.

The next important distinction of the BIX™ Payments System as compared to Bitcoin is that user accounts, when stored in the ledger, are not packaged in blocks. They are loaded and stored individually. This approach eliminates delays in validating components of the ledger and loads accounts into the ledger immediately after they are updated. The chain of accounts is represented by instances of the same account, with different balance values, each instance created as a result of a payment transaction. In this way, the history of every account and its balances can be traced from its opening and initial loading up to and including its last transaction.

The system uses public key cryptography, key pairs, and certificates, all of which are managed by the special protocol and infrastructure as described in *BIX™ Ledger – Concept and Infrastructure*. Important features of that certificate infrastructure is that it is peer-to-peer and has no third parties or certificate authorities and public and private keys are not used as account addresses and/or payment authorization tokens, only for standard security services. Users may have multiple types of currencies and accounts protected with the same key pair and certificate. Another important feature of the described payment system is that accounts contain three types of identities of their owners: one for explicit identification, one for private transactions, and one for anonymous transactions.

Contrary to the procedures, data structures, and protocols for validating account balances in Bitcoin, the BIX™ Payments System provides several verification levels, each suitable for different type of transactions. For small payments (e.g., micropayments), the verification level is low, but instantaneous. For transactions with high value (e.g., stock trading), the verification level is very high, providing fully accurate account verification, but it is slow. Finally, the special technique of using “validation points” in the ledger speeds up account validation, even when it is based on the full account chain. Validation points are instances of partners’ accounts that have already been fully validated, so validation of new transactions can start from these instances treated as trusted account balances.

4.2 Transactions in the BIX™ Payments System

This section contains a short description of a payment transaction between two partners—a sender and recipient—including the use of the Public BIX™ Payments Ledger, the messages exchanged, and the format and encapsulation of the accounts. Before initiating the payment transaction, each partner has stored his/her account object locally with the latest accurate account balance. Each account is digitally signed by the partner with whom the specific user performed the last payment transaction. Both accounts, in exactly the same form, are stored in and available from the payments ledger. Before initiating the payment, the partners exchange the identification of the accounts they want to use and agree on transaction details, i.e., the amount to be paid.

The payment transaction starts when the recipient sends Request for Payment to the sender. The Request is represented by the latest instance of the recipient's account object. This step may be performed in several different ways, depending on the mutual location (local or remote) of the partners, the technology used, and other digital commerce arrangements. In face-to-face payments, the recipient may pass his/her account object directly to the sender, or he/she may display account identification so that the sender fetches it from the ledger, or he/she may send account identification over-the-air for the sender to fetch account object from the public payments ledger. At the end of this step, the sender has the recipient's account object with its current balance.

Using data from that instance of the recipient's account, the sender creates a new instance of the recipient's account by the following steps: (1) he/she updates (credits) recipient's account balance, (2) indicates him/herself as the last transaction partner, (3) digitally signs the new instance of the recipient's account, and (4) sends it to the recipient, together with his/her own account. These steps and the transfer of the two accounts to the recipient represent the payment transaction. After receiving the two accounts, the recipient modifies the sender's account accordingly: (1) he/she debits its balance, (2) indicates him/herself as the last transaction partner, (3) digitally signs the instance of the sender's account, and (4) submits both accounts to the public payments ledger. The updated instance of the sender's account represents the receipt. At the end of these steps, the communication system (push) or the sender him/herself (pull) gets his/her updated account from the payments ledger.

These two new instances of the sender's and recipient's accounts are now "entangled" objects – they are related to each other by the same transaction. A new instance of the sender's account was created and digitally signed by the recipient and a new instance of the recipient's account was created and digitally signed by the sender. Therefore, in this system, the transaction represents an ordered pair of account objects; the first object represents the sending party and the second object represents the receiving party. Each instance includes the hash of the previous instance of the account belonging to the same user and, in that way, all instances of one user's account is linked in the accounts chain. It is clear that, if needed, the balance of an account can be validated by following the account chain from its initial instance, when the account was opened, all the way up to the latest instance and its current balance.

Each instance of the users' accounts also contains data for the specific transaction that was used to create the account instance. In that way, each instance of an account also represents the transaction and, therefore, the elements in the account chain can be interpreted as either account instances or individual transactions. This means that this system is a conceptual extension of the blockchain ledger used with Bitcoin. The difference is that the individual components in the designed public payments ledger is not packaged in blocks, but inserted into the ledger as individual objects, the solution which offers many functional advantages compared to the Bitcoin blockchain.

5 CannaFinex™ Payments Subsystem

5.1 Introduction

The complete CannaFinex™ System comprises three subsystems:

- (1) *Registration and Certification* subsystem – managing user BIX™ Identities, BIX™ Certificates, crypto keys, and secure ledger objects, including registration documents used in these procedures
- (2) *Business Transactions* subsystems – managing all business documents (contracts, orders, receipts, etc.) in digital form
- (3) *Payments Subsystem* – managing all payment transactions, including POC payments, invoices, receipts, reports, payments of taxes, etc.

This section describes in detail the Payments Subsystem of the CannaFinex™ System that performs payment transactions. It does not describe the procedure for registration or participants and validation of their identities and roles in the CannaFinex™ System, the procedures handled by the Secure BIX™ Ledger. In one of the future phases of planning, development, and deployment it may be advantageous to all parties to combine and integrate CannaFinex™ Registration and Certification subsystem with the METRC system (<https://www.metrc.com/>). This section also does not describe handling of business documents, the services to be provided by the Secure Ledger Lock (LedLoc™) System.

5.2 The Model of the Cannabis Market

With a certain level of abstraction, the participants in the cannabis market can be structured in two global groups: direct participants – those parties participating directly in cannabis registration, commerce, documents and payments transactions with the other global group being the authorities – the entities in charge of regulations and their enforcement.

Following the same approach, it may be assumed that the main authorities in the cannabis market is State Authorities, such as the Maryland Medical Marijuana Commission or DC Health Medical Marijuana Program. These Authorities currently regulate mainly registration procedures and the most popular technology used today for that by many states is the METRC System. State Authorities also participate in financial transactions by collecting registration fees and taxes. Medical institutions and individual doctors are also authorities in the medical marijuana market. They confirm the status of patients for some consumers. The parties participating directly in the cannabis market transactions can be classified in five categories: cultivators (growers, farmers), processors (who create various products out of the raw herb), wholesale distributors, dispensers (retailers, shops), and consumers (patients, customers). Some business entities may have multiple roles.

As the diagram in Figure 3 shows, all participants in the system are linked to the METRC system for registrations and should be also linked to the CannaFinex™

system to perform payments. CannaFinex™ system supports consumer-to-merchant but also business-to-business payment transactions. If the funds were on the accounts of individuals and/or business entities in banks, those financial transactions could be easily performed using bankcards (consumer payments) using Bankcard Networks and also as bank account-to-bank account transactions (business payments) using ACH network. But, the essence of the today's problems with payment transactions in the cannabis market is that banks and other payment providers are reluctant to accept funds from any participant in the market and deposit them to their business or individual bank accounts. Bankcard processors are reluctant to register dispensaries as merchants in order to accept card payments.

This is the reason why most of the financial transactions today in the cannabis market are performed using cash. Most state Financial Authorities accept payments of license fees from dispensers and other business entities using cash. CannaFinex™ Payments System solves this problem very effectively and legally by introducing its own virtual currency – BIX™ Coin. The approach is to use BIX™ Coin as an internal and an intermediate form of payments within the CannaFinex™ market. Contrary to other systems that use their own virtual currencies, including Bitcoin, the system is convenient for payment transactions since BIX™ Coin is pegged to the U.S dollar (1 BIX Coin = \$1) and therefore not volatile. Volatile currencies can not be used for payments.

With this approach all prices for payment transactions and all payment documents are expressed in US\$. Participants may even not be aware that an intermediate form of currency is used. The most interesting aspect of the payment system is the complete payment cycle between consumer (patient) and dispensary (merchant) over the counter. The full details of the transaction is described in the next section.

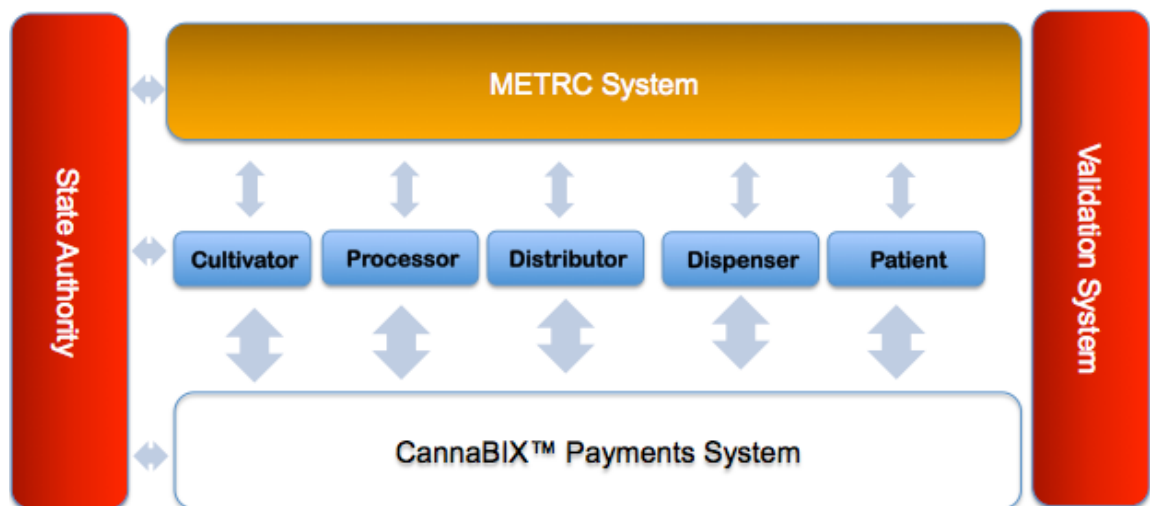


Figure 3: Participants / Roles in the System and their Relationships to the METRC and CannaFinex™ Systems

5.3 The Components of the CannaFinex™ Payments System

CannaFinex™ Payments System has three components: customer (patient), dispensary (merchants) and CannaFinex™ Payments Server.

Customers will use BIX™ Wallet a smart phone application that supports financial transactions with bankcards, BIX Coins and Bitcoins. The opening page of the Wallet and menus of its functions are shown in Figure 4.

Merchants will use CannaFinex™ Point-of-Sale (POS) Station. This is also a smart phone application, but for convenience it will be deployed on a tablet for easier handling of Over-the-Counter (OTC) transactions. The opening page of the CannaFinex™ POS Station is shown in Figure 5a and its dashboard in Figure 5b.

The third and the key component of the system is CannaFinex™ Payments Server. The Server is operated by the company that provides payments services for the cannabis market – called Payment Services Provider. This server performs two groups of financial functions:

- It maintains BIX™ Wallets for all participants in the system, including the Wallet of the Payment Services Provider; and
- It provides background connections of these Wallets to the external financial networks – Bankcard Network and Bitcoin Network.



Figure 4: BIX™ Wallet used by Customers

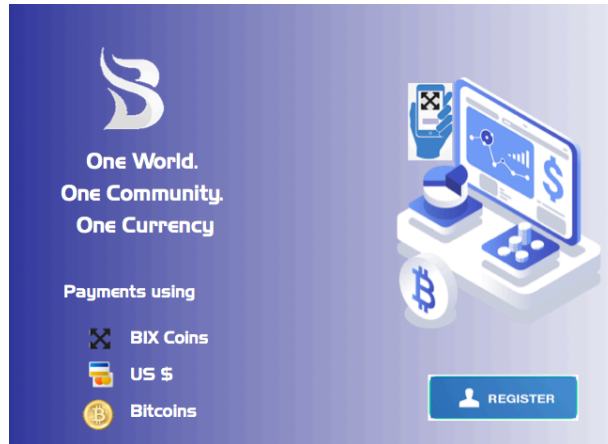


Figure 5a: BIX™ POS Station used by Dispensaries

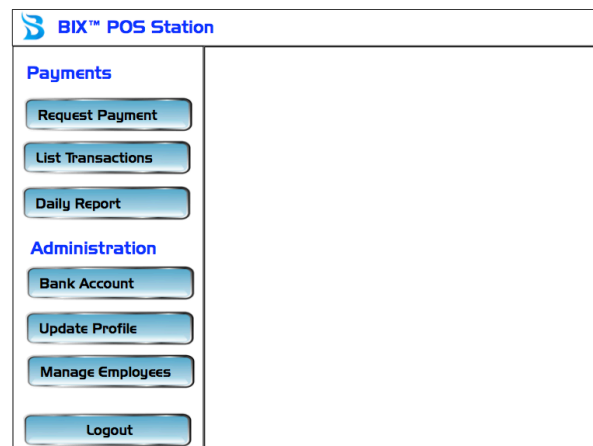


Figure 5b: BIX™ POS Station used by Dispensaries

Each BIX™ Wallet maintains several accounts for the owner of the Wallet.

- For consumers, the Wallet maintains BIX™ Coins account and Bankcard account. BIX™ Coins account is created automatically, during consumer's registration and its balance is set to zero. Bankcard account contains bankcard data of the consumer and it is created by the consumer by entering card data (registration of the card);
- For dispensers, the Wallet maintains the same two accounts – BIX™ Coins account and Bankcard account;
- Payment Services Provider also has its Wallet. The Wallet has bank account of the Provider and BIX™ Coins account. Bank account has special purpose – it is escrow account for all deposits into the System, as described below.

If a consumer does not have a standard bankcard issued by some bank, he/she will purchase prepaid card and use it for payment transactions. So, the assumption is that each consumer has a bankcard – either debit / credit card, linked to the bank account, or pre-paid card. It is also assumed that dispensers can not register as

merchants by the Bankcard Processors to accept card transactions OTC, so consumers will use their prepaid cards slightly differently than with standard bankcard OTC transactions, as explained below.

It is also assumed that dispensaries do not have bank accounts (due to banks restrictions), so they will perform transactions with bank accounts using special procedure also described below.

5.4 Transactions in the CannaFinex™ Payments System

5.4.1 Purchasing and Registering Prepaid Cards

As the first step, each consumer will purchase pre-paid card. In that step the card will also be loaded with initial balance. After that, consumers will register their cards in the CannaFinex™ System using BIX™ Wallet, the function "Register Card" in the Bankcards menu. As the result, consumer bankcard will be registered in his/her BIX™ Wallet in the CannaFinex™ Payments Server.

5.4.2 Buying BIX™ Coins

In the next step, the consumer will purchase certain amount of BIX™ Coins using BIX™ Wallet, the function "Load using Card" in the BIX Coins menu. The recipient of that payment is Payment Services Provider, acting as bankcard merchant. Payment transaction will be settled as the standard bankcard transaction, by forwarding it from the CannaFinex™ Payments Server into the Bankcard Network. When settled, bank account of the Payment Services Provider will be credited by the payment amount and the balance of the consumer's prepaid card will be debited by the same amount.

After the settlement of the transaction through the Bankcard Network, Payment Services Provider will issue the same amount of new BIX™ Coins and credit it to the BIX™ Coin account of the consumer.

As the result of this transaction: (a) consumer's BIX™ Wallet is credited with the amount of BIX™ Coins equivalent to the amount purchased in US\$ and (b) escrow bank account of the Payment Services Provider will be credited with the purchased amount.

5.4.3 Paying OTC using BIX™ Coins

When consumer is in the dispensary and the purchase is completed (goods selected and on the counter), the person behind the counter will use "Request Payment" button at the dashboard of the POS Station (Figure 5b) and payment entry form will be displayed (Figure 6, left side). Merchant will enter the amount to be paid (in US\$) and click "Request Payment" button. A QR image will appear containing merchant's identification and the amount to be paid. The Consumer will use his/her BIX™ Wallet application in the smart phone, activate the "Make Payment" function in the BIX Coin group, camera will be activated, consumer will capture the QR code of the merchant, the consumer will press "Make Payment" button and the transaction will be

instantaneously completed.

The amount of BIX™ Coins, equivalent to the payment amount, will be debited from the consumer's BIX™ Coin account and credited to the BIX™ Coins account of the dispensary. The merchant will see immediate confirmation, shown on the right side of Figure 6. The Escrow bank account of the Payment Services Provider is not affected.

Escrow bank account of the Payment Services Provider is not affected.

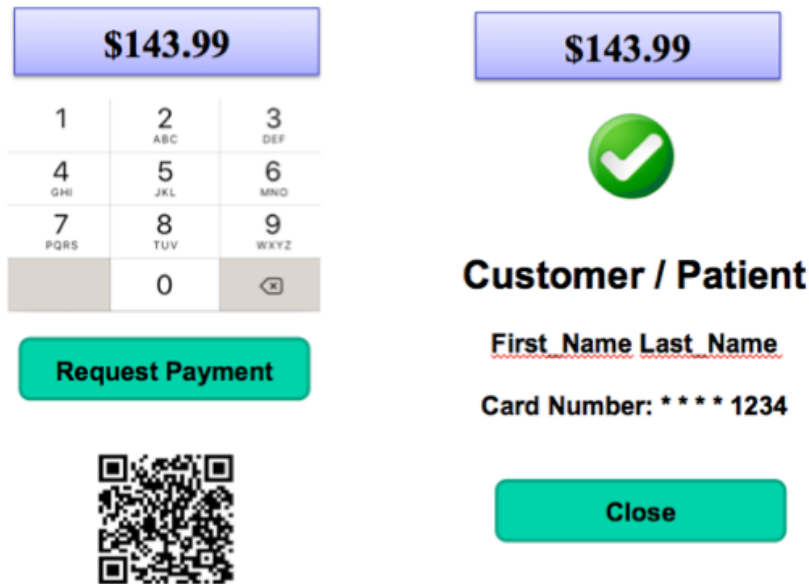


Figure 6: Payment Transaction at the POS / OTC

5.4.4 Payments by Dispensaries inside the CannaFinex™ System

By accepting payments, internally handled by the CannaFinex™ System using BIX™ Coins, the dispensaries are accumulating BIX™ Coins at their BIX™ Coin accounts in their BIX™ Wallets at the CannaFinex™ Payments Server. These BIX™ Coins can be used for payments to other parties in the cannabis market, shown in Figure 3. But, prerequisite for that is that those other participants are also registered in the CannaFinex™ System. Therefore, as enrolment in the CannaFinex™ System increases, BIX™ Coins may become payment currency for more and more participants in the system.

5.4.5 Payments by Dispensaries outside of the CannaFinex™ System

If some dispensary wants to pay to some other business party that is not registered in the CannaFinex™ Payments System, that transaction may be performed as payments to the bank account of the receiving party, using ACH Network. However, it is assumed that dispensaries do not have bank accounts (due to banks restrictions), so this payment to the bank account of the party outside of the CannaFinex™ System will be performed as follows:

Dispensary will access and use CannaFinex™ Payments System Portal, shown indicatively in Figure 2. At the Portal, after login, they will use the function "Make Payment" in the Bank Accounts group. They will specify Bank Routing Number, Bank Account Number, and Payment Amount of the receiving party for the payment.

This information will be conveyed to the payment party by the invoice issued by the receiving party. After clicking "Make Payment" button, the specified amount will be paid from the Payment Services Provider's escrow bank account to the bank account of the receiving party, using standard ACH Network transaction. At the same time the equivalent amount of BIX™ Coins will be debited from the BIX™ Coins account of the dispensary, i.e. they will be "destroyed".

Thus, for payments to the parties outside of the CannaFinex™ Payments System, Payment Services Provider is playing the role of an "agent / gateway" using the US\$ in its escrow bank account for payments to the parties outside of the CannaFinex™ System.

5.4.6 Cashing out by Dispensaries

If some dispensary needs cash, the best solution is to enable it at its location to be an agent for loading pre-paid cards. Since consumers (section 5.4.1) need to convert cash into prepaid amount in their cards, they can do that at dispensary locations.

In this transaction, dispensaries must be able to credit consumer's prepaid card in return for the received cash. Since CannaFinex™ Payments Server is on-line, directly connected to the Bankcard Network, the possibility to enable dispensaries to become pre-aid card service providers can be implemented using transactions of that Network.

Since consumers, after loading the pre-paid card will use it in the next step to purchase BIX™ Coins and load them into their BIX™ Wallets, the other interesting solution is that dispensaries sell their BIX™ Coins to consumers, paid by cash. In this case, after confirming the receipt of cash (using POS Station), the equivalent amount of BIX™ Coins would be transferred from the dispensary's BIX™ Coin account to the BIX™ Coin account of the consumer.