
**NationPay is a Cardless Credit and Debit Card Solution**

**Plus Remittance as Wallet to Wallet to ATM**


**Please click to view the video – a great introduction to the whitepaper.**

**NationPay is Empowering Banks to Empower Clients to Empower Everyone**

**Whitepaper: the Optimal Parallization of National Currencies: a network of Token Economies backed by banks.**

"NationPay is a blockchain banking solution we have been researching. I expect it will soon become a household name." - Senior Member of IDB – Inter-American Development Bank, Panama

"NationPay is what we are looking for to implement at a cooperative of university graduates to help them function as a credit bank with 1.5 million members." – Ruben Ramirez Lezcano, foreign Minister of Foreign Affairs and former Vice-Minister of Economic Relations and Regional Director of Development Bank – Paraguay.

"Today's big banks are investing their money into in-depth development and research which are all related to applications of cryptocurrency. They cannot afford to fall behind. Many banks are even partnering with various cryptocurrency organizations in order to better understand blockchain technology." - the Merkle, 2017 NationPay is the best possible result of that research.

**Electronic Credit Unit**

The movement of cash in the world economy is rapidly being replaced by electronic payment solutions. Much of China's population uses mobile payments for purchasing, while other developed

nations transfer money via a combination of mobile payment and credit card solutions for the majority of transactions. Cash is becoming obsolete. Never the less, faith in the electronic credit as a means of value transfer is still governed by the backing of those credits by various banks, payment processors and other agencies as the credit passes through them from endpoint to endpoint in a transaction. As such, the electronic credit is gaining momentum, but still is in the hands of the payment processors and at no point can a transfer of credit be made outside the scope of the processors.

While the electronic credit has the ability to transcend all barriers from sender to receiver, for the most part it hasn't. Responsibility for the effectiveness of a transaction is determined by the agency or processor through which the credit is passing, and the value, at any point in a transaction path is represented by some national currency.

Complicating matters is when a value transfer between credits of different currency types is transacted. Typically that adds a foreign exchange component, yet another centralized player.

Several crypto solutions have been introduced which ignore the vast banking networks currently in place. They seek to provide cross currency swaps via a token intended to be of agreed upon value to induce the transfer through an escrow. Others embody direct trade as it was 500 years ago. For example, TiGo money allows its users to trade airtime credits as a unit of currency, a medium of exchange to pay for other goods, services and utility bills or to remit cash with some endpoint. For TiGo, the medium of exchange is the airtime and the unit of credit is the airtime minute. Assuming the value of that airtime minute is the same over different countries, and that is a big assumption, it is possible for a traded good's value to transcend national currencies.

New crypto companies like ChronoLogic are embodying the concept of time all by itself as a medium of exchange. However, time might be more valuable in some societies than in others, hence it seems difficult to establish a traded good as a world currency unit. Should all the members of a network agree that the unit of credit has some intrinsic value just for the purposes of a trade, than the traded good no longer can have any meaning relative to its actual market value as a product and becomes just a unit of currency, eliminating the relevance of the actual product in the first place. That is fine, but a roundabout solution.

Bitcoin, on the other hand, with its vast network of ATMS makes for an ideal way to transfer money cross border. However, fees are high because the value of bitcoin is unrelated to the price of goods people buy with it. And the value is volatile with respect to the underlying fiat that it is exchanged for at the ATM.

We wish to solve the problem of purchasing products online and in person in different currencies while eliminating fee-based remittance with a single platform. We do this by empowering banks to

add tokenized economies to their suite of products which bridges them to the blockchain world with zero friction.

We believe the ideal solution to transferring money in a decentralized way, while allowing the value of products to slowly reach equilibrium with whatever unit of currency is being traded in involves three components:

1) An existing trusted network of banks and ATMS, already handling money and with large customer bases
2) A marketplace where tokens can seek their own value, using pegged reference points as a basis for initial trade and liquidity.
3) New players with vast customers bases wishing to obtain private-like banking services but do not have the means to do so currently.

The ability for these three components to thrive on an open blockchain entails a platform that:

1) Easily creates token economies for each bank while extolling the trust relationship of the tokens emitted by the banks.
2) Allows clients to receive tokens from any bank that they are a client of, without any hard linking of their wallet, but rather by making use of their existing online banking relationship to present a special REST link to their online banking portal via a special bank wallet.
3) Allow the unbanked to thrive equally in the economy, the same as clients do by being able to receive and transfer tokens from any client.
4) Allows an ATM to act as a special type of bank client. Specifically, a client acting as an MSB. And appearing just as another wallet on the platform. Therefore client persons and unbanked persons alike can receive cash from an ATM in exchange for tokens.

**The no frills digital unit**

The benefits of a digital unit of currency versus a physical unit include instant transfer, safe holding, and easy verification. Yet the value of bitcoin remains volatile with respect to the buying power for goods in general. The cause of this volatility is that most of the world still buys goods with national currencies while bitcoin is still growing.

Therefore, it seems appropriate to propose a platform that empowers banks to be the basis for individual token economies.

**Merging Token Economies – the icing**

When any two banks agree to a merger, their two tokens can be merged with an appropriate constant of proportion such that all clients can trade in the same token-type thence forward, even if the two original tokens were pegged to different currencies originally. While the fiat cash remains the same and distinct at each bank that forms part of the merger, the token merging allows merchants who are clients to effortlessly price products to the universal token type created by the merger. This simple optional feature combined with the NationPay marketplace provides the mechanism and the springboard for a future single world currency where products are priced without volatility to the token via a gradual merging of token economies.

Such a single digital world currency unit can **evolve slowly over time allowing nations to use their own currencies the same way everyone is already used to doing.** Such a platform is passive because it forces no change to current business while empowering everyone to buy stuff with tokens and make token-based ATM withdrawals at their leisure. The use of tokens affords zero volatility with respect to the buying power that people are used to, their own native currency.

Many countries are working on providing their own digital currency. This solves the problems of using cash to buy things and removes the need for credit cards. However, a national currency remains with the following problems:

1) Money (in digital form) cannot be traded outside of the nation's implementation unless it decidedly uses a standard – like ERC-20 and all other nation's adopt the same standard.
2) The backers of the currency still remain as the central bank of that country. There is no distributed backing system.
3) Government owned and centralized. There is no incentive or guarantee that the government would not manipulate or completely control foreign exchange.
4) All governments adopting their own digital currency will take many, many years to do so and the result will still be government controlled money.

Granted, if all nation's suddenly adopted an ERC-20 digitized pegged token world-standard tomorrow, the world would be one step closer to what we propose here.


Since that is not the case, what we propose is to bring the world to that standard without any of the impediments a single government's private-chain based solution could impose.

Specifically, a 100% decentralized platform is described that rapidly enables users with the power of token economies to do business same as they do with cash and debit cards in day to day activities by:
a) Providing a network strategy that grows these economies quickly through the entreneched network of existing banks and ATMS world-wide.

b) Incentivizing banks to use the economy by vigorously reminding them of the advantage: Tokens used by clients remain as cash in the banks so that the banks reap the reward of token float investment while clients reap the reward of repeated wallet to wallet transfers with zero fees.

c) Keeping banks in control of fees for emitting tokens and retiring them, while incentivizing them to keep those fees under 1%.

d) Reducing barriers to forming a bank to those organization that currently service a network of clients but lack banking services. NationPay will do so by providing a "cardless debit and credit card" solution to any corporation with clients needing private banking services.

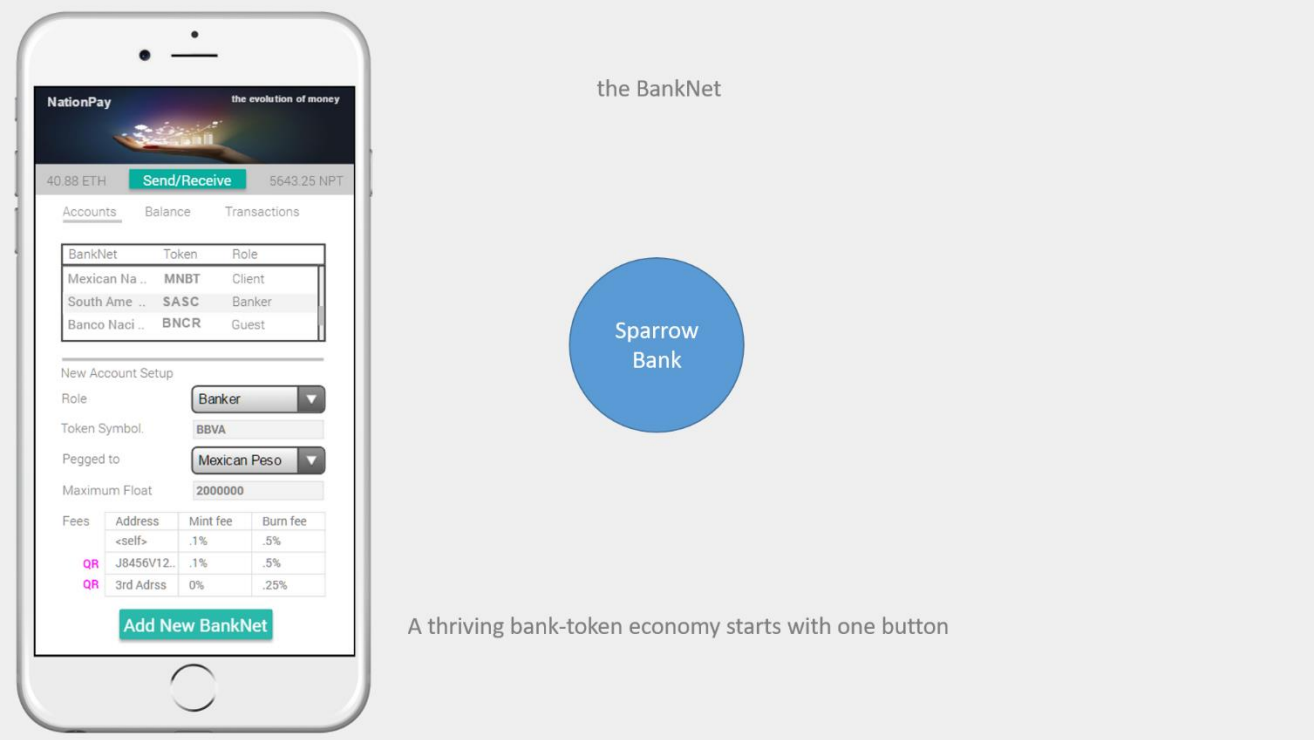
e) Creating an economy of bank-backed tokens.

The heart of the platform is a network of independent sub-networks (BankNets) enabling value transfer with a token pegged to any existing fiat or crypto currency that the bank currently holds. Each BankNet uses a peg based on the currency of what most of that network's clients are accustomed to using, for example, the native fiat currency of the country those users reside in. The platform allows multiple players to have their own token economies backing the same currency in separate BankNets, so that a network of BankNets inside one country evolves over time forming a same-layer structure of token-economy-empowered clients and unbanked users alike.

**How NationPay Works**

We encourage you to watch the video at https://youtu.be/Z3CUoIHnYTk The following takes us through a presentation perhaps better viewed in the video due to the animation. It is followed here by a presentation of token structure.

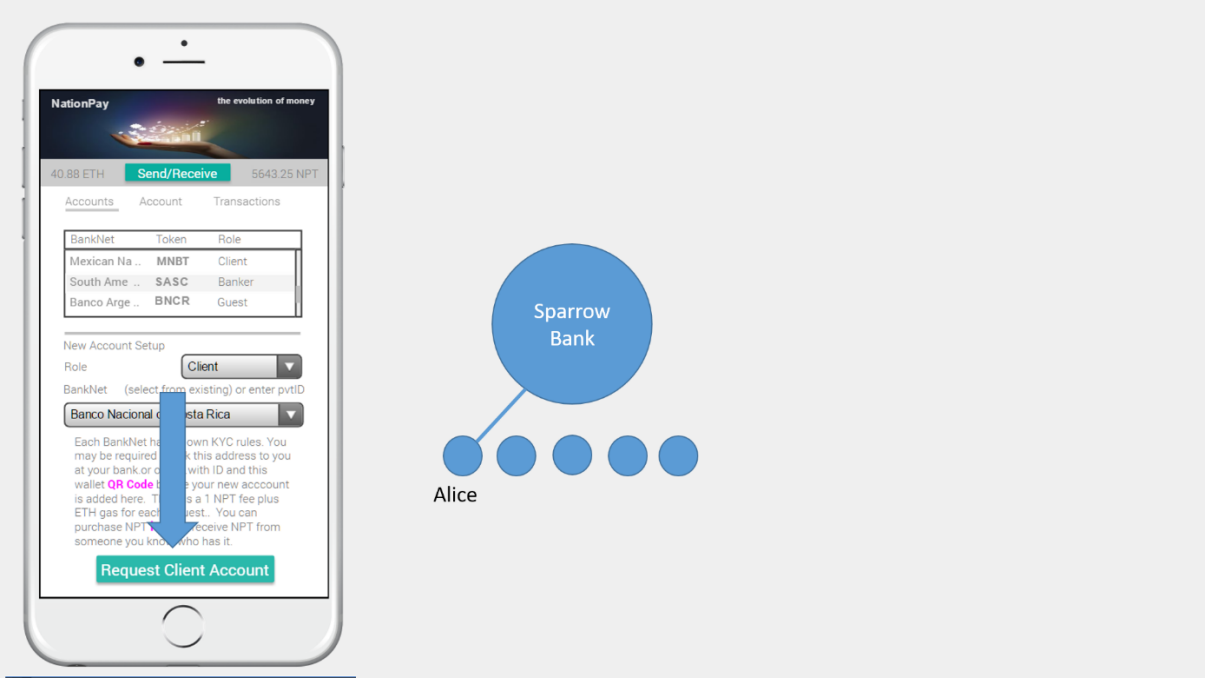

A Bank adds a wallet called a BankNet. This is multisignatory, where some signers may have less priveleges to the BankNet than others. Due to its unique features, the wallet is governed by a special wallet smart contract. The main purpose of additional signatories is for divided fee structures.




Consider a bank. Sparrow Bank. They add a BankNet pegged to the dollar. This is just a wallet address the bank controls with up to 3 signatories. This takes about a minute. There are some basic settings, like the fees they want to charge for minting and burning tokens.

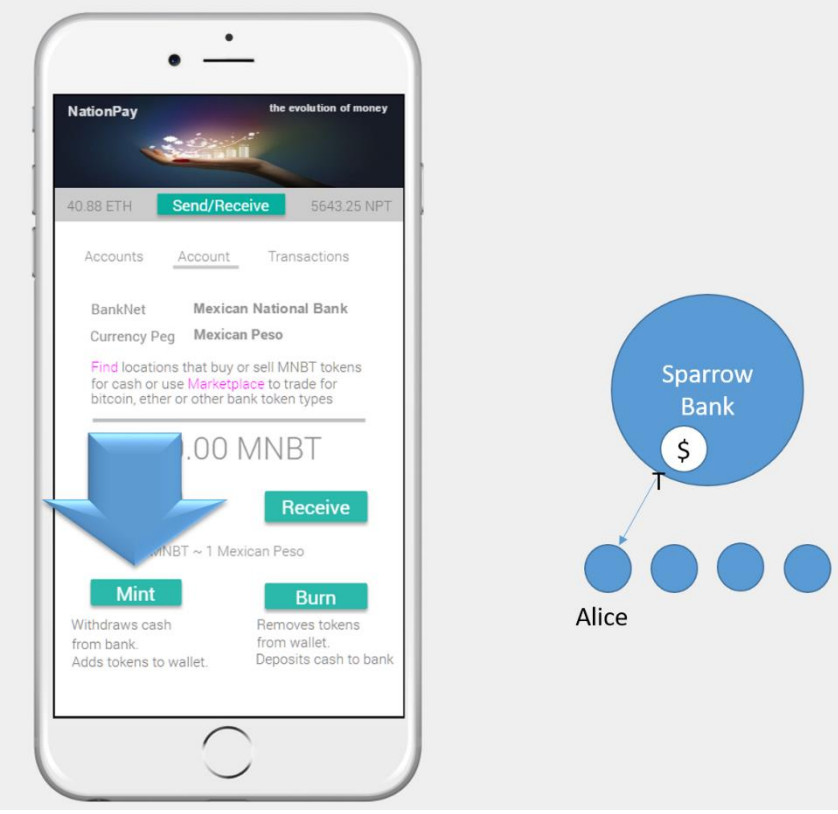
When the bank is ready, they press the "Add New BankNet" button. This associates the wallet address with up to 3 bank officials and associate partners who might share in the fees. the BankNet is now created and it just looks like an account on the NationPay system with the Role of Banker.


Anytime a client wants to do a Mint Request (receive tokens) from a selected BankNet, NationPay makes that simple by presenting, on-the-fly, a special login link through online banking via the BankNet wallet's 24/7 node. This removes the necessity for any client wallet to register with any particular BankNet. Alice adds the account to her wallet and the button just looks like "Add Account". If she adds the account and she is not a client, any mint request will simply fail. Yet she can still send tokens from the account she may receive from others.




Clients like Alice register their wallet address to the BankNet here. There is no need to link this address to the bank, nor her KYC to the BankNet. This is done per transaction on the fly. Alice can have many accounts all at the same address in her wallet. Each account is a different token-type. But she can only have one account of the same token type in her wallet. Her NationPay Wallet is tied to just one Ethereum address with as many accounts as she wants.

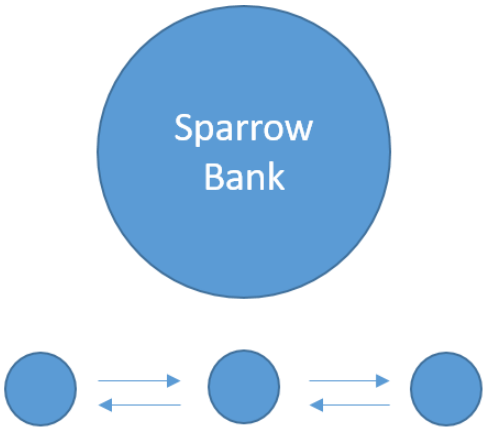

Clients, like Alice mint tokens from their bank accounts to their wallets just by going to the app. and pressing the “Mint” button. This transfers the cash in Alice’s account to the bank and gives her tokens instead. NationPay has a simple API to ensure the bank makes the cash transfer before the tokens are minted. Alice’s request is handed off directly to online banking, without passing through the BankNet smart contract.




**To mint**, Alice sends a request to online banking from her wallet which includes her wallet address and her normal bank login information plus how many tokens she wants, all in the same REST statement. Upon approval, online banking code puts a signed send transaction on the Ethereum Net to its own BankNet smart contract which mints and sends the tokens to Alice's wallet address account.

**Tokens Explained**

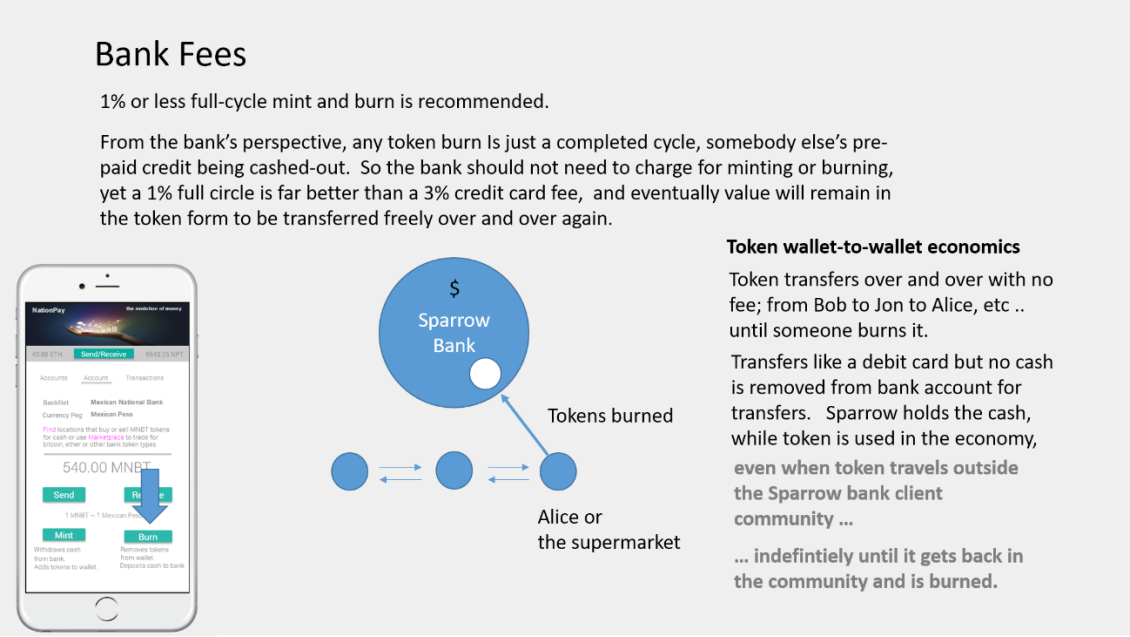
Tokens are simply digital credit, and it's just a way to free up your cash to do things with it, like buy stuff online. Normally you or a merchant would pay a credit fee for that. The idea here is to make the fee really low, because unlike credit, you actually own it, so in fact tokens are exactly like prepaid credit. Mint events wouldn't happen too often in a thriving token economy with one world currency, but for now, while people are still paid in cash, and there will be many bankNets, minting will be quite common. More so there will be minting rather than burning as the economy expands and more cash is put into tokens. And that's why banks will probably only have fees for burning ultimately because there are other reasons banks will want to incentive their clients to have their money in tokens. The main one is simple. Banks want you to keep your cash with them. When you take real cash out, the bank has less cash. But when you get tokens, the bank still has the cash, sure it's not in your account anymore, but they have the cash and that means all the floating tokens in the system are backed by cash that the bank can invest. This is of huge benefit to the banks. All the more reason, the mint fee will likely be close to zero.




Supermarket with an MSB license giving cash to Bob at whatever rate they set.

Clients send tokens to other clients, to buy stuff or pay a debt. Or even to receive cash, at whatever rate the client sets. So a client, Bob, can send tokens to a client deli to pay the bill or Bob can send tokens for cash to a client supermarket acting as an MSB. That supermarket can also be a special ATM that gives cash for tokens just like the supermarket. We'll cover that later. (That ATM is just a wallet like the supermarket – only without the person there to verify the tokens coming into the market wallet and then handing out the cash. The ATM can do it all.)

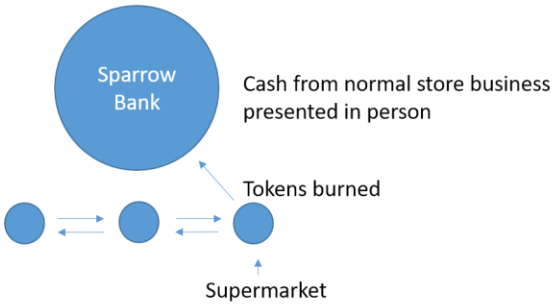

When a client like Alice wants to cash out, she retires her tokens. just by pressing the burn button. That sends tokens to the BankNet where they remain in escrow until the BanklNet confirms that the cash is added back to her bank account and then burns the tokens. The BankNet node interacts with online banking and the BankNet smart contract and ultimately acknowledges success to Alice's wallet by not refunding the tokens to her. The Supermarket can also cash out. They're a bank client too, just like Alice.



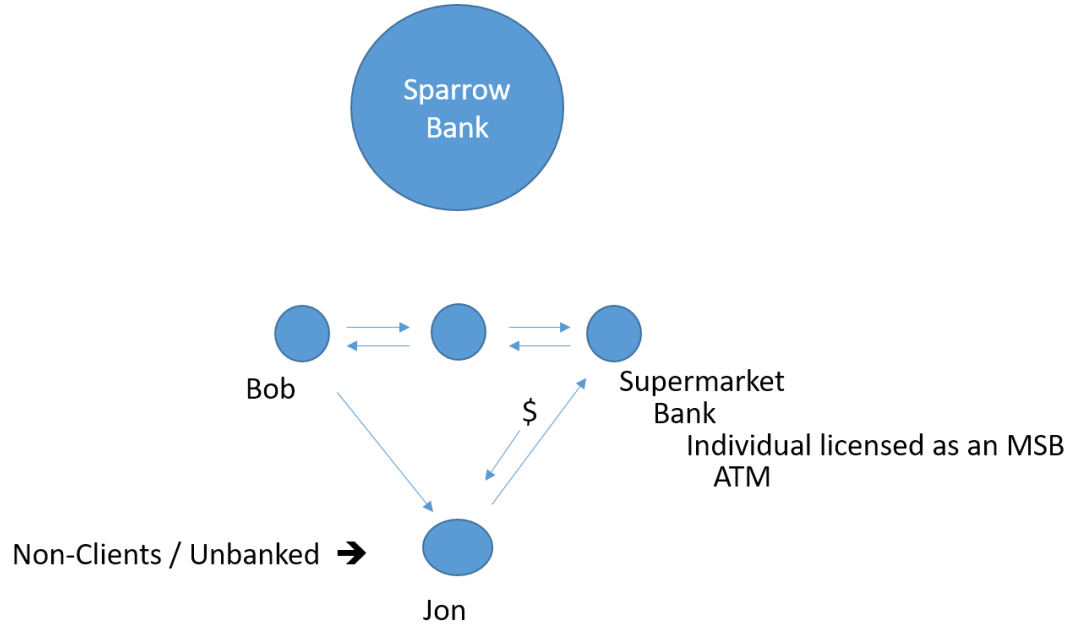

Bank makes a small fee, at a rate they set, both to withdraw and to deposit cash back into a client's account in response to a token minting or burning respectively. On the one hand the round-trip fee should be zero, because the token is already earned cash in digital form, it is not credit, except in so much as the term "prepaid credit" makes sense. However on the other hand, using that cash as you would a credit card, means the 3% merchant fees are gone. That means the prices of things can be lower. Not to mention, tokens can be used over and over again with zero fees, completing many cycles before someone decides to cash out. That said, encouraging users to keep tokens floating in the economy is of benefit both to the banks and to the users. Suffice to say, we project that a round-trip fee of 1% or less will be necessary to keep the network thriving.

MSB business is no different then selling oranges or food. The supermarket offsets their daily cash intake by selling cash or selling tokens to anyone looking to cash out of tokens or buy them, likely an unbanked user receiving a remittance or looking to send tokens to another unbanked user. MSB volume remains easily reportable through blockchain so the cash can be comingled with the supermarket's daily cash revenue.

Supermarket gets cash and tokens for products it sells, - but only tokens when it sells cash, and only cash when it sells tokens. At the end of the day, they'll have cash to deposit back at the bank. They might also have tokens to be burned to get more cash into their bank account.



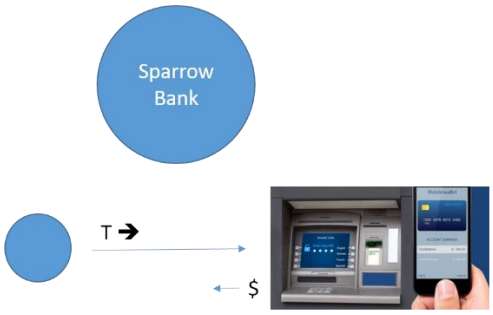

While the bank fee must be small, the bank is able to participate in the MSB earnings of the supermarket as a side effect in both directions. Of course any merchant who gets paid in tokens is receiving them instead of a credit card. So now it is the customer minting tokens who pays the mint fee, and the merchant (who may want to cashout) who pays the burn fee. It is for this reason primarily that the bank fees must be under 1% full circle for the network to remain attractive over credit cards. But because the bank will now have all the float in tokens that would ordinarily be unavailable to them, if withdrawn as cash, the banks have incentive to keep the fees at near zero. Further, the credit as a token can be used over and over again for free. This is not so with a credit card. So there are multiple wins here, both for the bank and the consumer.




Clients can send tokens to users who are not clients of Sparrow Bank, like Jon. So say Bob owes some money to Jon. He can send him tokens to pay up and Jon can use the tokens to trade with others in the Sparrow bank economy. He can cash out at the supermarket too without ever having an account at Sparrow. But remember the supermarket charges a fee for that, so Jon might want to get an account at Sparrow and become a client.
As you can see, the client can also be an associate bank, an individual licensed as an MSB, or even at ATM. Now we can discuss the power of remittance through an ATM acting as a client wallet.

Setting the stage for the coolest remittance ever, almost there …

That's right, anyone can send tokens to an ATM by scanning its QR Code and the ATM can automatically dispense cash whether you are a client of the bank or not … as long as the tokens are minted by Sparrow.




ATM is just another bank client with a wallet address. Jon sends tokens to it and gets cash.

The ATM doesn't subtract the balance from your bank account because tokens are sent to the ATM account instead. Just like the supermarket example, except it's the bank itself acting as its own MSB or Sparrow allows any Sparrow client to be an MSB on the NationPay platform, adding a key feature to banking, while keeping Sparrow in the loop. For example, the supermarket could own that ATM and still give Sparrow fees every time it burns ATM-received tokens to its Sparrow bank account.

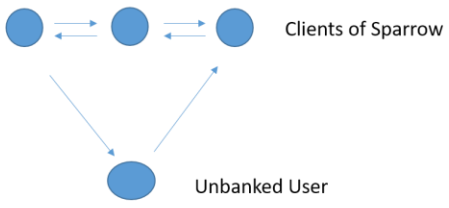
Stay tuned – soon we'll see how remittance is as simple as wallet to wallet to ATM …


With NationPay, Sparrow's own ATM business is self-accountable when co-mingling token-paid cash with the more familiar ATM withdrawed cash which gets taken out of the client's bank account.

Token cash does not get taken out of the client's bank account. Yet both forms of cash can live in the ATM. Sparrow can track its token business apart from its regular ATM business just by viewing the tokens in its ATM wallet. Then, when filling up the machine with cash, the ATM wallet simply sends its tokens to a higher level bank wallet in exchange for the cash. This creates a separate reportable accounting structure where token depth in the economy is easily measurable.

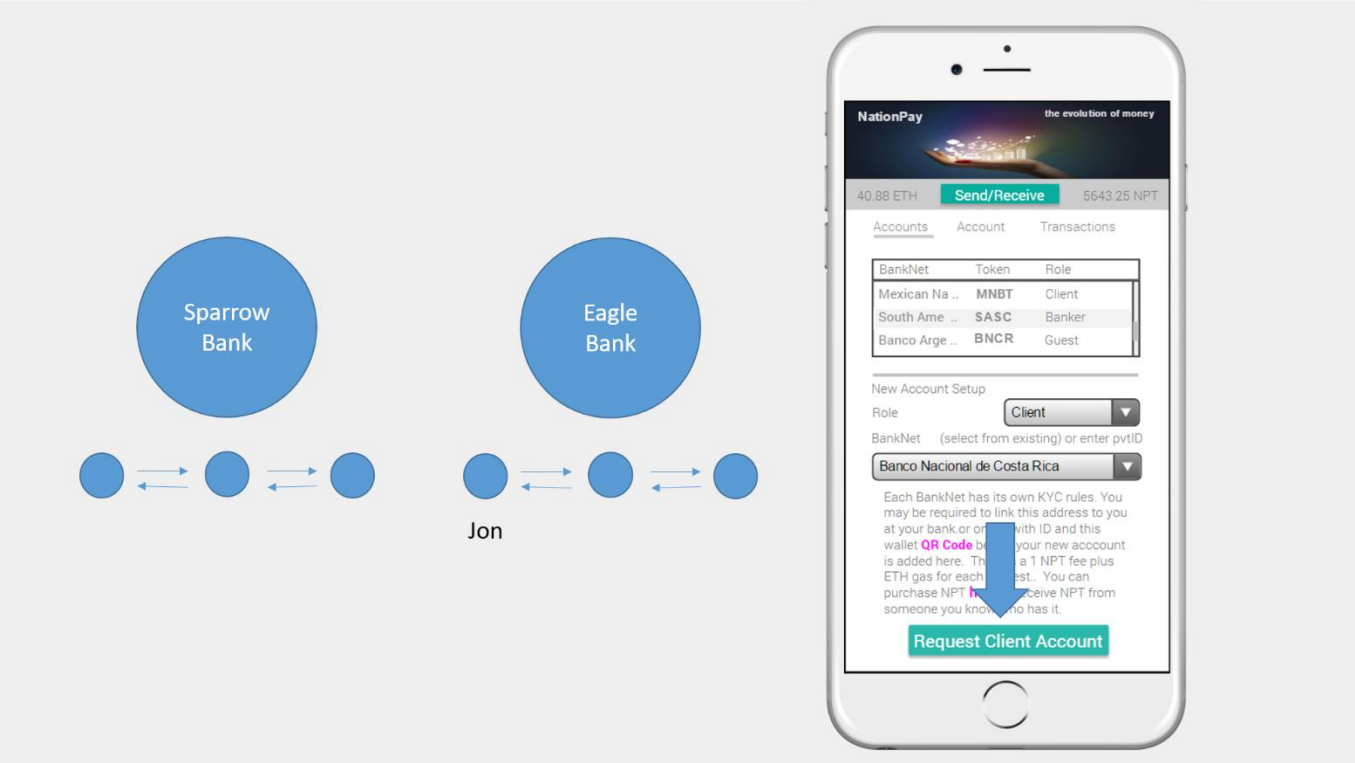
### Unbanked Persons Add to the Token Economy

Fun fact: Unbanked persons add to Sparrow's token economy thereby increasing the Bank's float. Money that might have been withdrawn as cash now remains in the bank while being used at the same time in the economy.



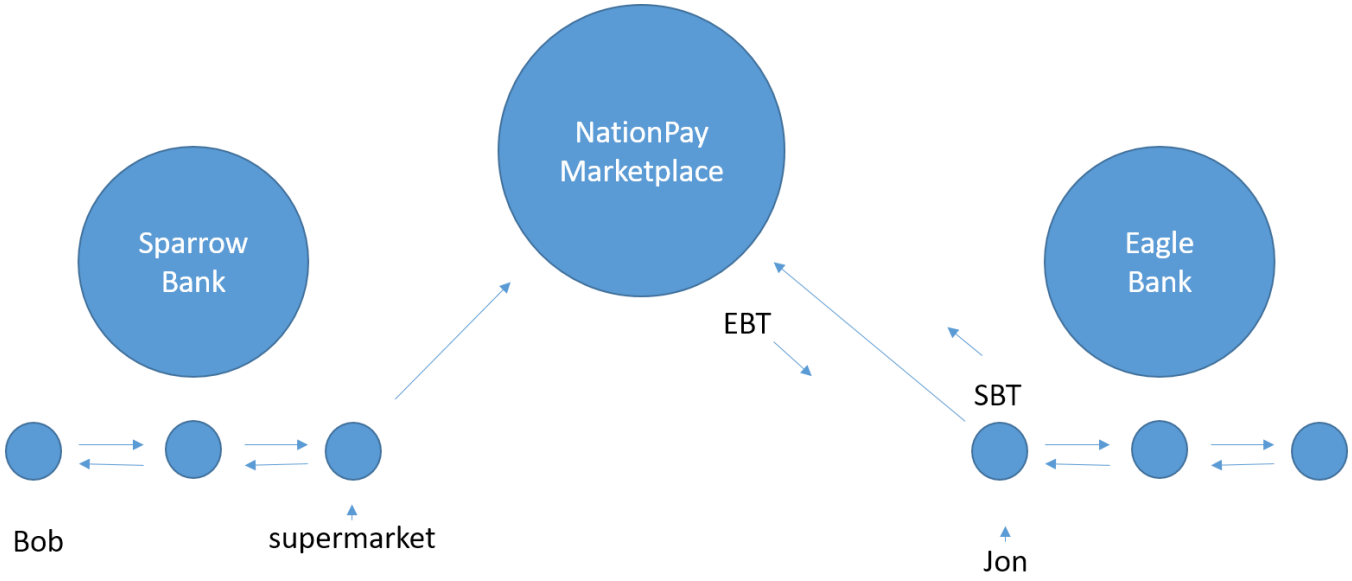

Jon the contractor accepts tokens instead of cash

A side effect of Jon's participation is that he adds to the token economy causing clients to mint more tokens, tokens that might have been used as cash, like to pay Jon as a contractor. The near-term win is that banks have access to increased float time due to unbanked users in the economy. If Jon can use the tokens at many places, he may not cash them out so quickly.

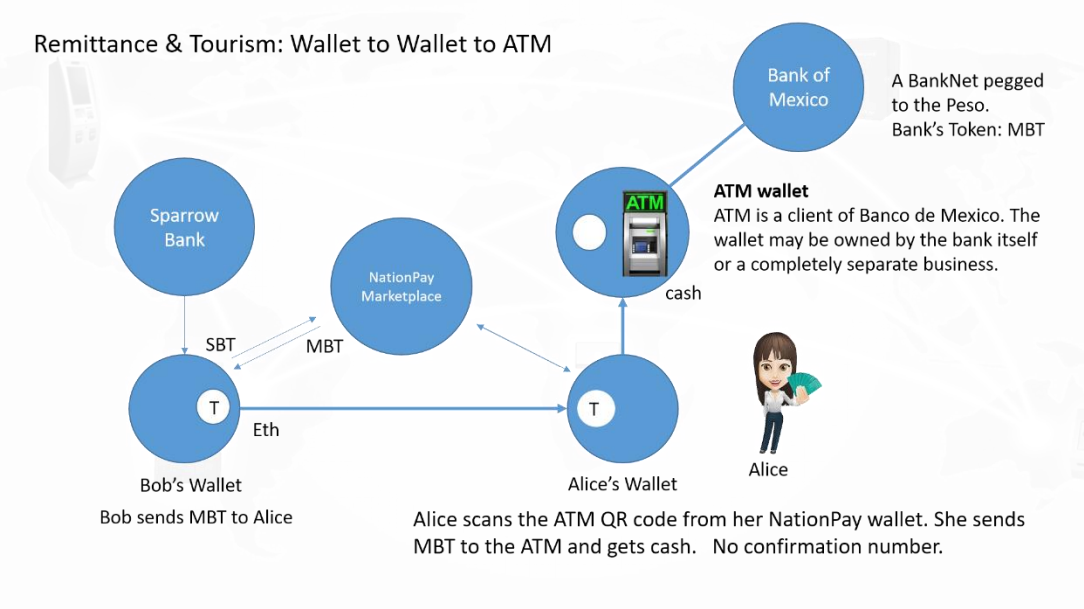

So now it gets interesting. Say, Eagle Bank comes along and they add a BankNet pegged to the dollar as well. Now all Eagle Bank clients are trading tokens with each other wallet to wallet just like Sparrow Bank. And oh, it just so happens Jon is a client of Eagle Bank and has added an Eagle BankNet account to his wallet by tapping “Add Account” in the app. While highlighting the “Eagle Bank BankNet” network. Different accounts can all live in the same wallet address becaseu all the tokens are ERC-20 traded on the Ethereum network. The NationPay wallet gives a distinct look and feel for each account, but they are all using the same wallet address. A client can open a separate NationPay wallet if he wishes to use a separate address for each account.

Trading Among Several Token Economies on the same network – the power of NationPay




Now the stage is set for communicating and even optionally merging token economies. Remember Bob sent some Sparrow tokens to Jon earlier, lets call them SBT. So Jon can trade with them, or cash them out at the supermarket that is a client of Sparrow, but what happens if Jon lives far away from any clients of Sparrow or whatever, he wants the cash in his Eagle bank account right away. Well, Eagle Bank can only Burn Eagle Bank tokens (EBT), So, what can Jon do? Enter the NationPay Marketplace. By simply offering his SBT for EBT in exchange or indirectly against ether or bitcoin, Jon can do business with clients at both banks. Because all bank networks are backed, there will always be a market for all tokens, even if discounted or inflated. The floating market price will be determined by factors such as risk variation between banks, relative accessibility to bank's network of clients and distribution of bank branches which are also clients of each BankNet.

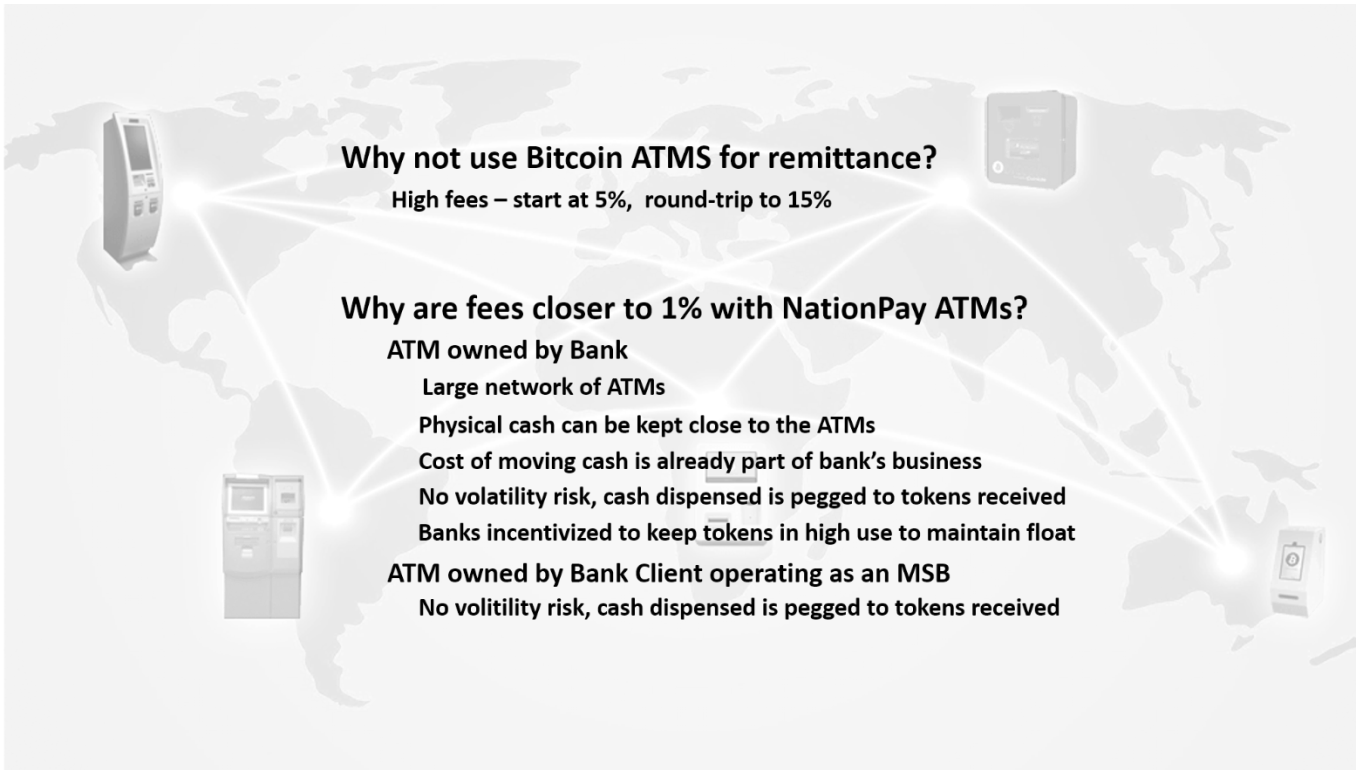
Now finally Remittance!  Wallet to Wallet to ATM



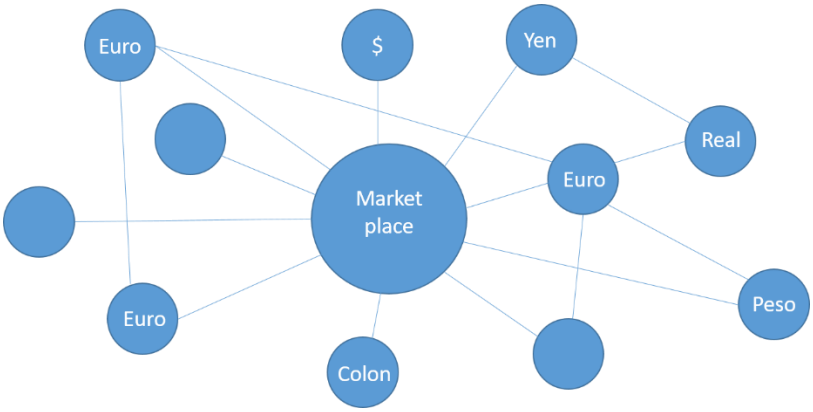

Remittance is simply Wallet to Wallet to ATM, even across countries and currency types.
Here Bob is a client of Sparrow Bank in New York and Alice is unbanked, living in Mexico City close to a Bank of Mexico ATM.  Bob could send Ether directly to Alice who would use the marketplace to purchase Bank of Mexico's token, MBT.  Alternatively, as shown in the figure, Bob knows that Alice lives near a Bank of Mexico ATM.  So Bob buys MBT on the marketplace by swapping out some of his SBT and then sending it to Alice (T = MBT).  Alice cashes out at the Bank of Mexico ATM nearest her house.  That ATM may be owned by Bank of Mexico or any client of Bank of Mexico licensed as an MSB. (Please see this in the video where the explanation is clearer as an animated detail)

Tourism too:  A tourist can pre-load her wallet before visiting the country.

ATM accounting is simple.  When ATM cash is low, or at some set quantity, the ATM performs a burn operation to transfer its tokens to the ATM owner.  The owner may be a private client, or the bank itself.  That event lets the owner know it is time to replenish the ATM.


With thousands of Bitcoin ATMs in the world today, Bob could send bitcoin to Alice who could get cash from a bitcoin ATM. The problem there is that these ATMs have fees from about 5% to 15% and that is usually due to many factors that set the bitcoin operator's business apart from that of a bank; factors such as taking on volatility risk, the costs of putting cash into the ATM frequently and a low volume of business. These all contribute to high fees. Banks on the other hand have a large network of ATMs already established. They have access to cash nearby to most of their ATMs and while using NationPay, the cash the bank provides is offset by a token that is pegged to the same currency that is being dispensed. With NationPay the bank enjoys the benefits of a closed system, yet remains open. This allows fees to be near zero, yet still determinable by the bank. The competitive nature of the NationPay marketplace necessarily causes banks to keep fees low. It also allows small banks to compete with large ones. Bank ATMs will require machine changes to support the scanning of QR codes and software changes to simply control a NationPay wallet.




As you can imagine, a world economy of BankNets will emerge. Some of them will be pegged to other currencies, like the Euro, the Yen, the Peso, the Guarani, and, well, all currencies. This allows people to buy in their native currency without volatility letting the marketplace determine which banks can ultimately merge allowing product pricing in other currencies to happen gradually in accordance with the availability of tokens. Nationpay has no borders. But banks are respected and empowered to create this solution. And of course all tokens are tradeable wallet to wallet and on the marketplace. And so, the path to one world economy is clear.


## NationPay Fees

**Mint and Burn Network Fees of .15%**
All mint and burn transactions on the NationPay system incur a network fee of .15% paid in Ether. That is used to buy the NationPay Token NPT. All of that gets put into the NationPay Reserve. This creates scarcity of the token or a deflation effect because most of the Reserve remains unusable year to year. This effect is loosely analogous to accumulation of treasury shares in a traditional corporation.

**MarketPlace Network fees of .15%**
All trades among token types on the NationPay marketplace are also paid with fees in Ether. Those fees are used to buy NPT which in turn get stored in the NationPay Reserve similar to network fees.

**Ethereum use fee expected to average .2%**
For a $100 transaction. About twenty cents per transaction regardless of size.

**Total fees**
Minimum round-trip fee is expected to be about .5% plus bank add-on averaging .25% each direction, a total **1%** round-trip fee is estimated. To put this in perspective, credit card fees, remittance and bank-owned ATM fees are zero. Wallet to wallet token transaction fees are expected to pay only the Ethereum network fee and we expect that tokens will remain off-bank for long periods of trade before being converted back to cash at the bank. Whereas, without tokens, every transaction currently goes through a series of processing steps which has fees either to client, merchant or bank combined over 3% and sometimes as high as 30%. Those fees will no longer exist world-wide. In the cases of credit, it is only the pure bank rate passed on to the client. Since, tokens are tradable on the NationPay marketplace, banks are encouraged to compete for **low credit rates**. This keep tokens trading longer before being redeemed (burned) so banks can earn their credit fee. In the case of debit, banks are encouraged to keep mint and burn fees at near-zero, also to keep tokens trading longer before being redeemed.

**Micro Transactions**
To avoid excessive use of the network for micro-transactions, a fixed twenty cent transaction fee is assessed for all transactions with value under $50. No transaction with less than a $10 value is permitted.


**Reserve Rules - Token**
Reserve Flow = (Received with fees in one year) – (Distributed in same year)
Reserve Ratio = (Received in fees in one year)/ (Distributed in same year)

Reserve flow is restricted to be positive with a Reserve Ratio of at least 1.5. No more than 15% of the total NPT token reserves may be spent annually. The Reserve allows NPT to be given to incentivize various NationPay network services designed to help the network flourish. Incentives to enhance network security, trust and awareness. Included here are bounties and faucets. Restrictions on Reserve Flow benefits the scarcity of NPT by ensuring a positive Reserve Flow.

**Reserve Rules - ICO Funds, Seed Rounds, Existing Debt, Ether and Fiat**
NationPay LLC (the LLC) is charged with receiving funds for ICO and pre-ICO intow what is called the NationPay Reserve. The LLC shall control all aspects of the Reserve. Curranty, the LLC is located in Delaware, USA. The LLC reserves the right to relocate offshore at anytime. Publishing the address of the LLC on the website **NationPay.io** shall be considered sufficient notice to any and all purchasers of NationPay tokens of such change. NationPay LLC is authorized to receive funds for ICO and distribute tokens. The purpose of the LLC is to ensure that the NationPay network flourishes for years to come with the lowest possible fees to sufficiently incentivize developers, managers and officers to maintain adequately paid positions to promote, maintain and continue to build out and plan for the very same network. To that end the majority of ether raised during ICO is held for development, design, promotion, marketing and maintenance of the NationPay network, as well as any incurred debt that is part of or made prior to ICO. Such prior debt includes paybacks of seed funding loans and buybacks to initial investors as may be stipulated in seed-round agreements. Prior debt also includes debt to founders for work done prior to receiving capital. Such debt to co-founders and early developers will not be more than $500,000 considering expenses incurred through the end of 2017. Some of the ether or bitcoin raised during ICO and pre-ICO stages may be converted to fiat for security against volatility with respect to what some people are paid in, dollars or Euros.

**Current Debt and Seed Rounds**
A current seed-round of $100,000 has been raised from a private investor. These funds are to be paid back when the ICO amounts exceed $1,000,000. Incurred debt owed to co-founders is accumulating but expected to remain under $500,000 through the end of 2018. It is reimbursable from the ICO proceeds.


**NationPay Foundation**
In 2023, NationPay LLC, charged with the task of designing and deemed best qualified to maintain the NationPay network may or may not still exist. Therefore, the NationPay Foundation will be established on or before 2023, to continue the work of NationPay LLC indefinitely. Its board members will be charged to secure either NationPay LLC or whoever it deems best qualified to engage developers, marketers, promoters, and any and all outside agencies top ensure the NationPay network flourishes. The fpoudnation, in having a purpose will be established in a nation that supports foundations with pourposes, such as the Cayman Islands.

## Token Rules – Terms and Conditions

**NPT tokens are utility tokens used to purchase NationPay network services.**

**Token-Sale is open from seed rounds to pre-ICO to ICO, restricted to 3 classes of persons**

1) **Purchasers of Network services:** Those who pre-buy BankNets at 5000 tokens per BankNet. These are for banks or people representing companies intending to add banking services. These banking planners must send us an email and be privately approved by signing a separate agreement. This is a pre-purchase of NationPay services where the tokens act as receipt to add a BankNet after the network goes live, estimated at end of 2018.
2) **Non-US residents:** Unlimited amount of investors who are not residents or citizens of the US under regulation S. These investors must self-claim by checking off on our website that they have a net worth of over $2,000,000 and are not investing more than 5% of their total liquid net worth into NationPay tokens. They must also check that they swear under international law that they are not residing in or citizens of the USA.
3) **US residents:** Seed round private and public equity investors who are restricted under rule 506 of Regulation D and may have come to hear about NationPay via broad solicitation under Rule 506(c) must be verified accredited investors. All such investors will be manually approved by sending proof of accreditation such as W2s, tax returns, bank statements, and good credit reports to info@nationpay.io for review. When we receive the necessary proof we will manually email you an approved link to the crowdsale.

Terms and conditions are downloadable from a PDF that will reference this whitepaper and have other legal disclaimers that all investors and prepurchasers must agree to when registering for the crowdsale.

**The minting of 120,000,000 coins will happen at pre-ico**

1) For every token that is purchased for Ether, 2 matching tokens will be produced as:

2) .5 tokens for founders, .5 tokens for developers who participate over the next 3 years,
3) .5 tokens for all advisors over the first year and .5 tokens for the NationPay Reserve.

At the end of all rounds of ICO, any tokens remaining will be burned or presented to the Reserve as follows, 80% burned and 20% added to the NationPay Reserve.

**.5% Inflation**

A tiny .5% annual inflation of outstanding tokens will be minted each year to add to the Reserve. These funds fall outside the Reserve Flow and Reserve Ratio restrictions. The Reserve rules naturally ensures that the Reserve mechanism is deflationary or **currency neutral**. Therefore, the maximum annual inflation due to Reserve spending is .5%. Deflation is more likely. With only nominal network usage, the fee-used inflow to the reserve will be far greater than the .5% inflation rate. It is prudent to have an allotment for contingencies not yet accounted for to help the NationPay network flourish, such as maintain faucets, preparing for unforeseen events and incentivizing various players to join the network.

**Example of Reserve Flow and checking against Reserve Rules**

If the Reserve currently has 10,000,000 tokens and fees of 4,000,000 tokens are produced as fees in year 1 that would bring the reserve to 14,000,000. If a maximum of 15% or 2,100,000 tokens can be spent by the Reserve, (a healthy Reserve Ratio of near 2) then only half of what the Reserve purchased from fees would be spent, making for a net deflationary effect, which causes market scarcity of NPT. The maximum inflation is .5% of 120,000,000 or about 600,000 tokens per year, far less than the anticipated fees.


## Token Structure - Graphical Representation

Token Supply max at ICO: **120,000,000**

Tokens Sold max **40,000,000**
Tokens Matched max **80,000,000**

80% of unsold/unmatched tokens are burned, reducing total supply
.5% max yearly inflation. Potential deflation with network volume surpassing .5% token supply

## Token Sale

**40,000,000 max** **Sold For: Ether**

**2.5%** **Max. of 25% or 30 days.** **Remaining (75% to 97.5%) or 90 days**

**Seed Investors**
**Equity Max. of**
**1M USD**
**2M tokens max**
**($.50/token)**
**(plus founder stake)**

**Pre-Crowdsale**
**1 to 3 rounds**
**8M USD max**
**8M tokens max**
**($.50 to $1 token)**

**Crowdsale Event**
**1 round**
**45M USD max**
**30M tokens max.**
**($1.50/token)**

## Token Matches

**80,000,000 max (2 matched for each 1 sold over entire Token Sale)**

**25% (16.5% of total)** **25% (16.5% of total)** **25% (16.5% of total)** **25% (16.5% of total)**

**Founders** **Developers** **Foundation Reserve** **Advisors/LaunchPartners**


**NPT Voting**

Those who hold NPT tokens can participate in votes and propose issues to be voted upon at a frequency in proportion to the amount of NPT they hold. In addition, those who hold any NPT sub-tokens may also vote on matters regarding the NationPay network as a whole but may not propose issues.

We believe we are the first crypto network to allow sub-token holders to participate in the voting of the network at large. We believe this to be important, because even without NPT, users of any NationPay token economy are, after all, users of the network. And it is the users who give shape and know most about what they want out of the network they use.

**The Mobile App suite: Wallet and MarketPlace**

The NationPay Explorer wallet and marketplace will be an integrated MobileApp with suite of services described as: "Bring your bank into the now with NationPay cardless Credit and Debit card solution plus Remittance right from the ATM. Buy stuff and remit cash with just your phone. Zero transaction fees. Zero foreign exchange fees. Receive tokens from from your bank, or cash at a bar 24/7. Trade currencies. Even trade your currency in different pegged token types where larger networks may compete with smaller networks to swap tokens for convenience cashing out. Networks compete for the lowest onboarding fees. You've heard about bitcoin and you've heard about nations creating their own digital currencies, but you haven't seen a solution quite like this. Each bank has its own currency – but those currencies are open and tradable across the network. NationPay is the world's best architecture, light years ahead of current technologies. Stay tuned as NationPay partners with well-known banks and institutions in your country!"

**Comparisons**

At least two other platforms in the space work entirely differently.

**Moeda** is like a credit union, a cooperative banking system – but that cooperative collectively creates pools of funds for loaning. We also create collective pools but the atomic unit of such a pool is a bank or individual acting as a bank who has the ability to have fiat account software to manage the fiat end of things. If the token offering is based on a peg of a crypto like Ether – then that account software need not exist – we provide it inherent in our system. But that is not possible to make a smooth transition into a digital economy – the peg has to be to something the people use already – their local currency and therefore the reserve has to be in that local currency – the reserve has to match the money the 1st tier users price their merchandise in Moeda lets people participate as small bank contributors - but groups all their funds into one direct network, and the purpose of that funding is strictly for loans. Ours is to model an entire debit card economy plus remittance.

**Everex** is designed to be a microfinance platform and crowd-sources the pegged token's backing. It is designed to pool funds together for a specific purpose, microloans. It is not designed to parallelize an entire nation's movement of money for the far more general purpose of ultimately facilitating all fiat roleplayers with a digital currency. The token is specifically Erc-20 compliant which, in my opinion allows for trading at above or below the pegged value. This problem has happened to Tether. It may happen to Everex. Never the less what we propose is a substantially different platform.

Many nations are exploring their own digital token. (CBDC) The general thinking there is that they will use private chain solutions which will not be scalable, not designed to be readily inter-tradable with other nations. The Merkle reports: "*Various countries around the world are exploring the option of creating national digital currencies. A digital version of the US dollar or euro, for example, would be rather interesting to see. However, a central bank-issued digital currency is not all that easy to create. There are specific technical requirements to take into account. In fact, such currencies may not even warrant the use of a blockchain or distributed ledger technology (DLT). …CBDC infrastructure needs to be capable of processing thousands of transactions every single second. That will be a major challenge….The bigger concern is interoperability. Using a blockchain or DLT makes little sense in this regard, as all parties are working on their own private solutions. If different blockchains for different currencies cannot communicate with one another, there is not all that much point in using CBDC in the first place. While these digital currencies coexist with regular money, cross-border solutions will need to be facilitated somehow. Once again, that's not all that easy to achieve."*

NationPay solves the interoperability problem with its MarketPlace and solves many other problems by empowering banks directly with a one-line-of-code REST integration to online banking.

NationPay is a banking solution consisting of BankNets. The network is passive yet, like pieces of a puzzle, able to facilitate the financial union of nations into a single economy. C banks, corporate partners, merchants, remitters and subsidy providers can use the network together to transfer value with security, trusted backing and ease of use.


**Validity of BankNet and Reputation Value Based on Consensys**

In the real world. Bank data is available online. Trust is established by the ability to walk into a real-world location. With NationPay trust is established by having access to the same real-world documents. However, on first glance there is no way to ensure that a BankNet is actually owned by a representative of the bank it is claiming to be. So there are two issues to discuss.

**BankNet Validity, Is it That Which it Claims to Be**

Some real-world person must be able to answer the phone and email at a well-known address or phone number that is verifiable online where the representative asserts that they have a blockchain presence on the NationPay platform. This reduces the need for a complex reputation system. Never the less, network reputation measures are planned as: Existing BankNets can send verification transactions verifying other BankNets as being “who they claim to be”. The BankNet reputation score can be seen as **X:Y:Z** x banks say yes, y banks say no, and z BankNets say unsure. Y is in RED. Meaning there is contention. Disputes for contention for validity are handled by one of 3 BankNets that are owned by NationPay itself. Once the consensus network gets larger, disputes for Y valued BankNets will be handled by others elected to the “board” of dispute handlers.

**BankNet Data Accuracy of Self-Reported Data**

Same consensus network creates an **X:Y:Z** reputation for the question “Is the BankNet data accurate". Each BankNet is required to upload figures monthly. One is a Ratio: (near-liquid assets)/ (floating tokens) and two is a rating of the bank's assets "AAA" "AA" etc ...


NationPay supports value transfer both extra-nationally without foreign exchange fees and intra-nationally without online payment processor fees. Users are able to exchange goods for Tokens in a continuing cycle as they would normally exchange cash for goods with other users of the network.

**Touchless integration with merchants**

No custom POS devices are necessary. Merchant amount appears as a QR Code with merchant wallet address and name. All handled by a feature in the NationPay Wallet. Customer scans QR code from the app and is prompted to make the transfer wallet to wallet.

**Banks, developers, launch partners, anyone with questions … Everyone is invited to join us!**

Please watch the video at https://youtu.be/Z3CUoIHnYTk

Thank you for viewing our presentation.

Please join our pre-ICO and crowdsale events at https://nationpay.io

On the website you may find other papers about remittance in general. There may also be a link to our GitHub repository. 100% transparent, we encourage developers from all nations to join our mission of money movement with near-zero fees. To inquire about joining our team, investing or partnering, please contact us.

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