



THE WORLD'S MOST
SECURE COIN

WHITEPAPER

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Purchase does not constitute investment.

TABLE OF CONTENTS

Cover	1
Table of Contents	2
Important Notice	4
Disclaimer of Liability.....	5
No Representations and Warranties.....	5
Representation and Warranties by Reader.....	5
Cautionary Note on Forward-Looking Statements.....	7
Market and Industry Information and Consent of Other Persons.....	9
Terms Used.....	9
No Advice.....	9
No Further Information or Update.....	10
Restrictions on Distribution and Dissemination.....	10
Risk and Uncertainties.....	10
Foreword	11
Introduction	13
TPAY Digital Coin Summary	14
TokenPay Vision	15
Six Key TPAY Security Features that Bitcoin does not have	16
Multi-Signature Transactions.....	16
Ring Signatures.....	16
Dual-Key Stealth Addresses.....	17
Zero-Knowledge Proof.....	17
Tor Network Integration.....	18
Introduction to the TokenPay SCI.....	18
The TokenPay Project	19
Why did TokenPay base its Blockchain off of Bitcoin?.....	19
Two Fundamental Differences between TPAY and Bitcoin.....	19
Proof-of-Stake is Superior to the Proof-of-Work Mining System.....	19
Complete Tor Network Integration for Maximum Security.....	22
How the Tor Network Works.....	23
Multi-Signature Transactions.....	24
Dual-Key Stealth Address.....	26
Zero-Knowledge Proof.....	27
Ring Signatures.....	28
Secure Communication Interface.....	30
Elliptic Curve Diffie-Hellman Key Exchange P2P Messaging.....	30
Practical uses of the TokenPay Blockchain Technology.....	31

TPAY is Bitcoin on Steroids.....	35
The Competitive Landscape of Blockchain Technology	36
TokenPay Digital Wallet Users Generate TPAY Coin Rewards.....	36
Bitcoin Network uses Antiquated Proof-of-Work Mining.....	36
Multi-Screen Digital Wallet is Decentralized and Incentivized.....	36
TPAY Blockchain is Based on Bitcoin.....	37
TokenPay Tech Specifications	38
TokenPay Secure Multi-Screen Encrypted Wallets	39
TokenPay Branded Paper Wallet and Key Generator	40
Licensed International Bank Integration	41
Stable Banking Jurisdiction.....	42
International Multi-Currency Crypto Debit Card	43
TokenPay BlueDiamond Cardholder Benefits.....	44
Payment Processing Services for Online Merchants	45
TPAY Functionality within TokenPay Banking Ecosystem.....	46
High Demand and Rapidly Growing Market Opportunity	46
Bitcoin Substantially Dominates the Cryptocurrency Market.....	47
Licensed and Regulated Wallet and Exchange.....	48
Fully Linked International BlueDiamond Debit Card.....	49
TokenPay is Asia-Pacific (APAC) Focused.....	50
Market Data Supports Strong APAC Cryptocurrency Trends.....	51
Asia-Pacific Market Share in Financial Service Industry.....	51
TokenPay Project Roadmap	52
Team	53
Advisors	55
Conclusion	57
Acknowledgements	59
CONTACT	59
References	60

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- (vi) units in a business trust;
- (vii) derivatives of units in a business trust; or
- (viii) any other security or class of securities.

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FOREWORD

In 2010 I was introduced to a group working on a startup called TokenPay. Following a presentation by the company, I signed on as an investor. The mission was clear. TokenPay wanted to provide a secure and anonymous way for a consumer to pay a merchant by credit card. The technology was impressive and unique. Transactions occurred directly on the merchant's website through a client-side API. The platform worked, but there was a key missing element. That is, the ability to obtain card processing proved to be an insurmountable hurdle for the team. Despite an active compliance program that included all the usual KYC and AML procedures, no bank would agree to process for TokenPay. Ultimately the business failed because of this. But there was no shortage of demand with wannabe consumer and merchant clients clamoring for an account. The public was clearly beginning to embrace the idea of digital cash. It was however too early.

Fast forward to 2013 and a new emerging payment technology called Bitcoin was in the news after spiking in value from virtual pennies to over \$1000. Despite my suggestion for a potential move to a blockchain payment platform, it was simply too late for TokenPay to pivot. The core team had already thrown in the towel having been handily defeated by the iron curtain of the banking industry. At this point I began to deeply study FinTech and this new form of money known as cryptocurrencies. I started compulsively writing for various financial media such as TheStreet and Seeking Alpha. It was at the latter site where I met a fellow writer and former hedge fund analyst named Derek Capo. Our relationship blossomed due to a mutual obsession over a Park City headphone company called Skullcandy. Eventually we became real life friends and business partners. We created a startup of our own called eFin. This is a website where ordinary investors could receive hedge fund level research in an automated fashion.

Around the same time, I stumbled upon an online stock trading community called investFeed. The nascent social media startup happened to be in the midst of its seed round. After speaking at length with the operators, I decided to make an investment. Outside of the two founders, I remain the largest shareholder of this company. During this time, Derek and I managed to build an impressive financial research platform. Through this process we met Tony Weeresinghe. He is a former executive of the London Stock Exchange and the founder of Ustocktrade. Tony was impressed with the type of research that eFin was producing and he invited us to present at the MIT FinTech Conference early in 2016. While at the conference, eFin launched an official partnership with Ustocktrade. The AI driven stock scoring system we developed was fully integrated into the Ustocktrade platform. This was great and all for us and it sure seemed like eFin was off to the races. However, I noticed something very different. The FinTech conference was being dominated not by stock discussion, but by blockchain.

Early in 2017 after realizing the challenge that investFeed was facing in terms of traffic generation, I suggested to the founders that they should immediately focus on cryptocurrencies rather than stocks. While there were other investors that remained naturally apprehensive of the abrupt change in strategy, investFeed embraced the new concept. The blueprint was written and an ICO was quickly launched.

investFeed sold approximately \$4 million of an Ethereum based token in a matter of weeks. The investFeed platform is now flourishing. Traffic is surging and the future looks extremely bright. I could not be happier for the team and how my early seed investment has begun to sprout. With a roadmap that includes grandiose but realistic plans all the way out till the end of next year, I'm excited to see this all play out. The shift to cryptocurrencies was timely and no doubt the right move. We have not even seen the tip of the iceberg yet when it comes to blockchain technology, particularly when it comes to cryptocurrency applications. And I know this, because at the same time Derek was working hard on something very special. I had to get in on it.

After constantly hearing about countless hacks causing chaotic volatility in the cryptocurrency markets, Derek came up with a novel idea. He partnered with a group of obsessively privacy driven cryptographic coders on a top secret project. Over the course of nearly a year of intense programming the blockchain team created a new secure coin technology that can only be described as Bitcoin on steroids. With encryption and anonymity dominating the headlines, this appeared to be a winning concept. But to be a game changer, it was clear that what is needed is more than just a coin. Simply put, the missing link in all of these crypto platforms is the ability to turn digital assets into cold hard cash that can be realistically spent in whatever quantity without hassle. Through my international financial contacts I managed to locate the ideal bank for sale. We moved quickly to sign the necessary paperwork to begin the intense due diligence procedure. Firm plans are in place for the buildup of a next generation blockchain banking and payments platform driven by an amazing team of top industry professionals and advisors. This has been a long road for everybody involved in the TokenPay project since inception. However, I finally feel that all the pieces are now firmly in place. As Freud so eloquently said, "One day, in retrospect, the years of struggle will strike you as the most beautiful."

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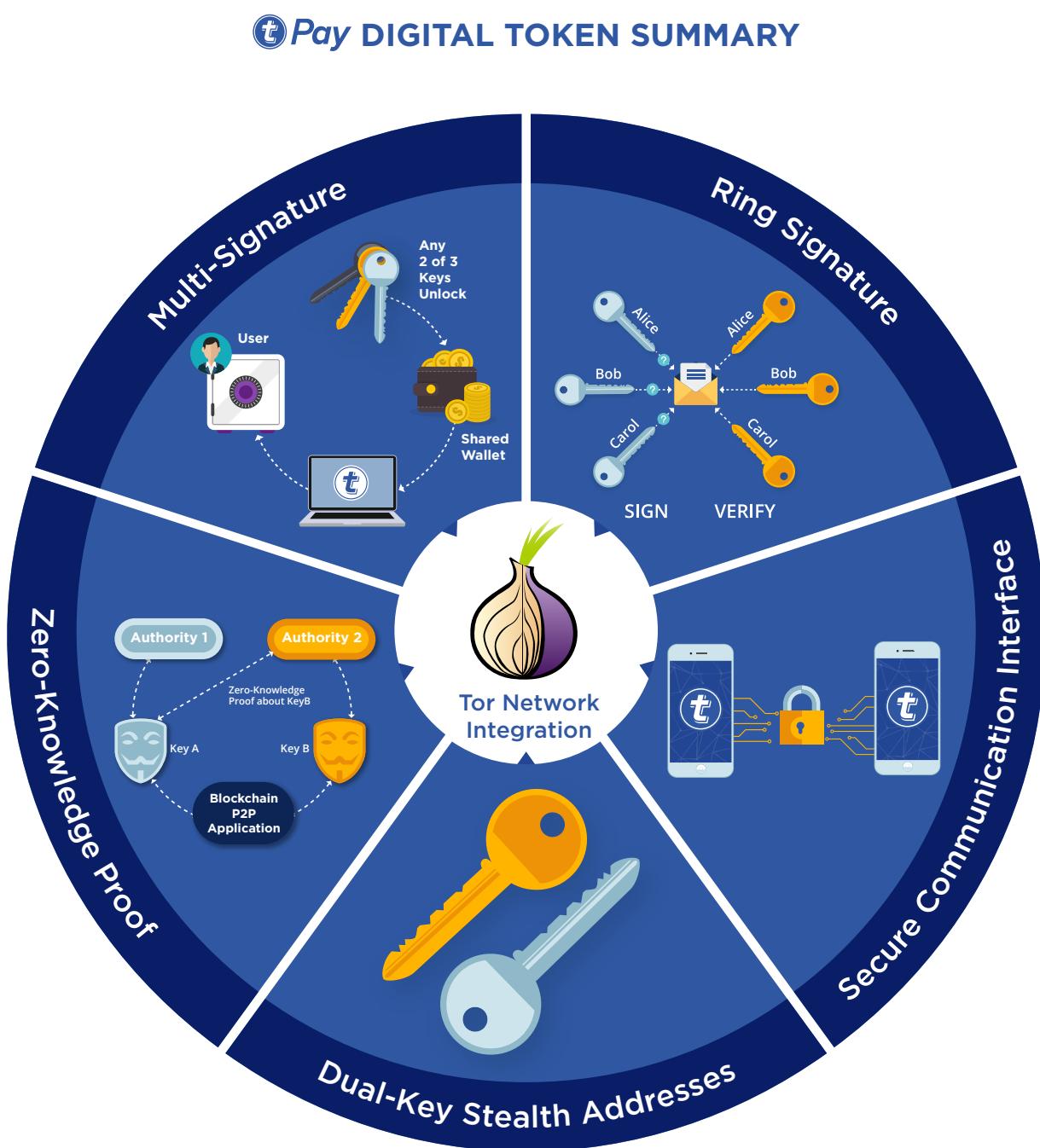
INTRODUCTION

Digital currencies are often called cryptocurrencies due to the intricate technical details related to cryptography, but it did not start here. When looking back at human history, from the cowry shells of the Asian region to the first coinage in ancient kingdoms, mankind first saw printed money in medieval times. This breakthrough was followed by modern-day electronic versions of money. Today, there is an international banking ecosystem, which consists of banknotes, credit/debit cards, derivatives, stocks, bonds and much more. It was a combination of human ingenuity and societal commitments that drove the need to come up with innovative solutions to tackle the most intricate concept of human interaction handling the exchange of value. Cryptocurrencies represent the next level in the evolution of money. The technology behind this new form of money called blockchain. It is entirely driven by math and is completely decentralized. Most notably, unlike all previous forms of money, cryptocurrencies are not able to be manipulated. It is essentially money 2.0.

Blockchain is experiencing a period of exponential growth and adoption, not unlike the collective transition towards internet use in the 90's. Established in 2008, Bitcoin is a cryptocurrency based on blockchain. In just a matter of years, it has become a legitimate and tradable commodity on a global scale. It has massive liquidity with billions of dollars of Bitcoin traded and used daily. This exceeds the GDP of many sovereign nations. In fact, the market capitalization of Bitcoin now exceeds that of Goldman Sachs. There are 16 million Bitcoins in circulation among thousands of holders. Bitcoin is only one of the more than 1,700 cryptocurrencies available for people to buy, use and trade. These other coins are known as altcoins. Many are based on the Bitcoin platform, others on highly liquid Ethereum and Litecoin. The features of the coin vary widely from practical to practically useless depending on the underlying technology. However, there exists a dramatic misalignment in the metamorphic shift to digital currencies.

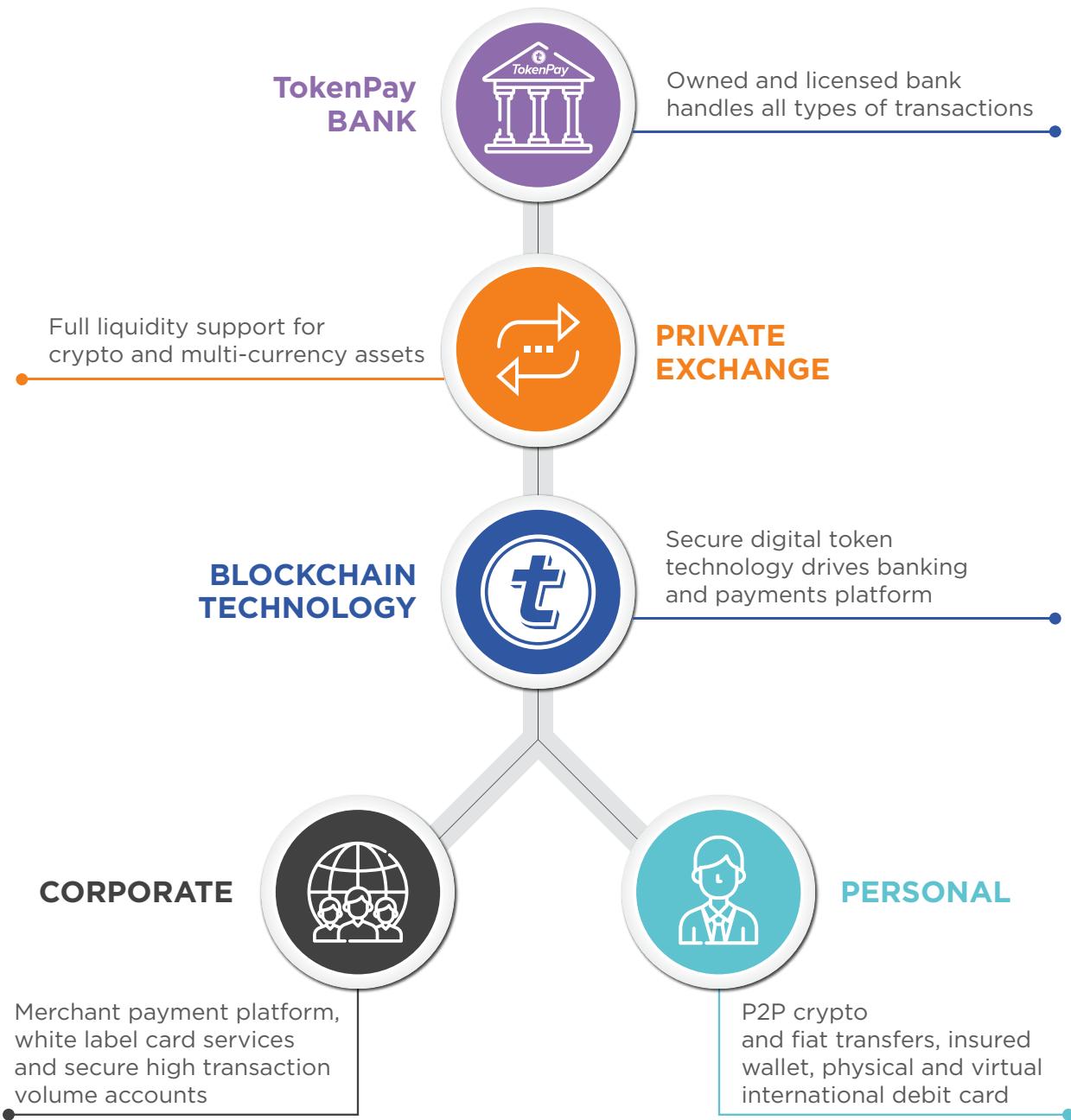
The major underlying problem is that traditional financial institutions and the related governing and operating regulations are not well aligned with cryptocurrencies. The concept behind public banks was designed and conceived hundreds of years ago. This is the early stage of a transition towards the decentralization of the financial world. But there is resistance. The powerful and entrenched institutions are not keen to transact in cryptocurrency. And the influence of powerful special interest groups ensures that traditional banks do everything possible to reject this new form of capital. However, blockchain technology makes the adoption of cryptocurrencies possible. It is mathematically fluid and moves much faster than a central bank, a regulatory body or international fiscal treaties. Currently, there exists an intermediate "limbo" state whereby many cryptocurrency holders are unable to benefit from the corresponding economic value. There must be a solution to this critical problem that is affecting a rapid increasing amount of people.

TokenPay's platform has been designed to combine the strengths of an established banking institution with the flexibility and future-forward potential of cryptocurrency. The network enables the exchange of Bitcoin, Ethereum and other major cryptocurrencies by bridging the transition gap to fiat. It also enables unfettered user access to cryptocurrency funds at merchant point of sale locations and ATMs worldwide. Pending conclusion of bank transition, users will have the ability to store Bitcoin and other cryptocurrencies in a secure and insured wallet similarly to how customers at a typical bank account are provided for via fiat accounts. As a result, counterparty risk is naturally minimized with a licensed and bonded bank. The acquisition of WEG Bank AG in Germany enables TokenPay to operate in a manner that will cater to and understand the unique needs of global cryptocurrency holders.



TOKENPAY VISION

TokenPay's goal is to afford clients the ability to facilitate ordinary cryptocurrency to hard asset transactions with ease.



TokenPay has acquired equity stakes in both WEG Bank AG and TokenSuisse AG in attractive, privacy-driven jurisdictions. In addition to cryptocurrency holder consumer benefits, TokenPay offers a complete suite of merchant services through the robust TokenPay banking platform. All billing and fees collected are denominated in the TPAY digital coin, which has already been thoroughly tested and developed. TPAY is an ultra-privacy coin that is functionally superior to Bitcoin in many ways. It contains several unique features such as multi-signatures, ring signatures, dual-key stealth addresses, ZK proofs (zero-knowledge), along with a fully encrypted and decentralized Tor network integration. TPAY is the backbone of TokenPay's fundamentally core cryptocurrency-friendly banking integration.

SIX KEY Pay SECURITY FEATURES THAT BITCOIN DOES NOT HAVE

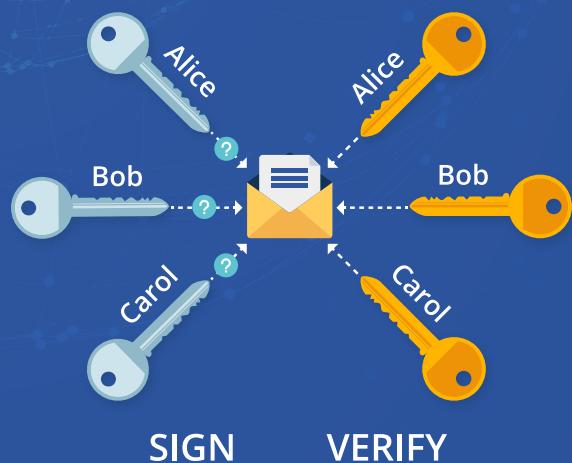
Multi-Signature Transactions

Standard transactions on the TokenPay network could be called “single-signature transactions,” because transfers require only one signature — from the owner of the private key associated with the TPAY address. However, the TokenPay P2P network supports much more complicated transactions that require the signatures of multiple people before the funds can be transferred. These are often referred to as M-of-N transactions. The idea is that TPAY coins become “encumbered” by providing addresses of multiple parties, thus requiring the cooperation of those parties.



Ring Signatures

In cryptography, a ring signature is a type of digital signature that can be performed by any member of a group of users that each have keys. Therefore, a message signed with a ring signature is endorsed by someone in a particular group of people. One of the security properties of a ring signature is that it should be computationally infeasible to determine which of the group members' keys were used to produce the signature.



Dual-Key Stealth Addresses

These addresses are different from the standard addresses commonly used in cryptocurrencies and allow for better privacy. A dual-key stealth address can be shared publicly by the recipient yet any transaction made out to this address cannot be linked back to it. When the stealth address has been revealed to the payer(s), it will enable the payee to receive infinite unlinkable payments. Meaning that each payment to a Stealth address computes a new unused normal address on which the funds ought to be received, any eavesdropper will be unable to link the two addresses.

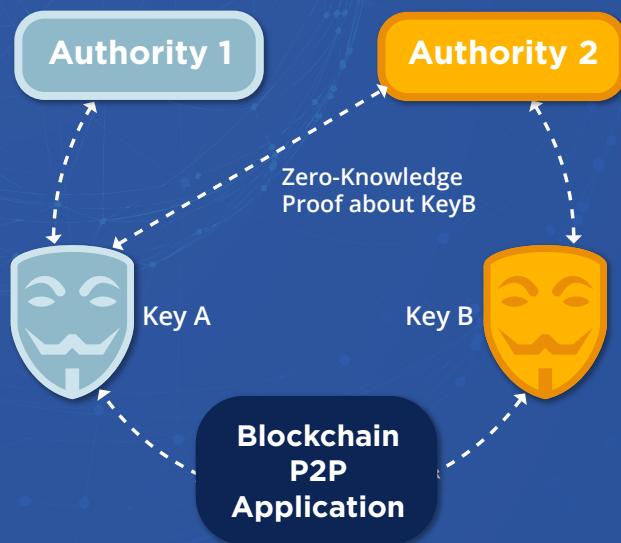
TPAY combines these features to make the user experience a private and secure one.



Zero-Knowledge Proof

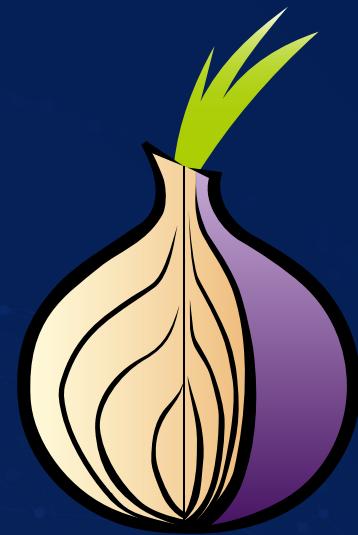
In cryptography, a zero-knowledge proof or zero-knowledge protocol is a method by which one party (the prover) can prove to another party (the verifier) that a given statement is true, without conveying any information apart from the fact that the statement is indeed true.

If proving the statement requires knowledge of some secret information on the part of the prover, the definition implies that the verifier will not be able to prove the statement in turn to anyone else, since the verifier does not possess the secret information.



Tor Network Integration

Tor is a distributed overlay network designed to anonymize low-latency TCP-based applications such as web browsing, secure shell, and instant messaging. Clients choose a path through the network and build a “circuit”, in which each node (or onion router) in the path knows its predecessor and successor, but no other nodes in the circuit. Traffic flowing down the circuit is sent in fixed-size “cells,” which are unwrapped by a symmetric key at each node (like the layers of an onion) and relayed downstream.



TokenPay SCI or Secure Communication Interface

TokenPay has incorporated a peer-to-peer encrypted instant messaging system using algorithms to maintain private conversations when using the TokenPay wallets.

All of the messages sent and received are encrypted by the proven AES-256-CBC algorithm and distributed between nodes in such a way as to prevent the recipient's messages from being hacked or viewed by anyone that it was not intended to, even if the hacker can view the entire network and/or run nodes of the network.

To reduce significantly the risk and inconvenience of sharing passwords, we implemented the proven and trusted method of Elliptic Curve Diffie-Hellman or also known as an ECDH key exchange. This level of encryption is at the same level as what governments use for top secret files.



THE TOKENPAY PROJECT

TokenPay is a blockchain project that incorporates Bitcoin cryptographic technology with advanced security and privacy features. Additionally, the TokenPay platform combines banking and a closed-end private exchange. This enables wider adoption of the coin via consumer and merchant services. Developing a TokenPay coin and the infrastructure to support its everyday seamless use is a crucial step.

Why did TokenPay base its Blockchain off of Bitcoin?

In 2008, Satoshi Nakamoto released the whitepaper and source code of the Bitcoin blockchain. Nakamoto's goal was to create a digital currency. One which was not centralized by a government or a federal reserve. It is open source and allows other cryptographers to improve upon the code. As of 2017, various developers have produced many different cryptocurrencies. All claim to have superior technology. However, Bitcoin still dominates the market. Nevertheless, the risk of newer blockchains are prone to security and privacy risks. This is a risk TokenPay is not willing to assume given the critical nature of the application. TokenPay has combined the most secure privacy and security features ever released by leveraging its unique blockchain with a combination of the core Bitcoin source coupled with legacy proven, secure and privacy-focused features.

Two Fundamental Differences between TPAY and Bitcoin

TokenPay is a Proof-of-Stake system, whereas the Bitcoin network is powered by inefficient Proof-of-Work mining.

TokenPay incorporates additional security and privacy features that are not included in the original Bitcoin blockchain source code.

Proof-of-Stake is Superior to the Proof-of-Work Mining System

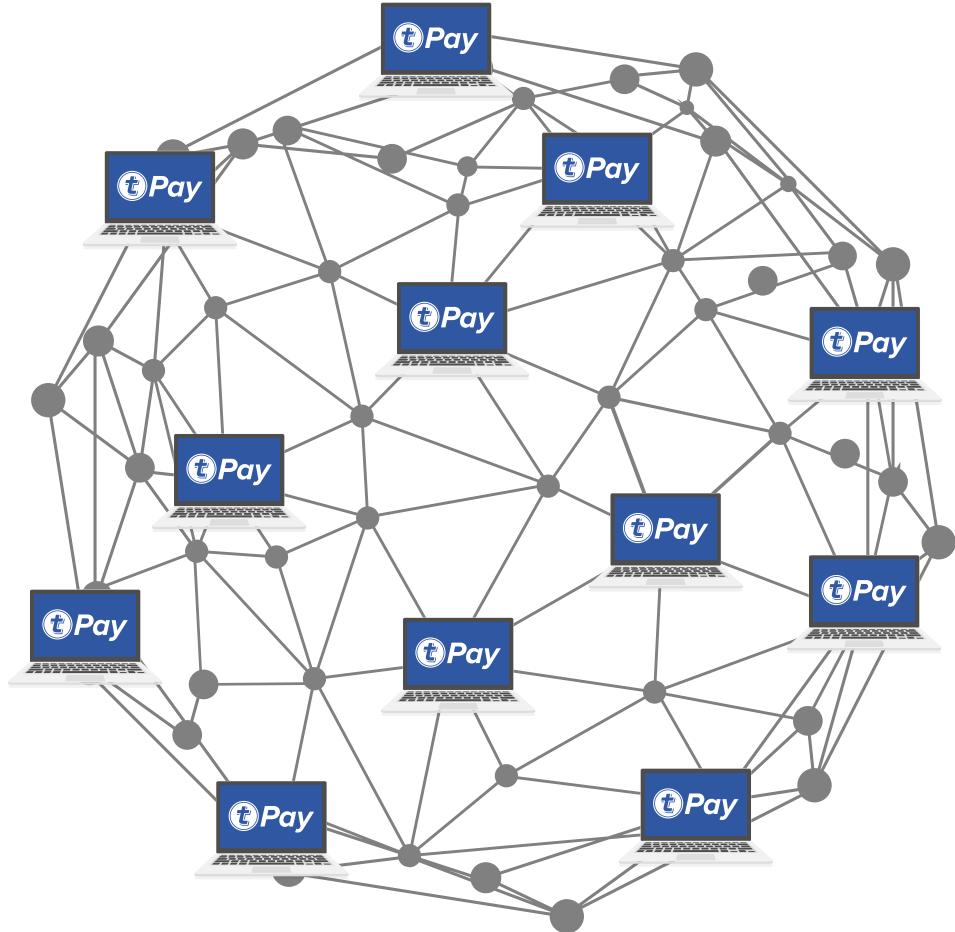
Proof-of-work or PoW is a capital-intensive process to earn Bitcoin. Any entity with the right equipment and knowledge of blockchain can "mine" or earn Bitcoins. The process to mine bitcoin consists of acquiring expensive computers or "mining equipment" that uses the processing power of graphics chips and electricity to solve advanced mathematical puzzles.

When puzzles are solved, the computers confirm transactions that allow it to earn Bitcoin as its reward. In 2017, the cost of mining a single Bitcoin reached over USD \$1000. As fewer Bitcoins are being made available as rewards the costs will only escalate as mining competition intensifies.

Proof-of-Stake or PoS is a newer form of mining that is referred to as forging. Coins are earned as a function of and by virtue of being held continuously in a digital wallet. PoS is an energy efficient way to earn coins because no specialty mining equipment is needed. All that is required is for the user to have a desktop, laptop or mobile device. The network of processors creates a decentralized mining system. This allows an extension of the blockchain by the user that stakes or holds coins in a wallet. In order to earn additional coins, the user must simply keep the corresponding wallet open. For instance, if a person has a TokenPay wallet running on desktop, the wallet is allocating a percentage of the available processing power to enable the decentralized network to complete a blockchain. The person is then rewarded in additional TPAY coins for allocating processing power to the system.

TokenPay will only have a total of 25 million coins ever produced. This is unlike a centralized fiat currency system where money supply can be increased by human decision. TokenPay is fostering a strong user driven community by allocating 25% of the total coins produced for Proof-of-Stake rewards. The TPAY rewards are given at a distribution rate of 5% per year. Rewards are pro-rated and distributed on a daily basis. A typical user with 100 TPAY in a TokenPay branded wallet will receive 5 coins per year or 0.0137 TPAY per day.

Receive Rewards for Powering the Decentralized Network



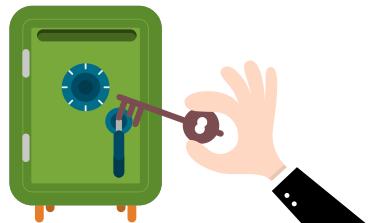
PROOF-OF-WORK

Vs.

PROOF-OF-STAKE



THE PROBABILITY OF MINING A BLOCK IS DEPENDENT ON HOW MUCH WORK IS DONE BY THE MINER



PERSON CAN “MINE” DEPENDING ON HOW MANY COINS THEY HOLD



PAYOUTS BECOMES SMALLER AND SMALLER FOR BITCOIN MINERS, THERE IS LESS INCENTIVE TO AVOID A 51% ATTACK



THE PoS SYSTEMS MAKES ANY 51% ATTACK MORE EXPENSIVE



PoW SYSTEMS HAVE POWERFUL MINING COMMUNITIES - BUT TEND TO BECOME CENTRALIZED OVER TIME



PoS SYSTEMS ARE MORE DECENTRALIZED - BUT MUST WORK HARD TO BUILD COMMUNITIES AROUND THEIR COINS

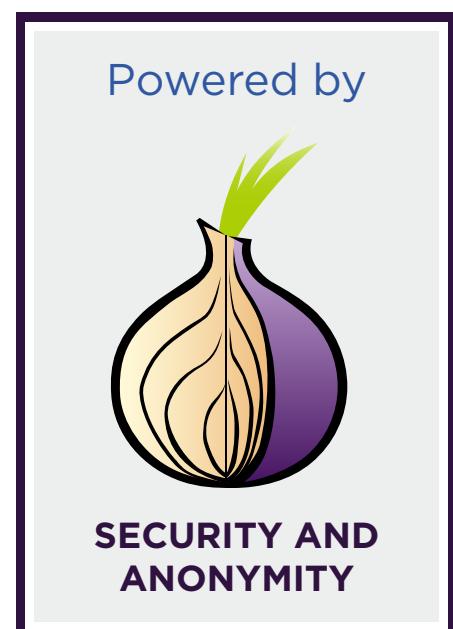
Complete Tor Network Integration for Maximum Security

The TokenPay project features a complete client-side implementation of the Tor network. This was implemented in order to provide absolute anonymity when conducting secure TPAY network transactions. According to Tor community developers "Tor is a distributed overlay network designed to anonymize low-latency TCP-based applications such as web browsing, secure shell, and instant messaging. Clients choose a path through the network and build a circuit, in which each node (a.k.a., onion router) in the path knows its predecessor and successor, but no other nodes in the circuit. Traffic flowing down the circuit is sent in fixed-size cells, which are unwrapped by a symmetric key at each node (like the layers of an onion) and relayed downstream". Essentially, Tor provides transport layer anonymity for TPAY transactions.

For instance, take Amy for example. In a typical cryptocurrency transaction Amy wants to make a real life product purchase with Bitcoin. So, Amy would have to broadcast her transaction to a few bitcoin supernodes. The Tor developers explain:

“Those nodes then propagate the transaction further to the rest of the bitcoin network until it becomes recognized. If Alice did not use Tor to conduct her transaction, those initial supernodes trivially learn the IP address of Alice. Furthermore, since the Bitcoin blockchain is a public log of transactions, analysts could match her newest transaction with her previous transactions and just follow the money trail. These are commonly used techniques borrowed from the Internet surveillance realm, known as traffic analysis. Traffic analysis can be used to infer who is talking to whom over a public network.”

Clearly knowing the source and destination of Internet traffic allows others to track user behavior and interests. Similarly, enterprising organizations have been data mining social analytics of the bitcoin blockchain since inception. Therefore, it should be no surprise that most Bitcoin clients provide user options like conducting secure transactions via the Tor network. Developers of Tor say that "by routing traffic over Tor, no one learns the origin IP address of Alice when she performs the bitcoin transaction." Some Bitcoin wallets support and use Tor, such as Electrum and Armory.



How the Tor Network Works



Tor node

Unencrypted link

Encrypted link

Alice



Step 1: Alice's
Tor client
obtains a list
of Tor nodes
from a
directory
server.



Dave



Bob

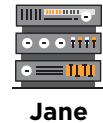
Alice



Step 2: Alice's Tor
client picks a
random path to
the destination
server. Green links
are encrypted.
Red links are in
the clear.



Dave



Bob

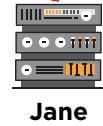
Alice



Step 3: If at a later
time, the user visits
another site, Alice's
tor client selects a
second random path.
Again, Green links
are encrypted. Red
links are in the clear.



Dave

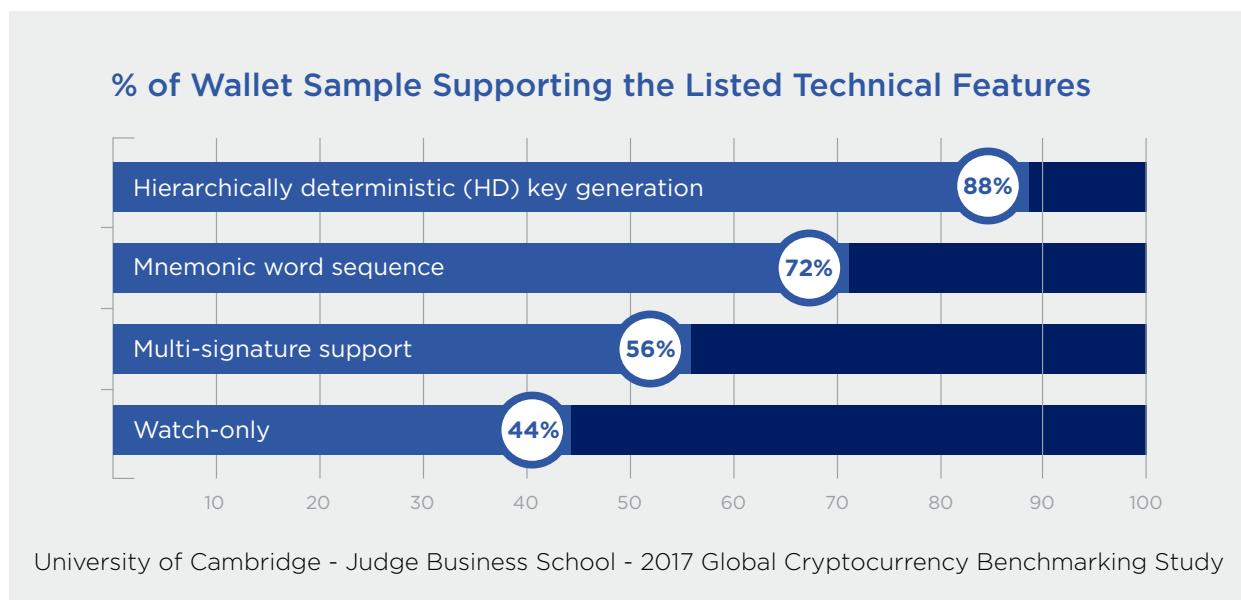


Bob

Multi-Signature Transactions

A custom built 2-of-3 multi-signature address substantially fuels the robust TokenPay Multi-signature Transaction Engine (MTE). This advanced digital protocol protects TPAY users. This works because each party must approve the transaction before the corresponding data is published on the TPAY blockchain.

Unlike a traditional payment service that uses numerous intermediaries, there is no centralized handling of user funds with a multi-signature platform. Participants generate pairs of private keys and public addresses. While the private keys are kept secret, users freely distribute the public addresses.



Accordingly, wallets have evolved from simple software programs handling only key management. TokenPay wallets are sophisticated applications that offer a variety of features. Significant innovation at both the protocol level and amongst wallet providers has led to the emergence of several breakthrough technical standards like multi-signature which forms a critical element of the TokenPay wallet security ecosystem.

Multi-signature, in general, refers to requiring more than one key to authorize a transaction. It is used to divide up responsibility for possession of coins. Accordingly, standard transactions on the coin network could be called "single-signature transactions," because transfers require only one signature. This is provided by the holder of the private key associated with the coin address. However, in order to maintain optimal network integrity of the wallet and its assets, TokenPay naturally has implemented the most advanced security features. Because private keys can be stolen, this would typically result in unauthorized access to digital assets. TokenPay's MTE system will prevent this theft from occurring.

This technique of multi-signature transactions adds a significant layer of security. Multiple signatures are needed to release funds. This protects all parties conducting transactions with TPAY. This can be referred to as an M-of-N transactions. The idea is that the TPAY coins become "encumbered" by

providing addresses of multiple parties. The cooperation of all parties is required to fully execute the transaction. There can be several types of multi-signature applications but the most common one is called 2-of-3. This is typical of a buyer-seller escrow. The escrow agent is not able to misappropriate funds or assets because a buyer commits money into a transaction with the seller and a third-party arbitrator.

For instance, If a TPAY P2P transaction goes smoothly, then both buyer and seller sign the transaction in order to forward the money to the seller. If something goes wrong however, the parties can sign a transaction to refund the buyer. But if the parties cannot agree, an appeal is made to the third-party who will arbitrate and provide a second signature to the party that it deems deserves it.

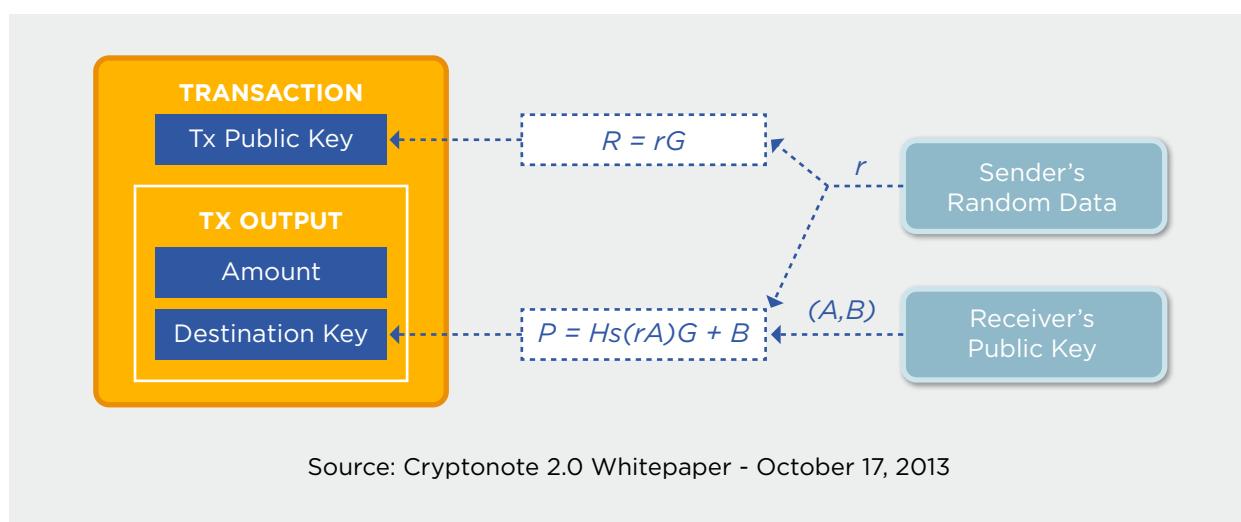
To further protect all users, TokenPay has enabled a system where one private key is on a user's computer and the other can be on mobile for example. Accordingly, funds cannot be spent without a signature from both devices. Therefore, for an attacker to steal funds, access must be gained to both devices. Clearly this is much more difficult than gaining access to a single device. For this reason the TokenPay MTE is considered to be an extremely advanced security protocol. But some multi-signature applications and wallets that support them are not infallible.

There have been reports of traditional multi-signature wallets being compromised in the past. This has happened mainly due to weak underlying infrastructure not being properly maintained. This has exposed key security flaws. Attackers have been able to obtain access to two of the three keys needed for entry and employ social engineering designed to compel the final holder to release the key. TokenPay is not subject to these security flaws because it has an infallible system which incorporates the most advanced and unbreakable hacker-proof countermeasures.



Dual-Key Stealth Addresses

Stealth addressing is when a sender takes a public address from a recipient and transforms it to a one-time address. This is publicly unlinkable to the original public address and to any other one-time address. Only the recipient can link all of the payments together. Furthermore, only the recipient can derive the secret key associated with the one-time address. By using the stealth addressing protocol, a recipient can publish one address and receive unlimited publicly unlinkable payments. Dual-key stealth addresses add another layer of security. The TokenPay platform incorporates dual-key stealth addresses. This refers to the pairs of spend/view keys. It allows "decoding" (or removing the unlinkability) stealth addresses without simultaneously allowing them to be spent. This is the ultimate in settlement security and anonymity and it is standard when transacting in TPAY.



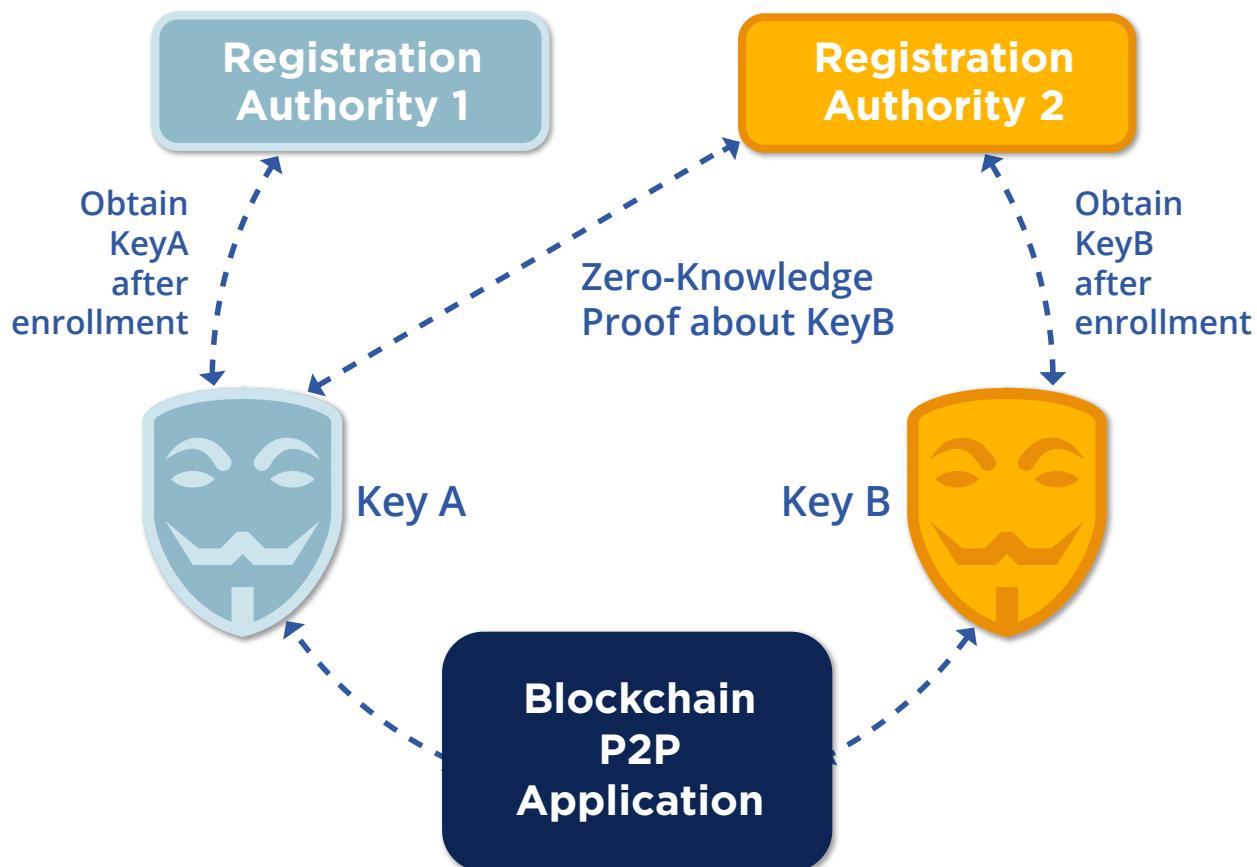
Simply put, the TPAY dual-key stealth address can be shared publicly by the recipient but any transaction made out to this address can not be linked back to it. It is completely anonymous. When the stealth address has been ultimately revealed to the payer, it will enable the payee to receive infinite unlinkable payments by TPAY. That means that each payment to a stealth address computes a new unused normal address on which the funds are to be received.

For instance, a potential hacker or eavesdropper will be unable to link the two addresses involved in the transactions. In the figure above $P = Hs(rA)G + B$ is depicted. In this image, P is the final stealth address (one-time output key), Hs is the hashing algorithm that returns a scalar, r is the new random scalar we chose for this transaction, A is the receiver's public view key, G is the standard Ed25519 base point (the EdDSA signature scheme), and B is the receiver's public spend key.

Zero-Knowledge Proof

When a TPAY blockchain transaction is initialized, all parties sign with the corresponding private key. This signature acts as the analogous action for a particular public address. The transaction becomes fully executed because all parties on the blockchain can then verify these signatures using the public addresses. There is no need for a TokenPay user to reveal their private key to anybody. As a result, TPAY transactions are conducted with complete security, anonymity and without any counterparty risk typical of a conventional payment platform.

In cryptography, a zero-knowledge proof or zero-knowledge protocol is a method by which one party (the prover) can prove to another party (the verifier) that a given statement is true, without conveying any information apart from the fact that the statement is indeed true. A zero-knowledge proof is one which demonstrates the truth of a certain statement. That is, without revealing any additional information beyond what it's trying to prove. Zero-knowledge proofs in blockchains apply a similar principle: it aims to prove the statement "this transfer of assets is valid," without revealing anything.



Proving that one party knows certain information is trivial if the user is allowed to reveal that information. It becomes a challenge to prove that one has this knowledge without revealing what the secret information is. For the TokenPay zero-knowledge proofs of knowledge, the protocol requires interactive input from the verifier. Accordingly, a challenge occurs whereby the responses from the prover are used to convince the verifier if the statement is actually true. That is if the prover does indeed have this claimed knowledge. If not, the verifier could record the execution of the protocol and repay it to another party.

If the new party accepted this as proof that the paying party knows the secret information, then the new party's acceptance is justified. That is, the re-payer does know the secret information. This means that the protocol leaks knowledge and is not zero-knowledge, or it is spurious. The result leads to a party accepting someone's proof of knowledge which does not possess it. Some forms of non-interactive zero-knowledge proofs of knowledge exist, but the validity of the proof relies on computational assumptions. This is typically the assumptions of an ideal cryptographic hash function, such as that which tokenpay has integrated into the TPAY blockchain.

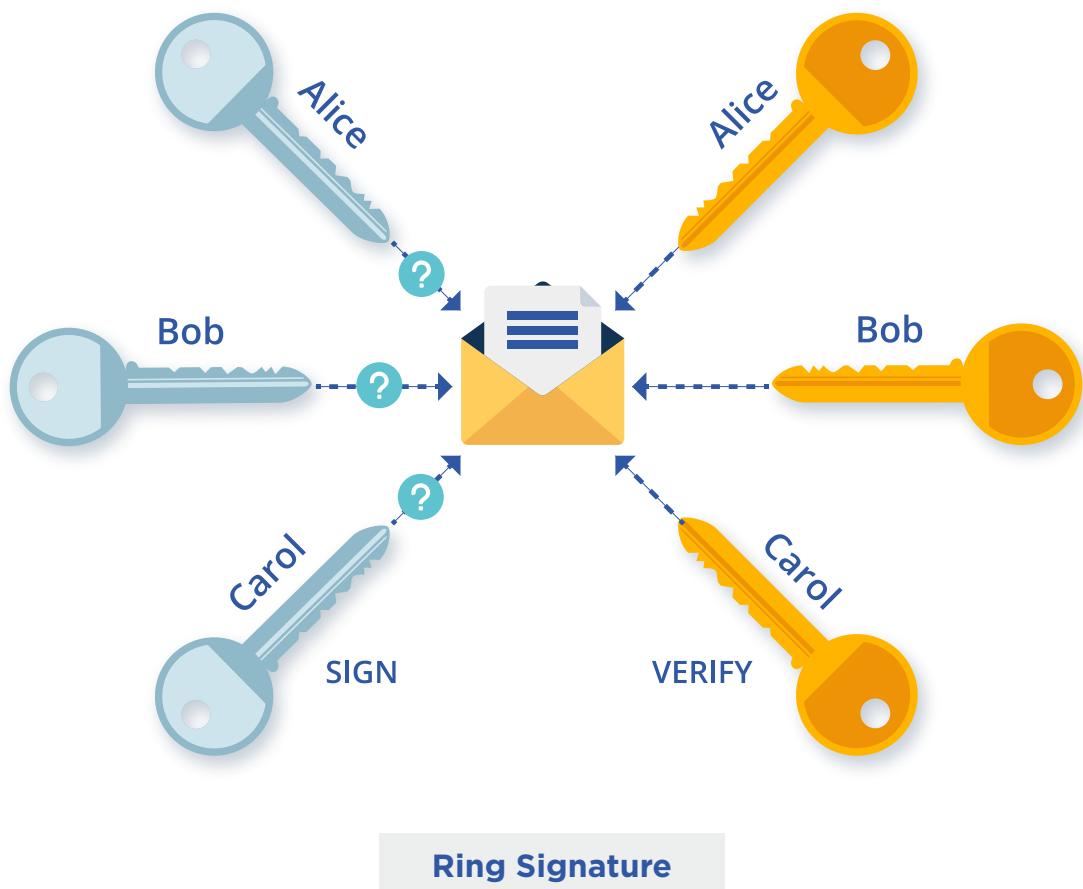
Ring Signatures

Ring signatures enable a TokenPay user to sign a message so that a ring of possible signers (of which the user is a member) is identified. This is done without revealing exactly which member of that ring generated the signature. It is a type of digital signature that can be performed by any member of a group of users that each have keys. A message signed with a ring signature is endorsed by someone in a group of people. One of the security properties of a ring signature is that it should be computationally infeasible to determine which of the group members' keys were used to produce the signature. In contrast to the common standard group signatures, the TPAY ring signatures are completely decentralized and do not require any central authority or coordination among the various users. Indeed, those who transact in TPAY do not even need to be aware of each other. Furthermore, ring signatures grant TokenPay platform users granular control over the level of anonymity associated with any particular signature.



A main feature of ordinary digital signatures typical of most cryptocurrencies is that the signer needs a single secret key, but a verifier cannot establish the exact identity of the signer. If for example, one encounters a ring signature with the public keys of Alice, Bob, and Carol, the user can only claim that one of these individuals was the signer. However it would be impossible to identify whom exactly. However, digital transactions sent to the TokenPay network are untraceable by virtue of using the public keys of other members in the ring signature. Of course one of which will apply to the transaction. This way it can be proven that the creator of the TPAY transaction is eligible to spend the amount specified in the transaction.

Furthermore, the identity of the creator will be indistinguishable from the users whose public keys were used in the creation of the ring signatures. It should be noted that foreign transactions do not restrict people from spending their own money. A public key may appear in dozens of other ring signatures. But this is only done as a muddling factor even if a person has already used the corresponding secret key for signing the transaction. Moreover, if two users create ring signatures with the same set of public keys, the signatures will be different unless they use the same private key. This assures maximum security and anonymity for all TPAY network transactions.



TokenPay SCI or Secure Communication Interface

TokenPay has incorporated a peer-to-peer AES-256 encrypted instant messaging system using algorithms to maintain private conversations when using the TokenPay wallets. The system works on the desktop wallets and is the absolute pinnacle in secure P2P communication.



Elliptic Curve Diffie-Hellman Key Exchange P2P Messaging

All of the messages sent and received are encrypted by the proven AES-256-CBC algorithm and distributed between nodes in such a way as to prevent the recipient's messages from being hacked or viewed by anyone that it was not intended to, even if the hacker can view the entire network and run nodes of the network.

To reduce the risk and inconvenience of sharing passwords, TokenPay has implemented the proven and trusted method of Elliptic Curve Diffie-Hellman or also known as an ECDH key exchange. This level of encryption is at the same level as that which a government security agency would use to protect top secret files and documents.

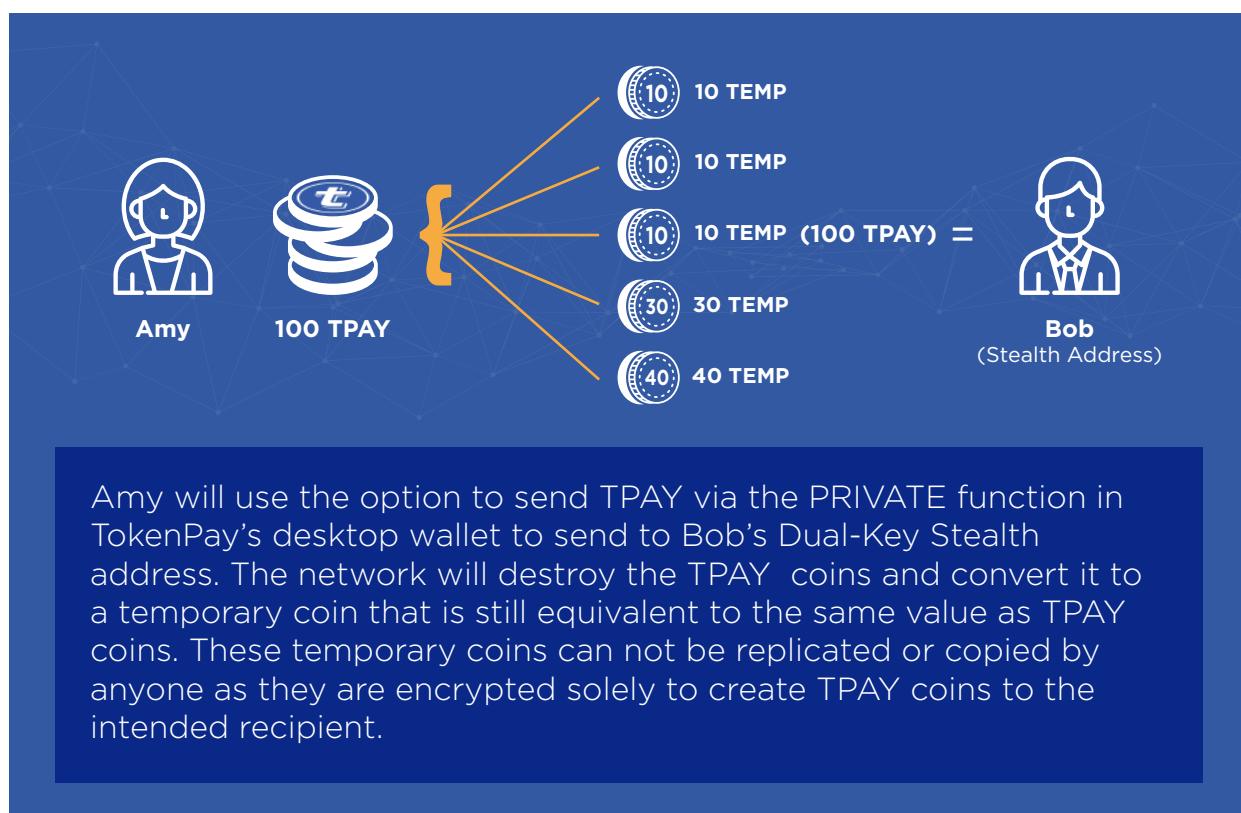
The Elliptic Curve Digital Signature Algorithm or ECDSA is used to provide confidence that the messages being transmitted arrive at the intended destination. Messages are distributed over the existing TokenPay peer-to-peer network, and a copy of each encrypted message is stored on each node for 48 hours. Following this period, the messages are permanently deleted with no chance of retrieval by any party.

Practical Uses of the Blockchain Technology

TokenPay's blockchain and integrated technology allow users the ultimate private, secure method of conducting transactions and communication. Below is a real-life example of how the TPAY coin technology can be used.

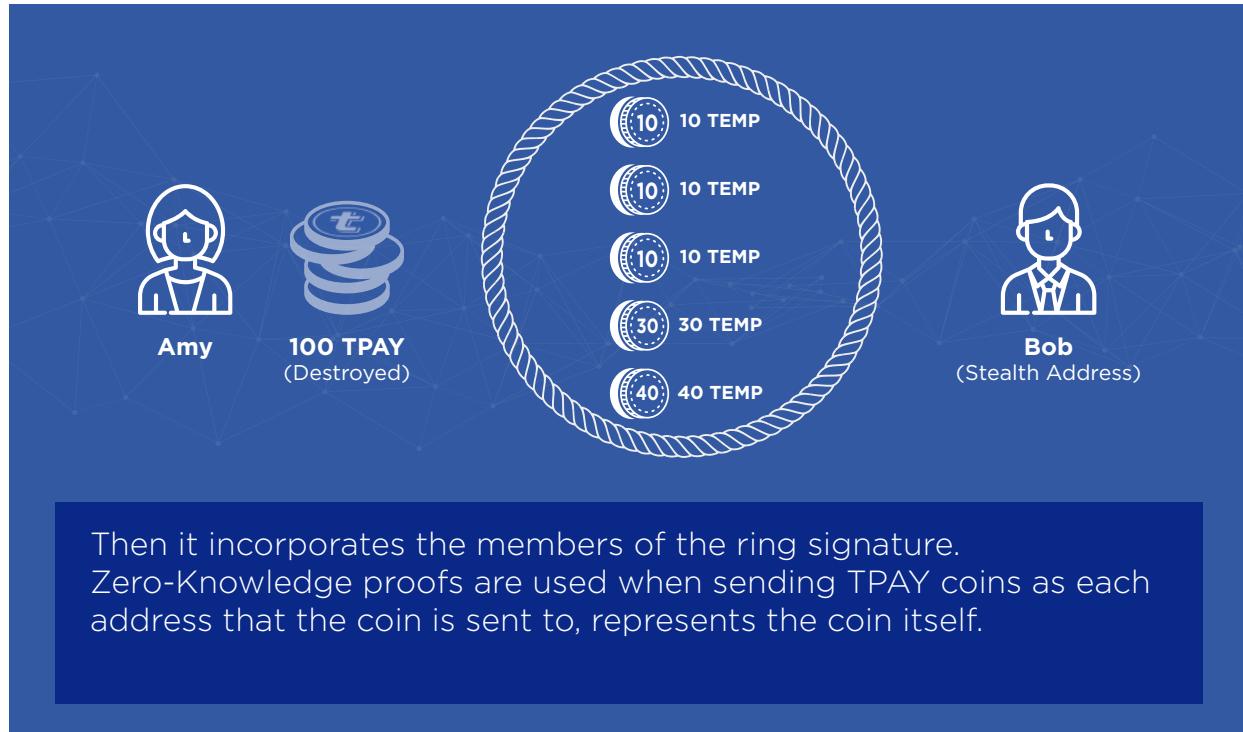


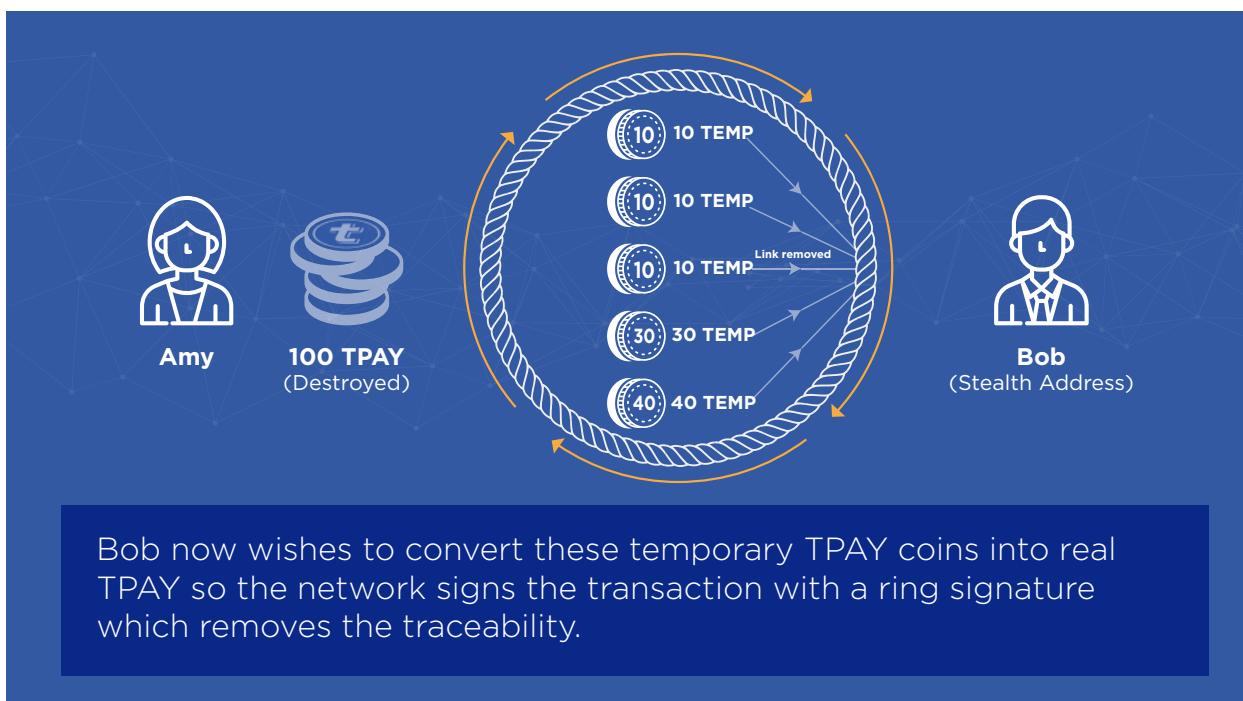
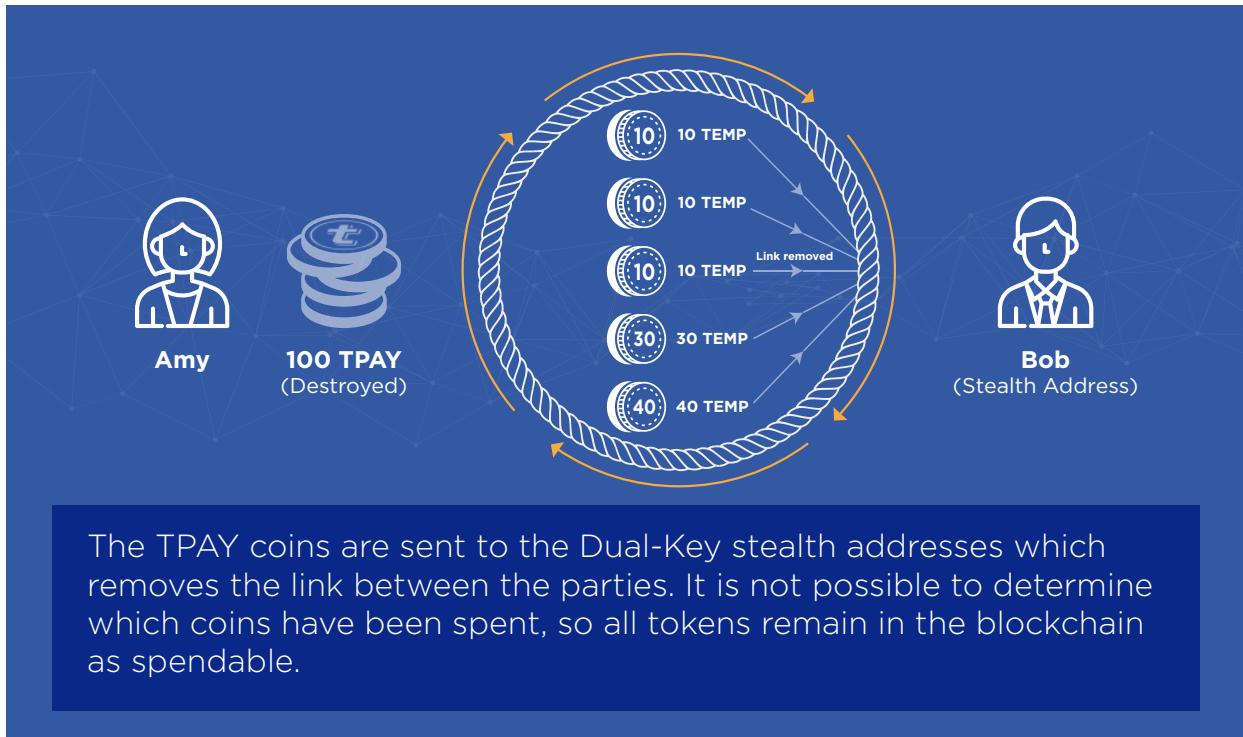
Amy wants to send Bob 100 TPAY coins anonymously without any potential hacker or onlooker. Amy first sends an encrypted message to Bob saying "Bob, I am going to send you 100 TPAY coins". Then Amy begins the process of sending TPAY coins to Bob. With TokenPay's integration of Zero-Knowledge proof, dual-key stealth address and ring signatures we are able to make this transaction as anonymous and secure as possible.

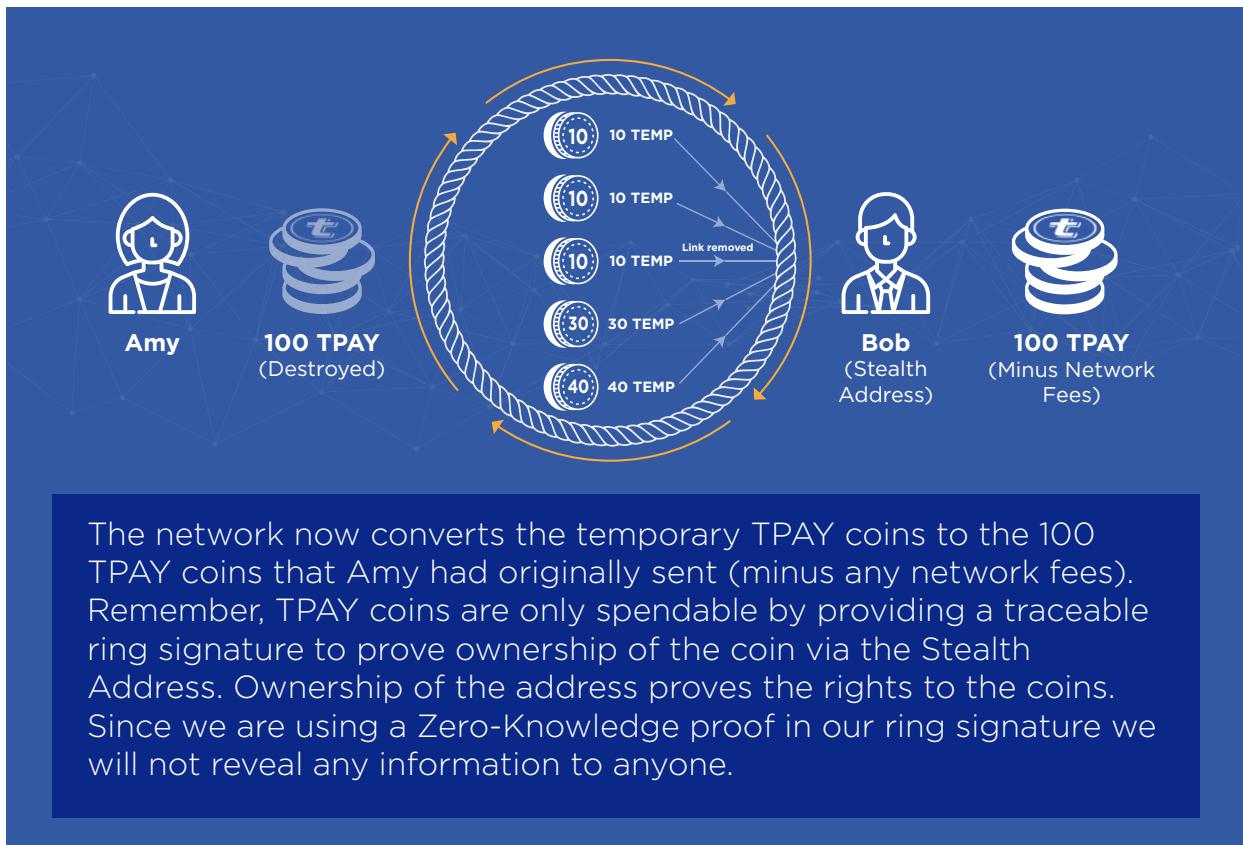




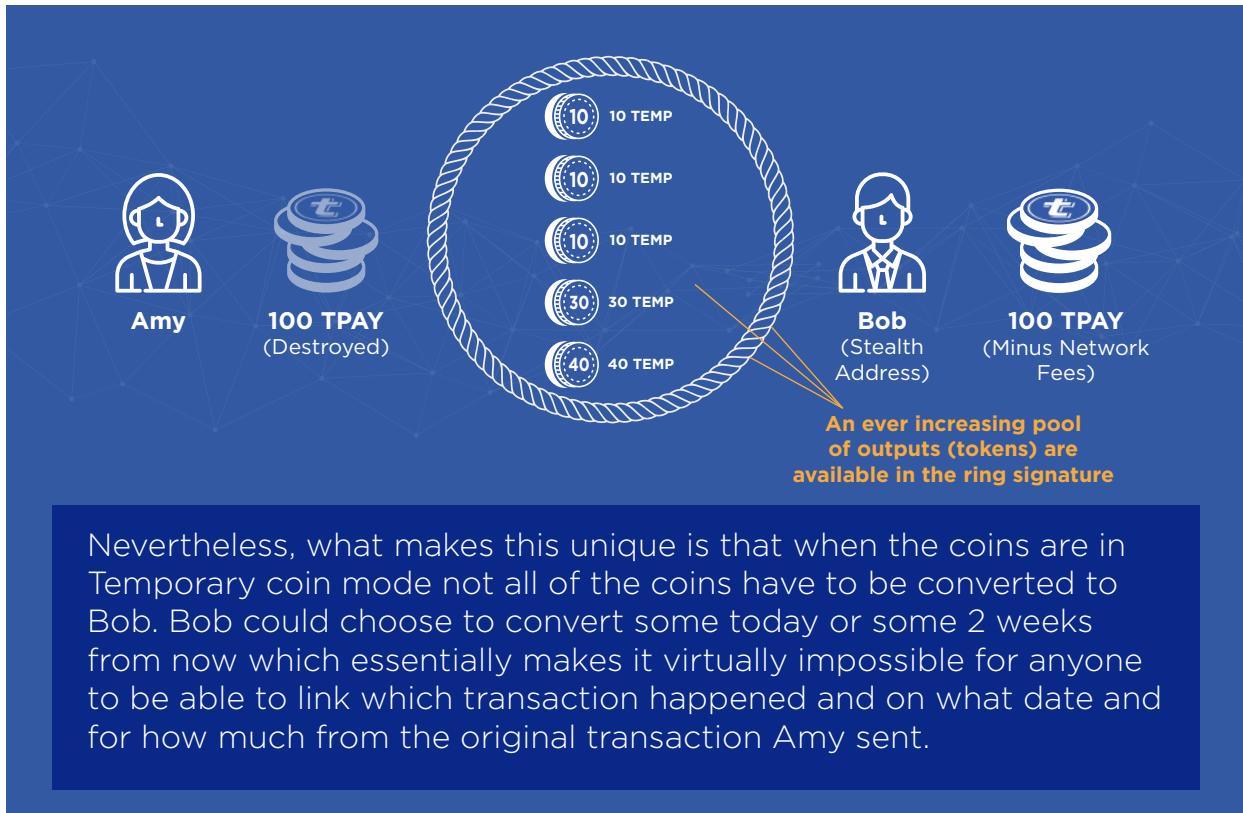
After this process is initiated the TPAY coins will no longer be TPAY but a temporary coin of which will carry no value until it has been received or used by the intended recipient. Then, the amount of 100 TPAY coins gets split up to random amounts that are never the same. So, if you send 100 TPAY coins it could be then split up into 5 transactions or more with each one having different amounts that will still add up to the 100 TPAY coins.



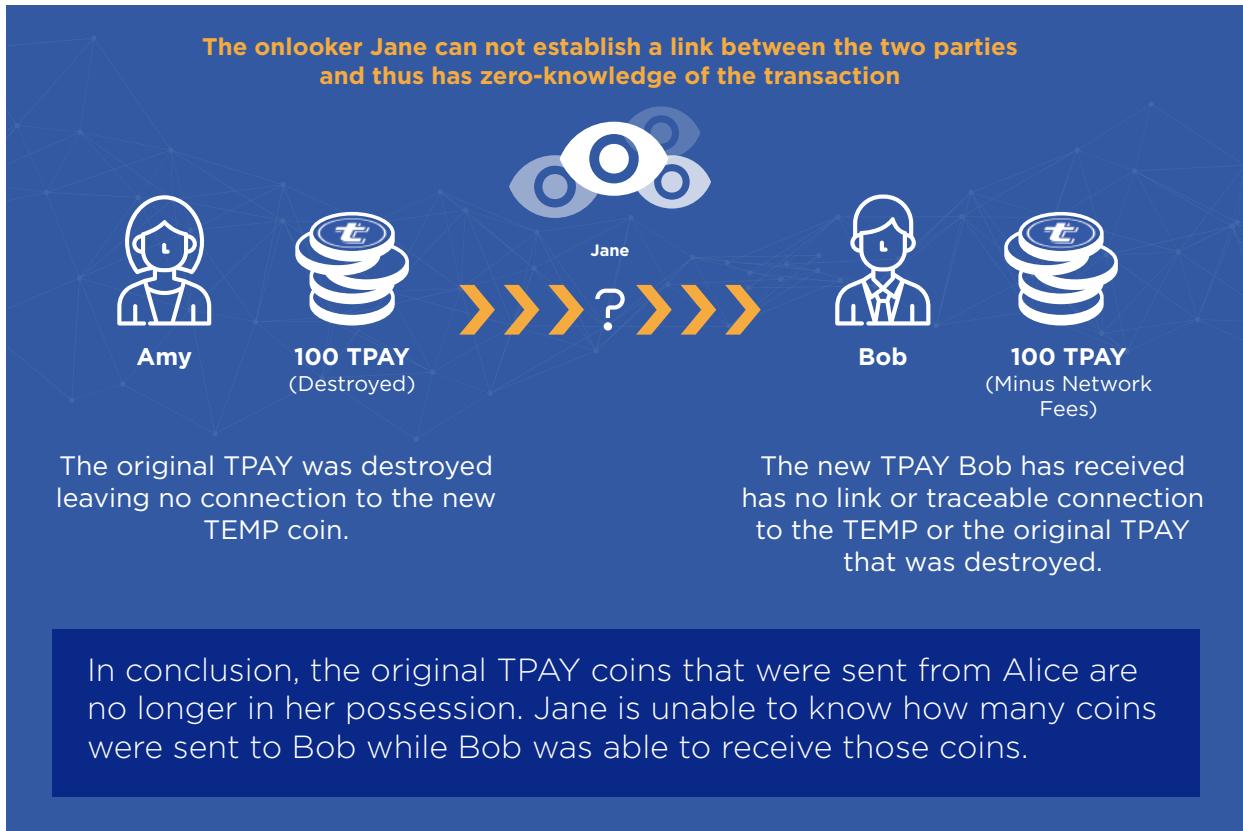




The network now converts the temporary TPAY coins to the 100 TPAY coins that Amy had originally sent (minus any network fees). Remember, TPAY coins are only spendable by providing a traceable ring signature to prove ownership of the coin via the Stealth Address. Ownership of the address proves the rights to the coins. Since we are using a Zero-Knowledge proof in our ring signature we will not reveal any information to anyone.



Nevertheless, what makes this unique is that when the coins are in Temporary coin mode not all of the coins have to be converted to Bob. Bob could choose to convert some today or some 2 weeks from now which essentially makes it virtually impossible for anyone to be able to link which transaction happened and on what date and for how much from the original transaction Amy sent.



TPAY is Bitcoin on Steroids

Transacting in TPAY is infinitely more secure and anonymous than with Bitcoin. It is uniquely privacy feature packed with multi and ring signatures, dual-key stealth addresses, zero-knowledge proofs, unbreakable Tor network integration and its own closed-end secure communication interface. TPAY users enjoy full anonymity when exchanging tokens and trading with other platform users. For this reason, TPAY has been colloquially referred to as the “Bitcoin on Steroids.”



THE COMPETITIVE LANDSCAPE OF BLOCKCHAIN TECHNOLOGY

TokenPay Digital Wallet Users Generate TPAY Coin Rewards

The TokenPay secure SHA-256 encrypted wallets deploy next generation technology that is fully integrated with the TPAY proprietary blockchain. TPAY is a Proof-of-Stake coin. It distributes rewards to network holders that use the wallet. The decentralized network expands virally by leveraging the processing power provided by TPAY holders' graphics cards. This amplification is powered by the TokenPay desktop wallet holders.

Network Architecture					
Proof-of-Stake					
Proof-of-Work					
Bitcoin Based					
Yearly Reward Interest	5%	0%	0%	0%	0%

Bitcoin Network uses Antiquated Proof-of-Work Mining

Antiquated systems, like those employed by Bitcoin itself, use traditional network mining called Proof-of-Work. Whereby the rewards are only distributed to the first to find a solution for the mathematical problem that concerns the subject candidate block. This is a mathematical problem that cannot be solved in any way other than through brute force. When a miner finally finds the right solution, it is announced to the whole network at the same time. Only this miner receives the digital token prize provided by the protocol. Accordingly, mining requires a huge number of attempts and is wholly inherently inefficient by design.

Multi-Screen Digital Wallet is Decentralized and Incentivized

TokenPay features a multi-screen densely encrypted wallet that is fundamentally driven by the most secure core blockchain technology ever introduced. TPAY tokens can be held and transacted within the wallet itself. Platform users engage in secure communications by way of the embedded live engagement platform. The actual TPAY token is Proof-of-Stake driven. This means that TPAY holders earn a prorated daily 5% per year bonus of TPAY coins for simply leaving one of the licensed wallets open. The open wallet acts as a generator engine by leveraging the immense processing power of the graphics card across the network of all TPAY holders. This set of actions allows TPAY to expand its decentralized network and it rewards its holders in kind for providing valuable processing power.

TPay Blockchain is Based on Bitcoin

Since its launch in 2009, Bitcoin was developed and designed to operate as a transaction settlement network. It is, therefore, the logical platform destination for payment processing based coins. Bitcoin is also viewed as a haven asset similar to gold. Bitcoin is deflationary and scarce. Rival network Ethereum, on the other hand, is inflationary and abundant. Its network infrastructure is driven almost entirely with the purpose of facilitating the growth of decentralized applications (DApps). Its native ETH token was never designed to operate as a digital currency, only to be used to fund DApps running on the Ethereum protocol.

Anonymity Features					
					
Stealth Addresses	✓	✓	✗	✗	✓
Ring Signatures	✓	✓	✗	✗	✓
Zero Knowledge Proofs	✓	✓	✗	✗	✓
Untraceable	✓	✓	✗	✗	✓
Unlinkable	✓	✓	✗	✗	✗
End to End Anonymity	✓	✓	✗	✗	✗
Secure Chat	✓	✗	✗	✗	✗
Tor Network Integration	✓	✗	✗	✗	✗

- TPAY is the only coin to provide the ultimate privacy of confidential ring transactions at the protocol level coupled with zero-knowledge proofs, stealth addresses, encrypted chat and a full Tor network integration. Other coins have combined some of these features, but only TPAY has unified all of them in a single unbreakable platform.
- Monero features the most impressive privacy profile absent of TPAY, but it lacks Tor network integration and the embedded secure communications interface where TPAY users enjoy the real-time encrypted chat.
- It is interesting to note that Bitcoin itself, along with the supposedly secure Dash token, have no advanced security features.
- ZCash is widely considered to be a highly secure and anonymous coin, but it is linkable and falls short by not having true end to end anonymity.

TOKENPAY TECH SPECIFICATIONS

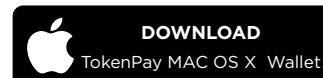
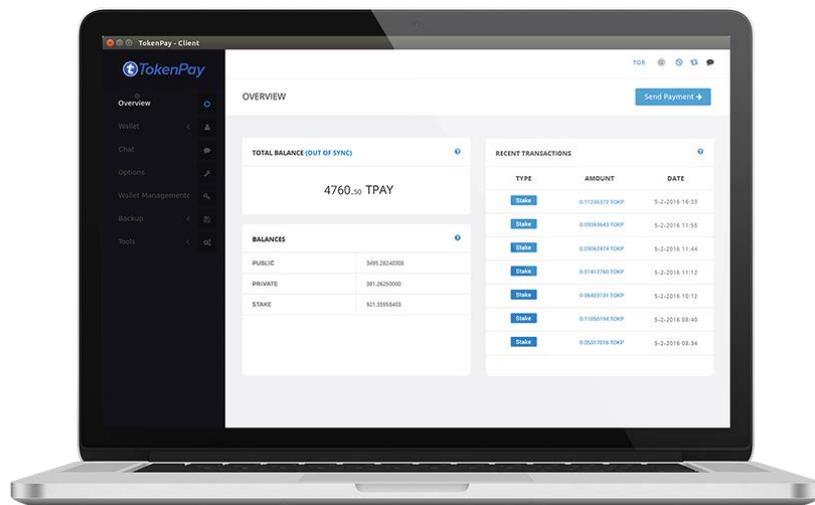
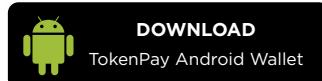
SPECIFICATION	VALUE	EXPLANATION
Protocol	PoSv3	PoS means Proof-of-Stake which is the method TokenPay has used
Block Time	60 Seconds	Block Time is the amount of time it takes to complete a block in the blockchain.
Difficulty Re-target	10 minutes	Difficulty retarget when the chain decides to alter its difficulty depending on how many people are staking or mining.
Nominal Stake Interest	5% Annually	Nominal Stake Interest is the amount of TPAY coins.
Minimum Stake Age	2 Hours (no max age)	Minimum Stake Age means the minimum amount of hours a desktop wallet has to be running to claim any rewards. Keep in mind that a mobile wallet or exchange that holds TPAY coins will not be eligible for staking rewards.
P2P Port	8801	TokenPay's Peer to Peer port allows connections between peers.
RPC Port	8800	TokenPay's Remote Procedure Call Port is to allow connections to our server.
Blockchain Explorer	Website	http://explorer.tpay.ai allows anyone to view public ledger transactions on the

Transactions

SPECIFICATION	VALUE	EXPLANATION
Minimum Fee	0.0001 TPAY	This is the fee that will be charged for every transaction made on the blockchain but is not a fee that TokenPay would receive it is essentially burned
Confirmations	6 Blocks	This is how many times in the network a transaction has to be confirmed before a transaction can be approved.
Maturity	100 Blocks	this is the number of transactions it would take to complete a block in the blockchain.

TOKENPAY SECURE MULTI-SCREEN ENCRYPTED WALLETS

TokenPay's secure encrypted wallets employ breakthrough Proof-of-Stake automation technology that is powered by the fully decentralized TPAY blockchain. Desktop wallet users receive rewards for simply leaving the wallet open. The processing power of the computer graphics card drives the TPAY settlement engine. This is a decentralized network, powered entirely by its users.

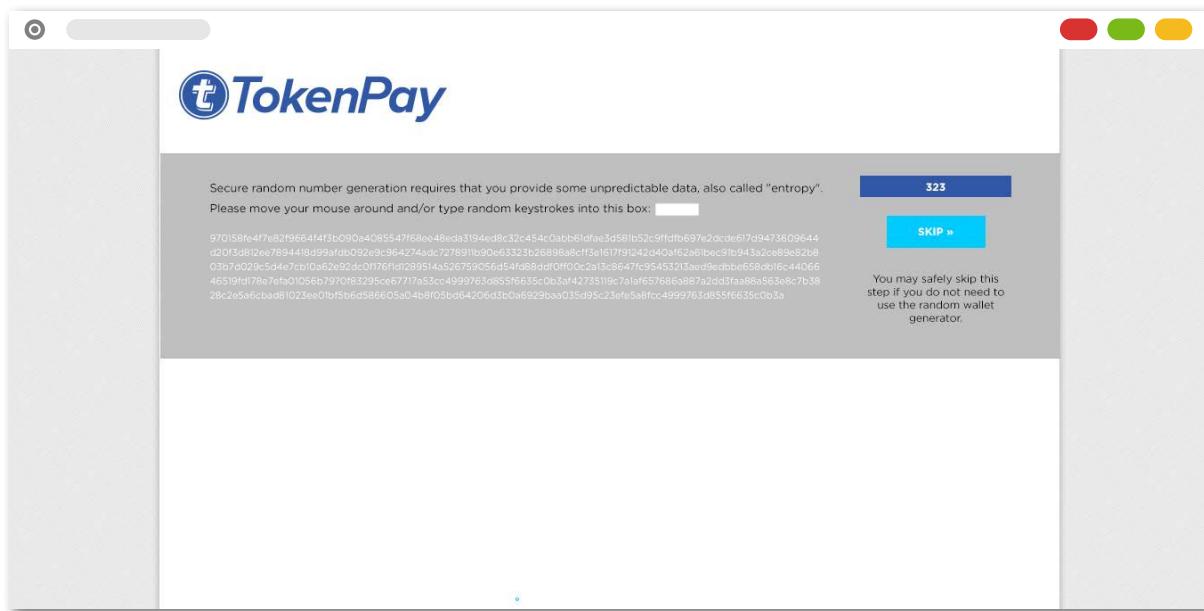


In order for TokenPay coin holders to take advantage of all of these security features they must download the TokenPay wallet.

TOKENPAY BRANDED PAPER WALLET AND KEY GENERATOR

While the various TPAY digital wallets define the pinnacle of advanced security protocol, many still consider the paper wallet's cold storage system to be the most heavily guarded digital token cache. In a literal sense, the TokenPay Paper Wallet is a physical document that contains all of the necessary data that is required to generate the essential TPAY private key. This can be the most secure way of storing TPAY because the wallet is not exposed to malware. It can be stored in a private safe.

The private key is generated by the user on the highly secure TokenPay server. It is recommended that users disconnect from the internet when in the process of generating a private key. This way the paper wallet generator is considered to be truly self-contained and the keys are not being transmitted online. TokenPay regularly audits and verifies the integrity of the client-side private key generator that it offers on its website.

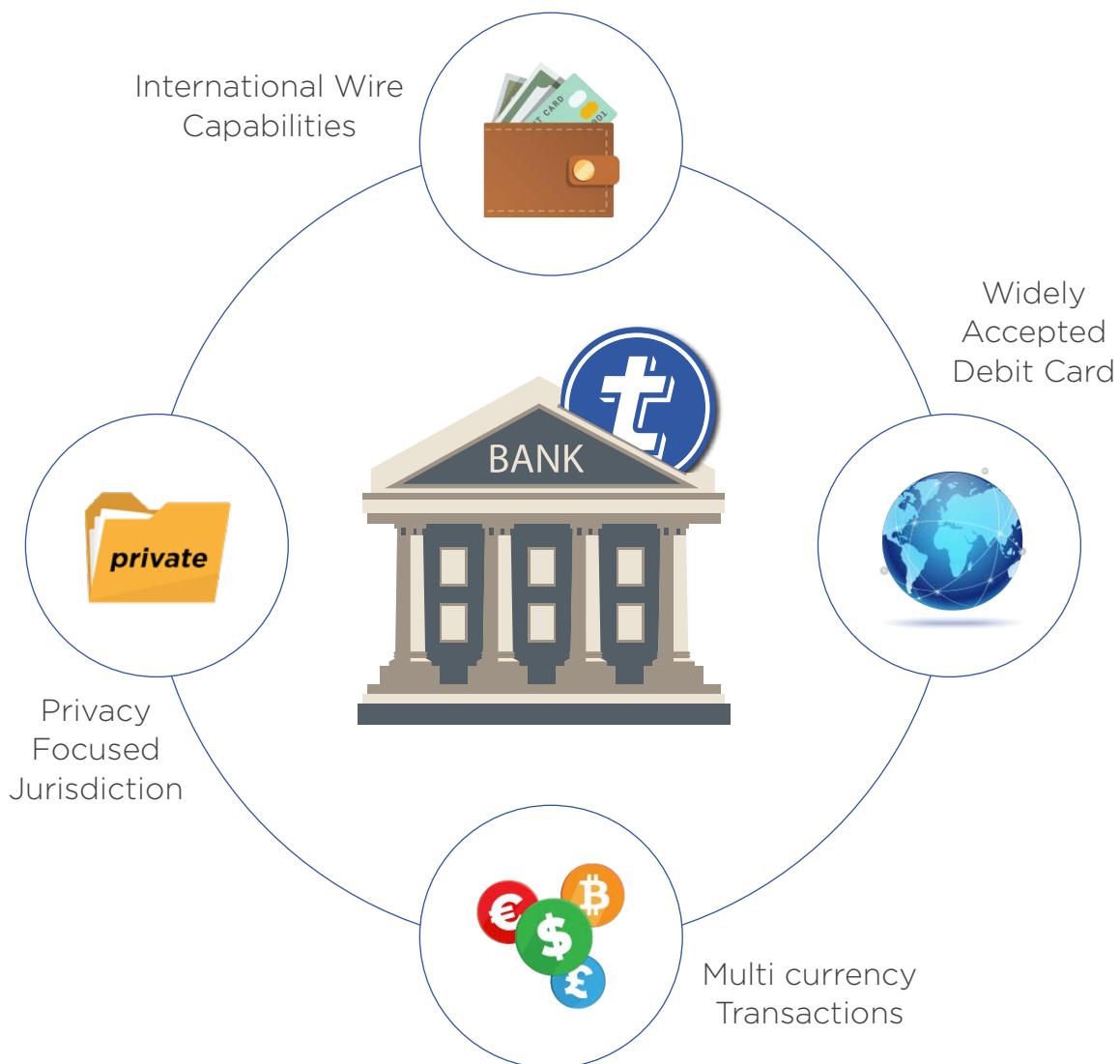


LICENSED INTERNATIONAL BANK INTEGRATION

Although the TPAY core is defined by the blockchain, there also exists a uniquely critical banking element. TokenPay has acquired an equity stake in Germany-based WEG Bank AG. This banking relationship allows TokenPay to warm up banking regulators to the crypto space. As TokenPay wants to cater to cryptocurrency customers by tailoring the compliance department around this theme, this is a crucial first step.

The creation of a bank that is fully committed to customers with cryptocurrencies is utopian. TokenPay intends to offer traditional banking services with regulatory oversight and fiduciary status. AML and KYC procedures will apply the same, as with customers who use fiat currencies. TokenPay plans to operate in the Hong Kong dollar which is pegged to the USD. Most desirable is the partnership or acquisition of a bank that has many of the existing correspondent banking relationships that are necessary to transact in major currencies.

Benefits of Acquiring a Bank



Stable Banking Jurisdiction

Germany is the gold standard in European banking and financial services. Originally, TokenPay planned to acquire a bank in Vanuatu. However, TokenPay was approached by WEG Bank AG, because they were interested in offering FinTech solutions that would align themselves with this new digital economy.

Because of this, TokenPay immediately sought to form a deeper partnership with the idea of an eventual acquisition of the bank following the necessary regulatory approval.

In May 2018, TokenPay officially closed a deal with WEG Bank, acquiring a 9.9% equity interest, with the option to acquire an additional 80.1% upon customary regulatory approval.

This deal allows TokenPay to position itself as the crypto-market leader in merchant settlement services, in particular for those merchants that are not satisfied with traditional high processing fees and stringent compliance issues. Merchants can accept cryptocurrencies as payment, and through an integration with WEG Bank, receive fiat settlements directly to their bank account.

Furthermore, through this alliance with WEG Bank, TokenPay will be able to issue private label debit cards. Crypto communities, such as Litecoin and Verge, can offer a Litecoin or Verge debit card, where you can actually use it for everyday purchases, and have access to a global ATM network.



The above image of TokenPay Bank is for illustration purposes only.

INTERNATIONAL MULTI-CURRENCY CRYPTO DEBIT CARD

The concept behind the fully integrated BlueDiamond debit card is that it will be easy to load given its direct connection to the TokenPay digital wallets. Therefore, spending can be done virtually or at any point-of-sale merchant either online or in person. Additionally, the international debit card allows instant access to multi-currency funds at network automated teller machines. Transparent pricing and low fees make the BlueDiamond debit card a very attractive mechanism for cashing out digital coins to enable hard asset purchases.

A user's digital coins like TPAY or Bitcoin can be accessed whenever needed thanks to the closed-end real-time private exchange that will be part of the TokenPay banking platform. Accordingly, there is no need for the user to have to convert exact quantities of digital coins to conduct a fiat transaction.

This will allow TokenPay clients the ability to maintain unfettered access to cash at thousands of automated teller machines worldwide and millions of physical and online merchants.



It is important to note that the Mastercard logo on the BlueDiamond card rendering is the intellectual property of Mastercard International. Furthermore, TokenPay does not have any deal currently in place with Mastercard or any other credit or debit card provider. The intention is that TokenPay will enter into a card services relationship with either Mastercard or Visa. TokenPay intends to aggressively pursue opportunities to directly engage in a business relationship with a major debit card provider.

TokenPay BlueDiamond Cardholder Benefits

TOKENPAY BLUE DIAMOND CARD	USD
Physical card issuing fee	\$15
Virtual card issuing and Annual fee	Free
Physical card Annual fee	Free (\$10 if less \$1,000 yearly spend)
Domestic and Foreign exchange fee	Free
ATM withdrawal in domestic currency	0%
ATM withdrawal in other currency	\$3
Shipping of physical card	\$5
ATM withdrawal in other currency	3 to 4 Weeks
Expedited shipping	\$70



Low Cardholder Fees:

TokenPay will provide some of the lowest fees in the industry to make sure owning and using the BlueDiamond card is competitive.



Global ATM Access:

With the BlueDiamond card you will be allowed to access ATM's all over the world. TokenPay understand that crypto holders are the most well-travelled in the world.



Real-time Conversion:

When transactions are made via the BlueDiamond card it will automatically convert to the currency of the merchant.



Multi-currency Support:

TokenPay will allow transactions in cryptocurrency and fiat linked to the BlueDiamond card. Users will be able to setup a default currency



Blue Diamond Card Purchase Rewards:

All transactions paid with TPAY will receive a 1% "crypto-back" reward.

PAYMENT PROCESSING SERVICES FOR ONLINE MERCHANTS

TokenPay's merchant services division offers businesses around the world the opportunity to transact with TPAY as well as other cryptocurrencies. All of this is possible with the integration of our planned bank and exchange to provide liquidity. Businesses will have the flexibility to convert crypto to fiat. Also, fees for merchants will be as low as 0.25%. Merchants accepting TPAY will save more than 90% from traditional merchant service options.



Industry Low Transactions:

Merchants today pay up to 5% a sale to receive payments via a debit or credit card. TokenPay's merchant services will allow merchants to accept TPAY coins for free for the first 1 year and then an industry low 0.25% per transaction with no monthly fees.



Daily Cash Settlements:

Cash is king and businesses that sign up with TokenPay will be able to receive daily cash settlements.



Customizable Branded Checkout:

TokenPay will make it easy and simple to not only integrate your existing shipping cart given the API's or plugins we will have available for you to select.



Point to Click Integration:

Once the API has been integrated with your business consumers will simply see a checkout button ready to make the transaction as seamless as possible.



Advanced Security Protocols:

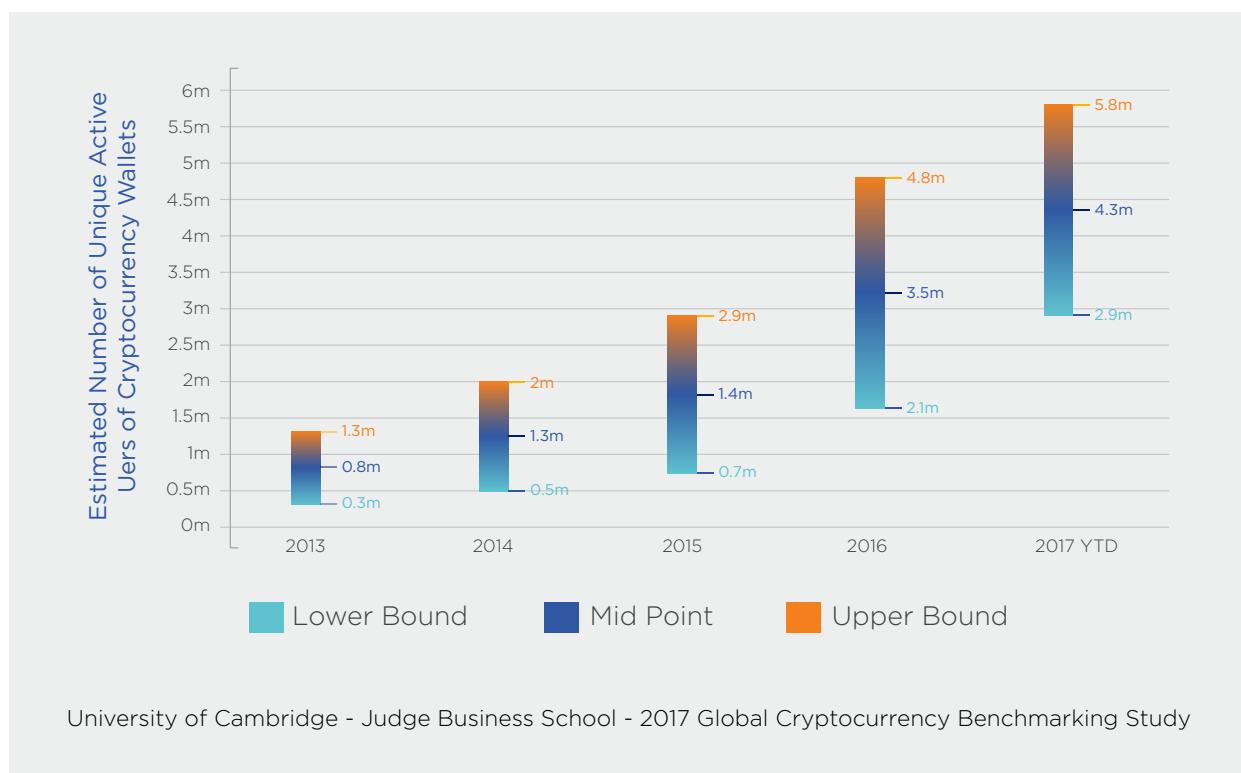
TokenPay will be using the highest ECC encryption available to assure your business that will protect your wallet from hacking.

Pay Functionality within TokenPay Banking Ecosystem

MERCHANT SERVICES	ACCOUNT SERVICES
Aggressive merchant onboarding and promotion driven by a special zero-fee offer on transaction processing designed to drive increased TPAY denominated payment activity in e-commerce stores.	Zero-fee bank account linked international debit card can be used at all ATMs worldwide with real-time currency exchange capabilities along with the ability to earn cash back rewards in TPAY.

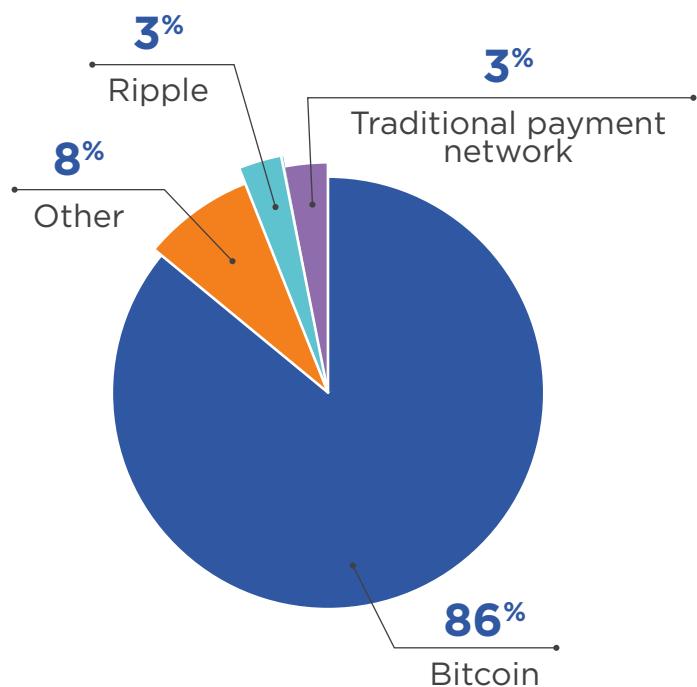
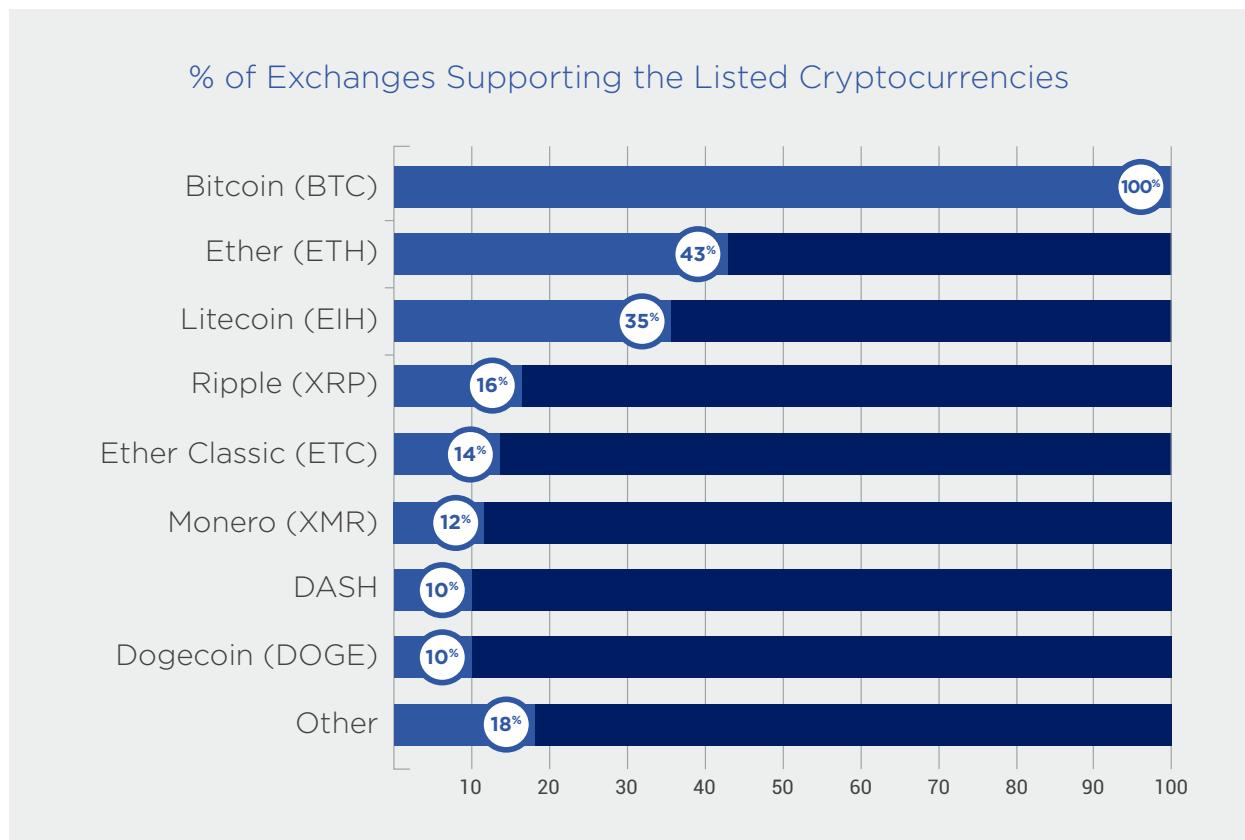
HIGH DEMAND AND RAPIDLY GROWING MARKET OPPORTUNITY

Consider the core tenants of the TokenPay proposition. That is, there has been a significant growth in the number of unique active users of cryptocurrency wallets. It is estimated that currently there are between 2.9 million and 5.8 million unique users actively using a cryptocurrency wallet. This figure has significantly increased since 2013. However, the Cambridge University study quotes that the estimation of the total number of active wallets does not include users whose exchange accounts serve as their de facto wallet to store cryptocurrency, nor users from payment service providers or other platforms that enable the storage of cryptocurrency. In other words, the total number of active cryptocurrency users is likely considerably higher than the estimate of unique active wallet users.



Bitcoin Substantially Dominates the Cryptocurrency Market

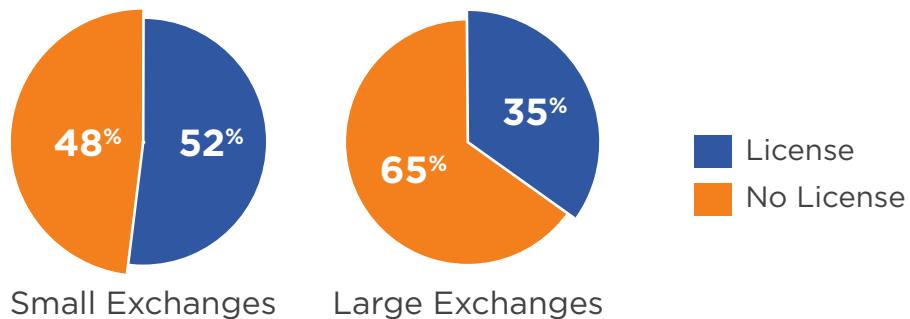
TPAY is entirely based on the omnipresent Bitcoin. In a large, global survey by the University of Cambridge, all 51 exchanges surveyed listed Bitcoin. The second most popular, Ether, is far behind being listed on only 43% of all exchanges. As well, Bitcoin is the most widely used payment rail for cross-border transactions.



University of Cambridge - Judge Business School - 2017 Global Cryptocurrency Benchmarking Study

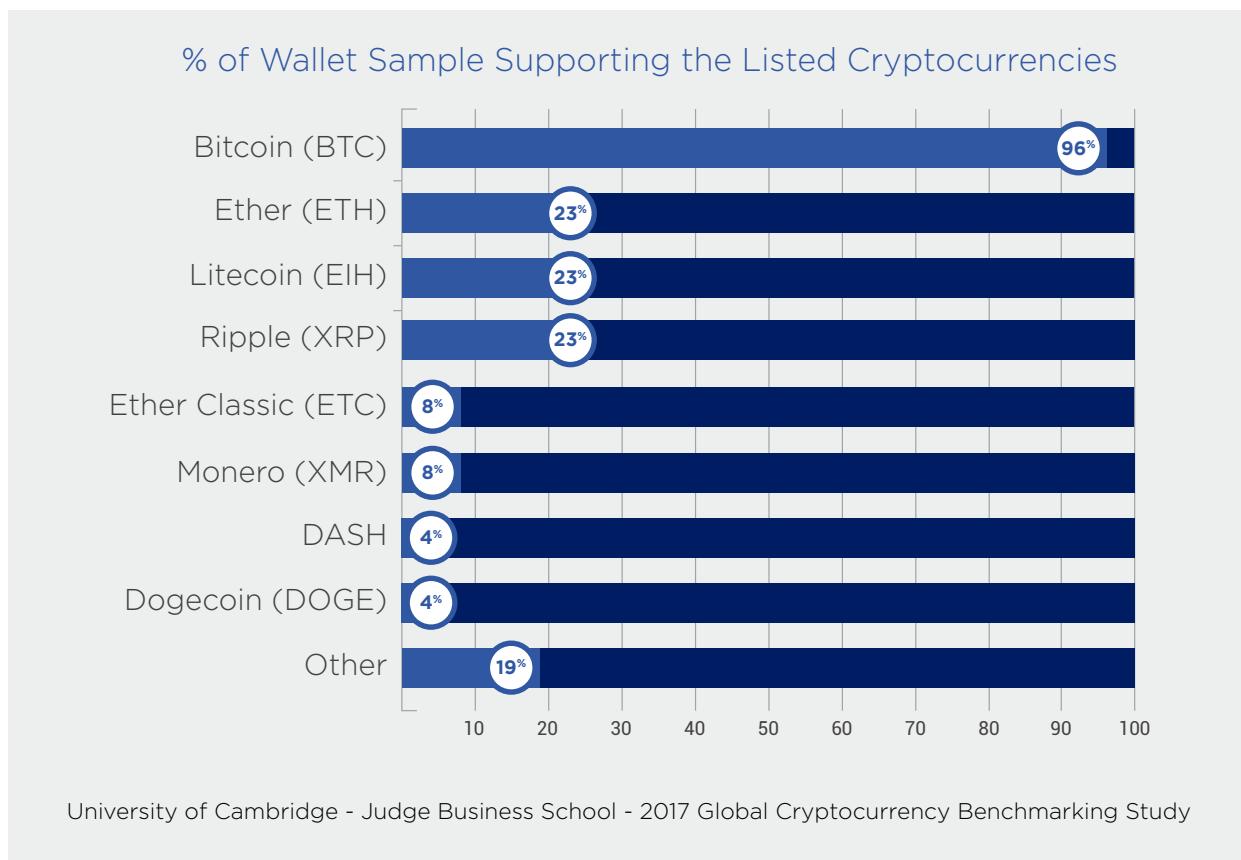
Licensed and Regulated Wallet and Exchange

TokenPay intends to offer private exchange services under the custody of a regulated and licensed bank. Each cryptocurrency has a reference implementation that includes basic wallet functionality (e.g., Bitcoin Core for Bitcoin, Mist browser for Ethereum). However, a multitude of wallet providers have emerged in recent years to facilitate the storage of cryptocurrencies and make wallets easier to use. Market data show that most wallets in small exchanges are licensed. However, most of the wallets on large exchanges are not licensed.



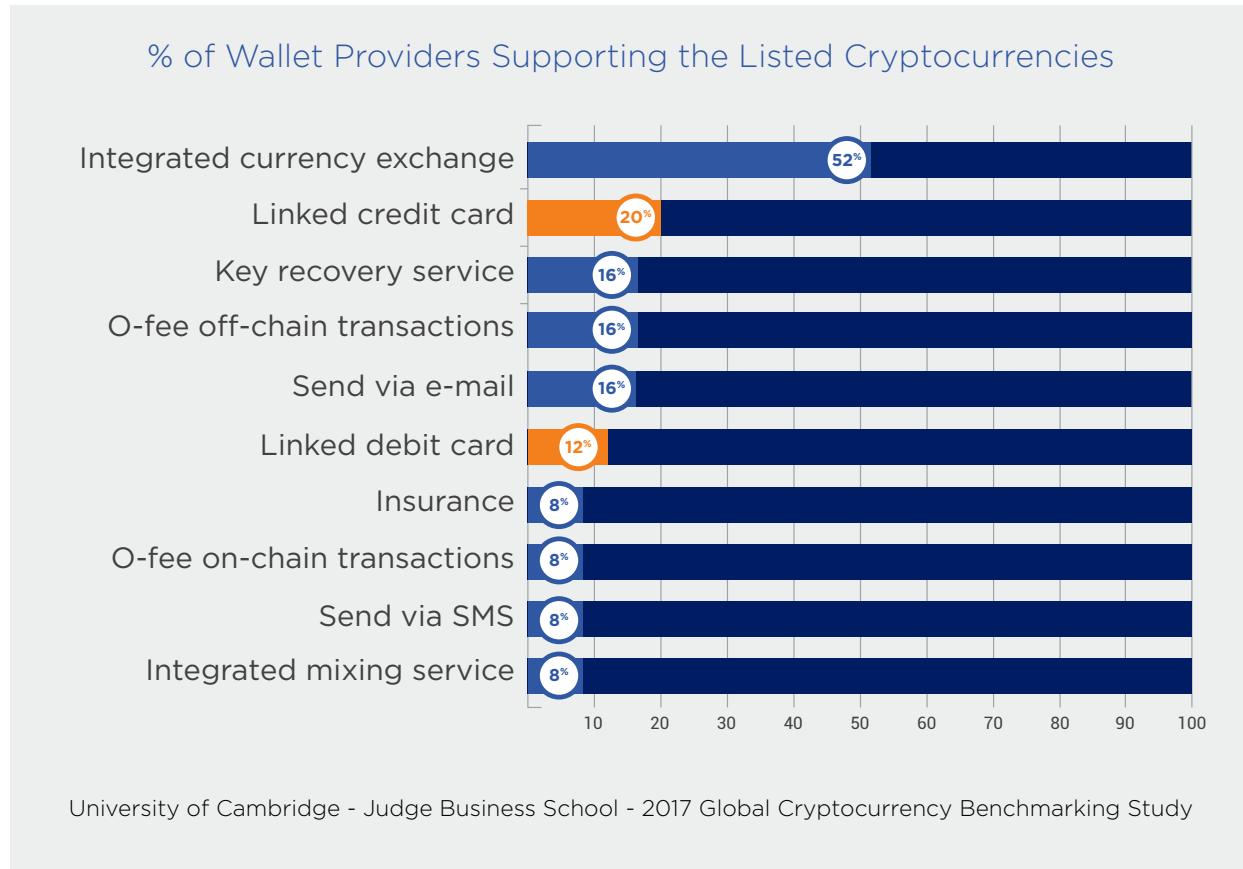
University of Cambridge - Judge Business School - 2017 Global Cryptocurrency Benchmarking Study

Bitcoin is the most supported crypto currency in wallets, followed by Litecoin, Ether and Dogecoin. Wallets continue to support more and more different crypto currencies: 31% of wallets that currently only support storing a single cryptocurrency indicate that the current roadmap includes offering support for more cryptocurrencies. 78% of multi-currency wallets plan to also add more cryptocurrencies to current offerings.



Fully Linked International BlueDiamond Debit Card

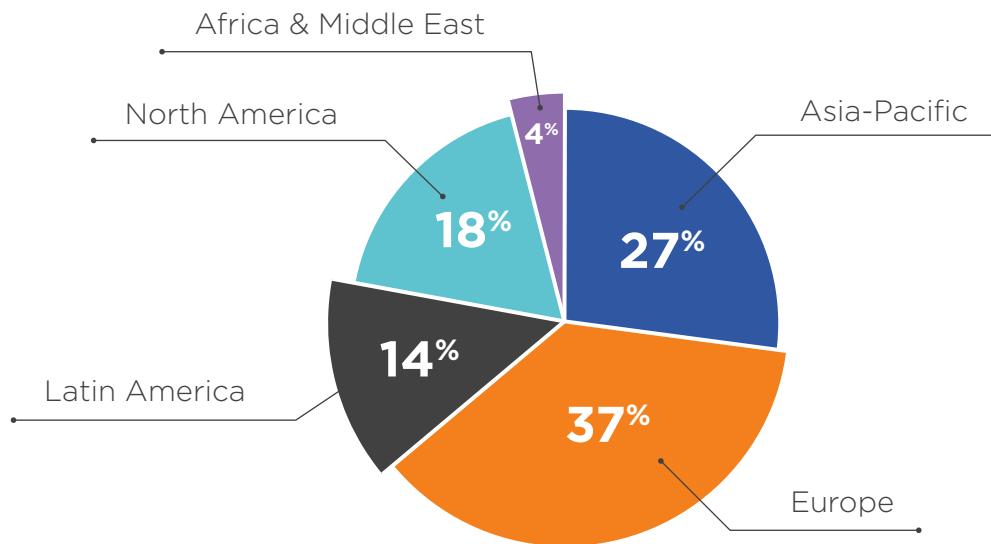
TokenPay will offer a debit card linked to the wallet. This is feature found only in one out of five wallets. Furthermore, TokenPay will have a bank backed infrastructure for the issuance, management and custody of the debit cards.



TokenPay is Asia-Pacific (APAC) Focused

The APAC region is embracing cryptocurrencies at a rapid pace. Exchanges domiciled in this part of the world account for 27% of the market. This is second only to European domicile exchanges. The number of APAC based exchanges exceeds the North American count by a wide margin.

Cryptocurrency Exchange Locations



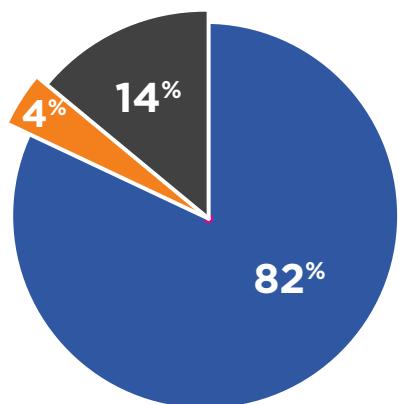
University of Cambridge - Judge Business School - 2017 Global Cryptocurrency Benchmarking Study

Market Data Supports Strong APAC Cryptocurrency Trends

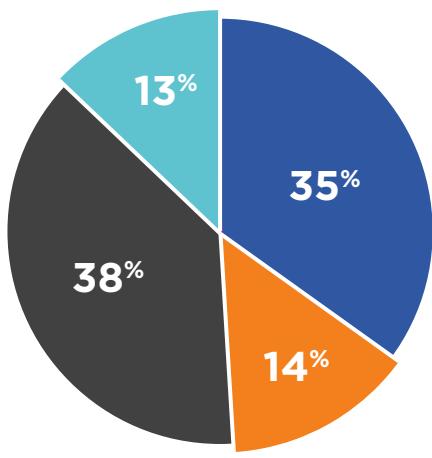
Market data also provides reliable insight into the strength of the APAC region as the logical choice for the first crypto-friendly bank. If users are segmented by type of payment activities, the data indicates that money transfer services are most popular in the APAC region. As well, B2B payment platforms are mostly used by customers based in APAC and Latin America. Findings also suggest that companies engaged in cryptocurrency focused activities maintain a more international customer base. For example, the majority of general purpose cryptocurrency platform activity is concentrated in APAC. That consists of 37% of all user activity. Money transfer services are predominantly APAC based, accounting for 82% of all user activity.



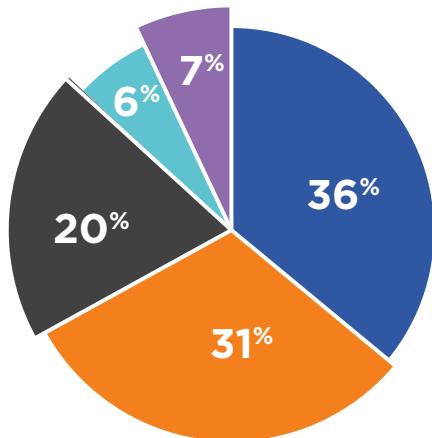
Asia-Pacific Market Share in Financial Service Industry



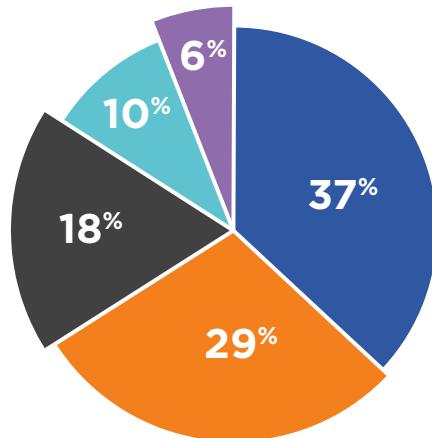
Money transfer services



B2B payments



Merchant services



General-purpose
cryptocurrency platform

■ Asia-Pacific

■ Europe

■ Latin America

■ North America

■ Africa & Middle East

University of Cambridge - Judge Business School - 2017 Global Cryptocurrency Benchmarking Study

TOKENPAY PROJECT ROADMAP

2015 Q4

- eFin.com Beta version of platform launched Fall 2015

2016 Q4

- Owing to overwhelming user demand for blockchain assets, founders shifted focus to cryptocurrency technology
- Established corporate headquarters in the privacy-focused jurisdiction of the British Virgin Island

2017 Q2

- Launched Multi-Signature Transaction Engine
- Released Linux, Windows, macOS and Paper Wallets

2017 Q4

- Release Whitepaper of TokenPay Token Sale

2018 Q2

- TokenPay website launched for commercial use.
- Complete acquisition or partnership of Bank.
- P2P multi-screen payment platform.
- Global merchant services application available.

2019

- TokenPay Bank to expand to new regions within APAC

2016 Q2

- Partnership with USTOCKTRADE and London Stock Exchange's Tony Weersinghe
- Feature presentation at MIT Fintech Conference

2017 Q1

- Onboard world-class dev team to build a more secure and untraceable version of Bitcoin
- Proprietary Tor network coin technology integration
- Created Stealth Address and Encrypted Messaging system

2017 Q3

- Agreed to acquire an established bank
- Added Ring Signature feature to TPAY blockchain
- Zero-Knowledge Proof advanced automation added

2018 Q1

- Add TPAY to notable exchanges
- TPAY Apple iOS Mobile Wallet
- Complete due diligence of Bank Integration

2018 Q3 OR Q4

- BlueDiamond debit card ships to account holders

TEAM



Derek Capo

CEO

Derek is a former hedge fund analyst who most recently served as VP of International at RoboTerra. He has a finance degree from FIU and has completed advanced Chinese studies.



Carlos Salazar

CTO

Carlos is a cyber security expert with experience managing IT for large international gaming clients. He studied Chemical Engineering at UCR.



Joseph Pacetti, CPA

CFO

Joseph is a compliance expert with significant Mergers and Acquisitions experience. He is a Certified Public Account who holds a Masters Degree in Accounting from FIU.



John Singh, MBA

CMO

John has developed marketing campaigns for several global automotive brands with the objective of building social engagement. He has an International MBA from FIU.



Senen Garcia, JD & MBA
GENERAL COUNSEL

Senen is a corporate lawyer with 15 years of experience specializing in forensic tax issues. He holds a JD and MBA from St. Thomas University.



Aaron Tian
APPLICATION DEVELOPER

Aaron is a fullstack commercial software developer building internal applications for companies like Rakuten, Veeva and App Annie.



Laurance Gerges
SENIOR UX/UI DESIGNER

Laurance is a top tier graphic designer and web developer with nearly a decade of experience in UX/UI/front-end development and 3D print design.



Vlad Turtoi
AUTOMATION DEVELOPER

Vlad is an end-to-end product developer with full stack engineering capabilities. He specializes in developing complex AI enterprise solutions.

ADVISORS



Sunerok - Verge Currency (XVG) BLOCKCHAIN AUDIT

Sunerok is the Lead Developer of the Verge Cryptocurrency. It is a secure, anonymous and heavily traded privacy coin that has been widely adopted by crypto enthusiasts.



Carlos Arraya LEGAL ADVISOR

Carlos is a compliance specialist experienced in AML, international banking, trusts and global acquisitions. He is a licensed attorney and Bar Association committee Director.



Charles Moscoe STRATEGY ADVISOR

Charles is a technology investor with over 20 years of experience in internet commerce. He has funded several fintech startups including investFeed, a popular crypto social network.



Elizabeth Vrettos AUDIT ADVISOR

Elizabeth is a manager and expert in Forensics with PricewaterhouseCoopers. She specializes in investigations of bribery, corruption, fraud and due diligence procedures throughout LATAM.



Subir Lohani
APAC COMMERCE ADVISOR

Subir is the Chief Growth Officer for PayPro Indonesia, a leading e-wallet company. He is a former Barclays investment banker and holds a degree in Economics from Boston University.



Joseph Ricard
ECOMMERCE ADVISOR

Bachelors in Information Technology. Ran a publicly traded incubator. Launched or advised 20 tech startups, in 5 countries. Background in APIs, Big Data, and Blockchain.

CONCLUSION

While the use of cryptocurrency is sharply rising there clearly exists a critical problem with mass adoption. It is a victim of its success. While cryptocurrency is essentially designed to be the catalyst for democratizing money, the production, supply, and use of it is highly fragmented. There is no central government or bank control. Therefore, the currency cannot be inflated or deflated. Typical fiat money supply can be largely manipulated without any consultation. There is a seemingly unlimited proliferation of digital coins. As well, relatively lax regulations and the obscure nature of some digital coin issuers is driving extreme pricing unpredictability.

The greed of early-stage investors has also contributed to this volatility. For instance, since the inception of cryptocurrency exchanges coin values have been erratic. These sudden price spikes and drops can cause havoc on regular money services. All of this affects the ability of a coin to be properly utilized for remittance, currency conversion and at ATMs. When a cryptocurrency holder requires fiat to fund meaningful financial activity, they are faced with exorbitant fees. Additionally, a hostile bank client onboarding and compliance process remains challenging. Despite what the promoters say, there is no reliable way to use cryptocurrency. For example, Bitcoin ATMs can charge up to 15% just to convert to fiat currency. This defeats the original purpose of cryptocurrencies, which was to offer a cheaper and more flexible alternative to other payment methods. With no advantage over government-printed money, why would an ordinary person use it?

Reversing the paradigm, banks must operate in a compliant and consumer protective mode that is driven by massive regulatory oversight and fiduciary status. A customer is not able to simply show up with a cryptocurrency wallet and convert the holdings to a widely usable country issued currency. And the idea of conducting a hard asset transaction for instance with cryptocurrency is simply not one that any bank in the world is equipped to process. The problem is that any size transaction with cryptocurrency is immediately flagged as fraudulent. It is nearly impossible to make larger purchases such as a car, house or even school tuition. Issues related to AML, KYC and general regulatory compliance are only a few to consider when accepting and accommodating such a scenario. There is a systemic and reputation risk that must be mitigated. Banks have been known to close the accounts without warning of those transacting in cryptocurrencies.

It seems like every time a new token or coin is being issued into the market there is this flawed assumption that full convertibility and liquidity is guaranteed. This is not only false, but it is completely the opposite of what is the case. Today's crypto system is beginning to replicate the pre-crisis financial system. That is, banks being able to receive any amount of official liquidity at will. As long as the institution had acceptable assets to pledge at the central bank of course. For everything else, such as self-created assets, there was the wholesale funding market. Many of these assets were self-valued at entirely fantastical rates. When the wholesale market froze up, only the central bank had the capacity to support it. But there is no central bank to bail out cryptocurrencies. So, consumerism and utility of cryptocurrencies must

live up to the standards of fiat currency. That is, not only be easy to obtain, but also to be able to create, store, share, use, trade, exchange, transfer and convert seamlessly to fiat. Only then does the cryptocurrency have real-life utility driven by the ability to purchase actual things.

The major question remains. Is there a way around this? Can the cryptocurrency world meet the fiat world? There are Bitcoin debit cards, like Wirex, Xapo, bitwala and more. But this is only half the battle. There still exists critical banking obstacles that prevent the exchange of cryptocurrency to fiat. So, why not reverse the journey, and have the banking world meet the crypto world half way? In a nutshell this is the central premise of TokenPay. The goal is to create the world's first bank that truly understands and embraces cryptocurrency activity. This bank will allow customers the ability to convert cryptocurrencies to fiat to enable the purchase of hard assets. This is a bank that will inevitably cater to the crypto community in a vertically integrated fashion; from consumer accounts to merchant processing. It all starts with a banking relationship. This is why TokenPay's first step was to acquire a bank.

Customers can store cryptocurrency in insured wallets – as it will be fully backed by a licensed and bonded banking institution. The ability to convert to fiat currency in real-time is conducted on the bank's private closed-end exchange. Current market data indicates that the majority of transactions are national to cryptocurrencies and vice versa. Traditional banking services are on top. These include a debit card that is in fiat currency tied to the bank. All of these are ways to proliferate use and adoption of the banking services. Undoubtedly, debit cards are heavily used in the fiat world. A debit card is tied to a bank account based on fiat currency. The debit cards issued by the cryptocurrency driven bank will be tied to a wallet and a virtual card. The private exchange enables seamless and fluid conversions and transactions. The merchant services appeal is that businesses can accept cryptocurrencies. The objective is the creation of a complete end-to-end solution for decentralized payments and banking.

The TPAY digital token is intended to be fully integrated into the Tor encrypted banking platform and be used as a secure and unbreakable form of exchange for products and services. Ultimately, the expectation is that TokenPay will become the global platform for simplifying and rapidly executing cryptocurrency to intrinsic value capital transactions.

ACKNOWLEDGEMENTS

TokenPay would like to first and foremost thank Satoshi Nakamoto for creating Bitcoin. The TPAY digital token is substantially a Tor-based ultra secure version of Bitcoin that is based on a proven and reliable infrastructure. Core fundamental TPAY code is heavily influenced by the work of privacy coins such as ShadowCash, Verge, BlackCoin and Peercoin. Backbone cryptographic coding was driven by Verge's lead developer, Sunerok. Furthermore, the project itself was made possible by Huntingdon Investment Corp. A critical partner in the TokenPay platform, Huntingdon has been an amazingly supportive backer.

This whitepaper greatly benefited from the dedicated research conducted by artificial intelligence expert Dr. Yannis Kalfoglou. His work on the conceptualization of the financial automation platform has proved to be insurmountable and literally everlasting. Finally, thanks goes out to the Bitcoin community for its proactive development and unbridled passion for leading the disruption of the existing primitive and fragmented centralized method of factitious monetary policy. TokenPay is a proud Lifetime Member of the Bitcoin Foundation and optimistic that theTPAY digital token will quickly become an integral component of the global banking system.

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