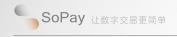# SoPay

Easy Digital Transaction
让数字交易更简单

White Paper（V3.2-2018.06）

—— https://sopay.org ——

SoPay, A Cryptocurrency Payment Solution (like Alipay for Fiat Money)
Run on SoChain, an Optimized EOS-based Public Chain
Financially Secure with Hardware-Isolated Key
Cross-Chain Transaction with Symmetric Side Chain + Lightening Network
Cross-Exchanges Support for Multiple Currency Exchange
Financially Friendly, Cooperation with Acquirers across the Globe
Tens of Millions of Users to be Activated

CONTENTS

1 Market Pain Points and Demands

The decentralized and self-governing next generation blockchain technology, represented by EOS, has become increasingly eye-catching and triggered many discussion from different aspects. As of the beginning of 2017, blockchain / digital assets have attracted 20 million users across the globe, compared with merely 2 million 4 years ago. We are confident that, by 2020, this figure will reach or exceed 200 million, and skyrocketed to 1 billion around 2025.

But, despite of such big amount of digital asset holder, majority of the usage scenario is still focusing on investing that the currencies are being kept and exchanged on the major cryptocurrency exchanges. There are still very handful of consumption behavior on going such as retail, e-commerce, trading, etc... using the digital assets.

"Money" being used	Fiat Money	Cryptocurrency	SoPay
Investment	Trust-fund Stock/bond market Forex Insurance Properties Arts	Cryptocurrency/OTC Exchange Token ICO	SOP token SoPayApp
Consumption	Retail stores Online stores Digital credits (online game tokens, points) Mobile payment	N/A	SoAPI SoPay App
Trading	Credit notes Cross border transfer	RippleNet (cross border transfer)	SoX - Partnering with Ripple

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The SoPay team is committed to developing an efficient, private and user-friendly cryptocurrency payment solution. Even under resource constrained circumstances such as on mobile phone, SoPay is still accessible by users who are incapable to store their private key and ensure that the digital asset is always under their control instead of being transferred to the third-party payment provider.

1.1 Cryptocurrency Confined to a Very Few Professionals

General public often step back at the sight of cryptocurrency. This should be ascribed to inadequate use cases available, too complicated public/private key certification, potential risks in huge wealth loss due to unexpected loss of key and stereotype.

To overcome this, the SoPay team has worked out a cryptocurrency payment solution based on blockchain technology, that is as simple and secure as Alipay. This makes it possible for the public (including consumers and merchants) to spend, invest and partake in cryptocurrency in a quick and safe way.

1.2 Content Providers – Require Rapid Development But Lack of Users

Online content providers (CP), such as game publishers, invested rapidly in R&D trying to implement the blockchain technology into their product and service. Most of the projects are reinventing the wheel as they are redundant with the blockchain infrastructure, they eventually realize that its a failure and no significant benefits bringing in new users.

However, SoPay acts differently. Its payment integration team and the content providers have been working on several projects for years, giving birth to the SoAPI. The SoAPI provide streamlined and abstract layer design architecture. Any Online CPs, who have experience working with generic payment API, will be able to integrate their apps with SoAPI within a week with no need to develop complex dAPP.

1.3 Environmental Impact － Massive Energy Consumption in Mining

Proof of Work (PoW) used in earlier days has turned out to be outdated, inefficient and costly. Ethereum is working hard to shift from PoW to Casper (PoS), while EOS goes resolutely to DPoS (Delegated Proof of Stake).

SO public chain adopting DPoB, an improved consensus structure based on EOS DPoS. By doing so, payment transaction can be affirmed within a twinkles by the hybrid of MobileNode in mobile phone and only a fraction of FullNode calculating power. Without doubt, it works as safe as credit cards.

1.4 Community fairness － The Centralized Mining Pools Dominated Most of The Transactions

As centralized mining pools began to dominate the chain, there are almost impossible for individual to be able to share the wealth within the community.

SoPay working on various approaches so that our SOP token holders and active contributors receive fair amount of equality and freedom. Few of those approaches are including becoming witness while creating blocks through mobile phone, token holder (including merchants and consumers) to vote among community, incentive transparency, etc...

2 What is SoPay?

2.1 SoPay, A Cryptocurrency Payment Solution Like Alipay

SoPay is designed to offer easier and better user experience to enable cryptocurrency for consumer use cases. By downloading and installing the SoPay APP, enter 4-digit PIN code, users can send/receive payment to/from others via phone number or user ID. Each and every transaction is completed within seconds. Payment received can be spent immediately. Because the SoPay APP is build on the decentralized architecture, neither of the merchant service provider or third party is able to collect users' information (for instance, account balance, transaction history, loan/payment address, etc...). In any case of reinstalling OS or switching phone, as long as users is able to receive 4-digit PIN code via the registered phone number, they will be able reclaim the secure access to their assets, and payment is available in all APPs and networks.

The SoPay solution includes: SoAPI, SoChain, SoLightning Networks, SoX and SoPay APP.

2.2 Is SoPay Decentralized or Not?

The answer is somewhat Yes and No. SoChain, the underplaying technology for SoPay, is decentralized. This is to ensure the all digital assets handling through SoPay are fully owned by the SoPay users.
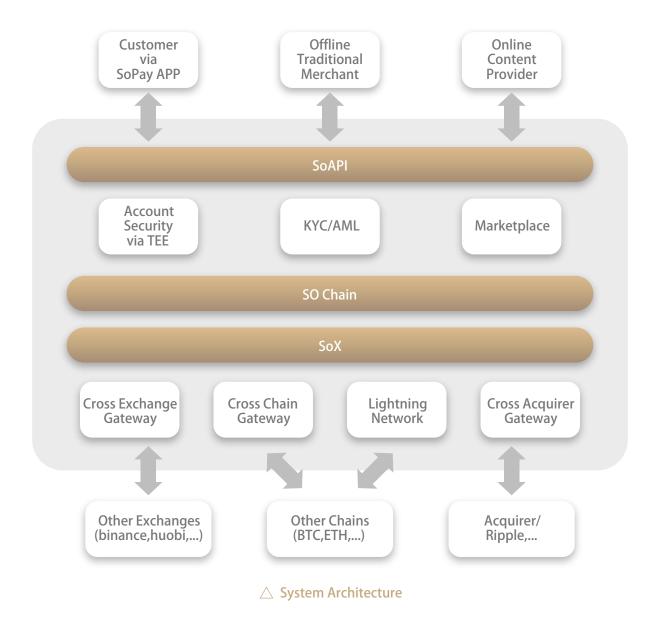
As for SoPay-based services, such as online CPs (merchants of offline business and E-business) are centralized, it is only the digital asset that being transferred that is based on SoChain, will be decentralized on public chain.

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3 System Architecture and Technology

△ System Architecture
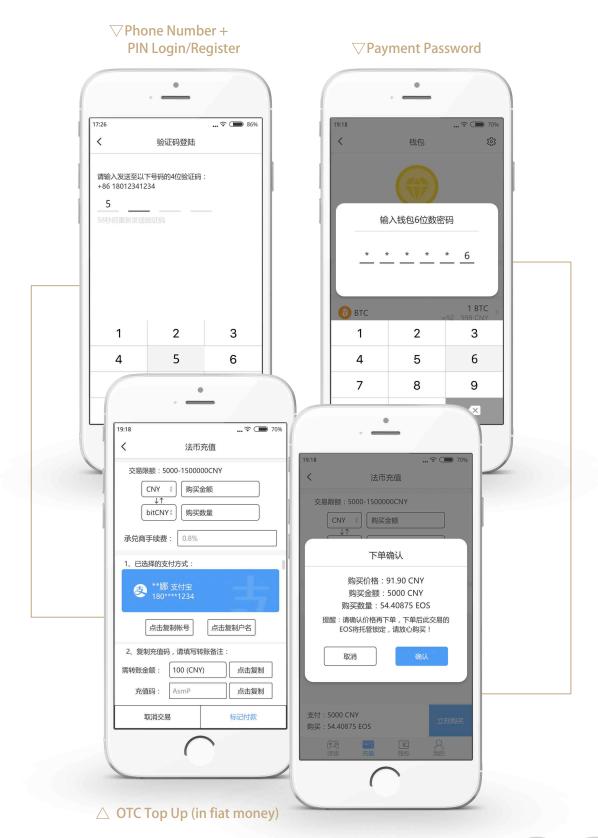
3.1 SoPay APP – Alipay APP

Like Alipay, SoPay provide users with easy access to account and wallet registration. With 6-digit password, it is able to conduct OTC top-up, transfer and withdraw as safe as transaction with credit cards.

SoPay APP UI Preview:

▽Phone Number +
PIN Login/Register

▽Payment Password

17:26 ... 📶 🔋 86%

‹ 验证码登陆

请输入发送至以下号码的4位验证码：
+86 18012341234

5 ___ ___ ___

58秒后重新发送验证码

| 1 | 2 | 3 |
| 4 | 5 | 6 |

19:18 ... 📶 🔋 70%

‹ 钱包 ⚙

输入钱包6位数密码

* * * * * 6

BTC 1 BTC ›
≈92 . 999 CNY

1	2	3
4	5	6
7	8	9

19:18 ... 📶 🔋 70%

‹ 法币充值

交易限额：5000-1500000CNY

CNY ⬍ 购买金额
↓↑
bitCNY⬍ 购买数量

承兑商手续费： 0.8%

1、已选择的支付方式：

**娜 支付宝
180****1234

点击复制帐号   点击复制户名

2、复制充值码，请填写转账备注：

需转账金额： 100 (CNY) 点击复制

充值码： AsmP 点击复制

取消交易   标记付款

△ OTC Top Up (in fiat money)

19:18 ... 📶 🔋 70%

‹ 法币充值

交易限额：5000-1500000CNY

CNY ⬍ 购买金额
↓↑

下单确认

购买价格：91.90 CNY
购买金额：5000 CNY
购买数量：54.40875 EOS

提醒：请确认价格再下单，下单后此交易的
EOS将托管锁定，请放心购买！

取消   确认

支付：5000 CNY
购买：54.40875 EOS

立刻购买

游戏 充值 钱包 我的

△ OTC Top Up (in fiat money)

06

◁ **Sample of In-app payment using Digital Coins**

More information about SoPay APP will be further disclosed. Please contact your PE manager or founder Mr. Kyle Lee for pilot test.

Initiate Payment ▶ **Secure Authenti-cation** ▶ **System Transac-tion** ▶ **Payment Success**

Initiate Payment	Secure Authentication	System Transaction	Payment Success
· Fiat and digital currency display real-time · Scan the merchant QR code · Call In-App payment SDK · APP switching	· Account ID:phone number · Payment pin:6-digits/biometrics · Node verification: verify hybrid key	· Support multiple currencies · Intelligent order matching · Free of charge for consumers	· Merchants receive fiat/digital currency · Whole process complete within seconds

△ **SoPay Payment Process**

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3.2 SoAPI - Simplify the Cryptocurrency Payment Process

Like Alipay, SoPay provides merchants and CPs with SoAPI and SDK, hiding all the complexity and extra development works needed. So that to empower the merchants and CPs to support the cryptocurrency payment very quickly without heavy technology investment, leaving them to keep focus on their strength. Furthermore, to help driving new users group (the digital asset holders) to our merchant partners.

1) Conventional Offline Merchants

Merchants get fiat money (with real-time digital-fiat conversion rate) immediately when consumers scan QR Code with SoPay, similarly to Alipay experience.

2) Online CPs

Online CPs (e.g. games and entertainment)

a) Integration SoAPI into the application takes about 6 days, if the CP have experience working with Alipay's payment SDK.

b) RESTful API is compatible with various application including H5, APP, Web…

c) Virtual digital assets can be trade on SoMall in future.

3) E-Commerce

a) Listing and open e-commerce store on SoMall.

b) Sell with either fiat or digital currency as option in addition to Visa or PayPal.

3.3 SoChain – An Optimized EOS-based Public Chain

Key Features:

1) Millions of TPS on SoChain that is optimized based on EOS

2) Enhanced DPoB (Delegated Proof of Belief) consensus mechanism

3) Support other digital assets besides cryptocurrency transaction such as membership points, digital credits. SoPay can help merchants or CPs to tokenize their existing membership and liquidize them.

SoChain is designed to provide SoPay users to have full ownership affirmation of their digital assets, yet able to do quicker, easier, and safe transaction while privacy to be protected. Technically, SoChain have improved based on the world-leading EOS and its DPoS (Delegated Proof of Stake), a third generation consensus mechanism, to produces the new DPoB (Delegated Proof of Belief) mechanism. In future, the SoPay team will open source the optimized codes on to Github for the community. The following chapters will have more detail about DPoB.

SoPay is dedicated to handle transactions in the order of much larger scale than than Ethereum. SoChain adopts the next generation consensus mechanism, DPoB (Delegated Proof of Belief). It is capable to handle transactions up to 50,000 – 1 million/second under stretch test conditions. Plus, SoChain will implement the parallel processing technology to further drive to millions transactions per second.

Thanks to DPoB, SoChain is able to provide complete set of essential features, like setting up account, establish virtual assets, asset transfer, ownership affirmation, pledge, transaction and witness, and achieve decentralized autonomy.

DPoB (Delegated Proof of Belief) consensus is the core innovation beneath the SoPay public blockchain. Details and framework architecture will not be further disclosed until right timing in future. We are committed to the innovation-oriented transaction and consensus-based incentives.

We have deep understanding of several consensus structure available today and here are them at a glance, that explained why we are so confident that we are working on the future of the blockchain technology.

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1) PoW mandated an insertion of a nonce into a block "B" before the block "B" being submitted throughout every node. So that:

$$H(B) \leq m$$

From the above formula, H represents a hash function, m is a target value which is determined via a target calculation function (this function takes into account the rate of growth of the blockchain and reflects the size of the set of miners that participate in the protocol). A qualified nonce cannot be acquired until exhaustion of nonce is completed. By adjusting H and m, it is able to control nodes in the network and expectation of time window for each block submission.

As the time require to seek the qualified nonce is a variable in PoW, hence, a decentralized timing series is constructed and simultaneously it resolved the multi-notes decentralized decision making process. As result, the entire network will accept the node that found the qualified nonce for data submission.

2) Under PoW mechanism, massive energy consumption and time is require to find the qualified nonce. On the other hand, PoS (Proof of Stake) gave up the nonce exhaustion process and turns to a faster algorithm:

$$H(H(Bprev),A,t) \leq balance(A)m$$

H is a Hash function, and t as UTC timestamp. Bprev refers to the previous block, balance (A) the balance of account A, and m is a target value. At the left side of the equation, t is the only parameter that can be constantly adjusted, while at the right, m is a fixed constant. When balance(A) goes up, it is more likely to find a reasonable t. The t scope is confined in a case that the timestamp attemptable cannot be more than 1 hour from the default. That said, a node has 7,200 attempts to find a qualified t. Otherwise,

Hence, in PoS, given same amount of computing power, the more credit an account holds, the easier it is to discover a next block.

3) DPoS (Delegated Proof of Stake) is the optimization of PoS. In both PoW and PoS, the discounted efficiency lies in the fact that any newly-added Block needs verifying by all nodes across the network. While in DPoS solution, per different strategy being set, a minimal set of nodes is picked at certain interval, which will be used to create, verify, sign and oversee new blocks. In this way, time and cost consumption is significantly cut for blocks creation and verification.

4) DPoB (Delegated Proof of Belief) refers to the optimized consensus mechanism based on DPoS (Delegated Proof of Stake), that employs the hierarchical representative voting and anti-spam mechanism. It helps greatly speed up the transaction confirmation, guarantee the same weighting of vote by the general public in the community and financial magnates, and prevent from cheating with the help of financial rewards/penalties.

Existing distributed consensus mechanisms for cryptocurrencies must accomplish three distinct but related tasks: First, a mechanism must provide for determining the validity of a transaction. This is accomplished by using digital signatures and thus does not vary across cryptocurrencies in ways relevant here. Second, a mechanism must provide a convention for determining whether the record of all transactions (the block chain) is in fact the authoritative one. The central problem that a cryptocurrency must address is the danger of double-spends, and so this mechanism must ensure that this record is sufficiently comprehensive. Third, a mechanism must provide a convention for determining whether a proposed additional block of transactions should be added to the block chain.

The proof-of-work approach accomplishes the last of these tasks by awarding new currency to the first to solve a puzzle. The puzzle is to generate a new block, consisting of valid new transactions, an arbitrary nonce, and a link to the previous block, in a way that produces a sufficiently low hash score. A miner must try an enormous number of nonce values and transaction permutations to solve the puzzle correctly. This leads directly to the mechanism for determining which of two alleged block chains is authoritative: The authoritative block chain is the one that required more work (generally, but not necessarily, the longest block chain).
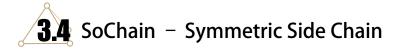
Proof-of-stake approaches vary in their precise implementation, but the general idea is similar. A valid block in some versions is a block generated by a user whose "turn" it is to mine new currency; thus, each user has an incentive to participate in the mining process, but need not solve difficult problems. In other versions, a valid block is a block consisting of transactions with sufficient "coin age," which is proportional time since they were last spent. In such a system, the valid block chain is the one that uses the greatest coin age.
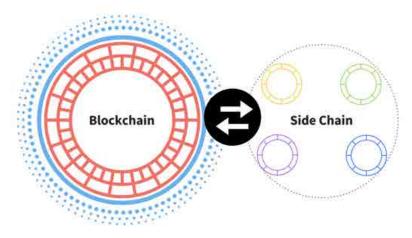
As in SoChain, let us take the challenges in the reverse order, addressing first the question of how to determine which block chain is authoritative among multiple competing block chains. This can be determined by allowing decisions on the block chain as to whether any particular block is a valid block that should be on the block chain. This is simply a binary version of the formal tacit coordination game, and any player can initiate a decision making process to approve of a particular block as authoritative. If otherwise there would be insufficient incentives to initiate this decision making process, rewards could be proposed for those who successfully initiated designations of blocks as valid.

That allows a measure of proof of belief in a particular block and in a particular block chain. The phrase follows from the recognition that any payment made in a formal tacit coordination game represents a bonded signal that the participant making it believes that others will agree with the participant's recommended decision. The measure of proof of belief in a particular block is the difference between payments made in support of a block's authenticity and payments made in opposition to a block's authenticity. The measure of proof of belief in a valid block chain (that is, one in which the hash for each block refers to the previous block) is the sum of the proofs of belief for each block. Note that a block currently viewed as invalid could still be part of the authoritative block chain; such a situation could endure in the long term as an indication that validation of a particular block was a mistake but that the mistake is too far in the past to correct.

By implementing the delegated proof of belief, it leaves room for future SoChain scalability using "Sharding" technology.

3.4 SoChain – Symmetric Side Chain

△ Side Chain Structure

SoChain also target to work well as the side chain to the others' main chain to speed up transaction, strengthen security and privacy protection.
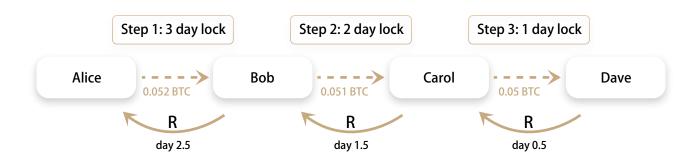
SoChain improves features of symmetric side chain as follows:

1) Two-way peg to map the main chain assets to the side chain for transaction;

2) Smart contracts compatible with EVM;

3) Support to tokenize the digital assets between the real-virtual world;

4) Enhanced security and privacy. The main chain serves only for asset transfer and ownership affirmation, while the side chain completes fast transaction and protects the users' trade information, account security and privacy.

3.5 SoLightningNetwork – The Lighting Network

Step 1: 3 day lock		Step 2: 2 day lock		Step 3: 1 day lock	
Alice	Bob	Carol	Dave		
0.052 BTC	0.051 BTC	0.05 BTC			
R	R	R			
day 2.5	day 1.5	day 0.5			

△ Alice transfers 0.05BTC to Dave

Basics:

The Lightning Network is a "second layer" payment protocol that operates on top of a blockchain (most commonly Bitcoin). It enables instant transactions between participating nodes and has been touted as a solution to the bitcoin scalability problem. It features a peer-to-peer system for making micropayments of digital cryptocurrency through a network of bidirectional payment channels without delegating custody of funds and minimizing trust of third parties.

Technology:

    1) RSMC (Recoverable Sequence Maturity Contract)

    2) HTLC（Hashed Time Lock Contract）

    3) Lightning Network composed of multi-hop nodes

    4) Atomic cross-chain swaps in the future

3.6 SoX – Smart Decision for Trading Channels

SoX as the abstract layer to make smart decision in trading and execution of business logic. At our early stage, the decision will be made following the predefined trading scenario.

The decision is intelligently made to best fit for particular payment scenario, among those are lightening network, symmetric side chain and exchanges.

Features of lightening network scenario:

1) Micropayment within the top-up limit

2) Payments that initiated with currencies such as BTC and ETH that support lightning network

3) Currencies with high transaction cost within the main chain

Features of symmetric side chain scenario:

1) Turnover exceeds the top-up limit of the lightning network

2) Or currencies with low cost of main chain transaction

3) Or the current lightning network fails to build a payment channel for the target.

Features of exchange scenario:

1) Not supported by the lightening network

2) And not supported by the side chain

3.7 SoX – Smart Decision for Cross Exchanges

Packaged with solutions to work with multiple exchanges' APIs. Key components are including:

1) Currency exchange route selection

2) Optimal currency exchange rate

SoX works to select the best exchange route by evaluating few elements including the order quantity, efficiency, and rates. Hence, return with the best exchange route for particular transaction.

3.8 SoX – Smart Decision for Cross Acquirers

Provide intelligent matching for cross acquirers on the following basic rules:

1) 1:N potential acquirers according to total orders

2) Exchange rate prioritization

3) Cryptocurrency pledge as guarantee on the SoChain

SoPay Technology Implementations:

1) Standard transmission protocol with quickFAST for each order

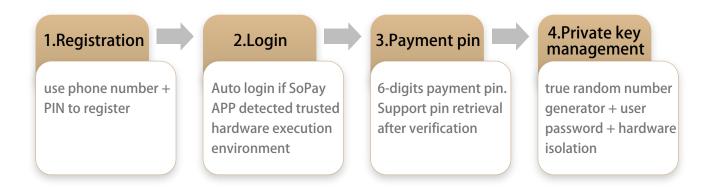2) Intelligent order matching with liquiBook

For exchange between digital and fiat currencies, we are mainly working with C2C parties (OTC dealers). More acquirer options are in consideration, including:

1) C2C

2) Global major acquirers

3) Integrating with Zipper and Ripple so that to enable access to global financial institutions

4) Exchanges

3.9 SoKey – Strengthen Account Security with Financial Grade Hardware Isolation

SoPay re-constructs the account security system (differentiated from existing wallet providers):

1.Registration	2.Login	3.Payment pin	4.Private key management
use phone number + PIN to register	Auto login if SoPay APP detected trusted hardware execution environment	6-digits payment pin. Support pin retrieval after verification	true random number generator + user password + hardware isolation

Based on the DPoB consensus, we will implement and deploy Full Node witnesses under TEE (Trusted Execution Environment) for voting, verification and merging transactions in the full chain. The Full Node can accelerate verification and reinforce security under TEE .

The SoPay team has done many optimization and enhancement on the TEE standard. On top of the one-way signature widely used in banks and other financial agencies, we adding the SoKey hardware isolation technology to prevent data security breach, the user′s key will never appear in cpu and memory runtime. Just like key isolation in the cold wallet, signature can only be found in isolated SoKey hardware.

TEE, as an independent environment, working parallel with OS to guarantee a safe runtime environment. Different from consumer facing OS, it targets at better performance and functions than SE (secure element), and protecting data with hardware and software hybrids. Thus, it is very secure many APPs.

Trusted Apps in TEE can access to all functions in the main processor and memory, while hardware isolation can protect these Apps from any potential backdoor programs being installed in the core OS. The software and password isolation in TEE helps protect trusted Apps.

TEE is often used in financial payments, DRM and other scenarios that require extremely safe operating environment and isolated sensitive data.

3.10 SoWitness – Decentralized Witness

In order to embrace the truly equality of rights and fairer incentives, SoPay is designing a new approach called SoWitnessMobile, that serve the block validation even on a mobile phone. This approach with good wish, to encourage more SOP holders who are general public to have fair amount of voting weight as large corporation to determine a valid block. Under the DPoB model, it is possible to achieve true decentralization for all witness to participate without miners needed. This new consensus design for voting weight take into consideration of (but not limited to) phone number, IMEL, IMSI, location, and the witness's incentive points (both gain and lost incentives). Plus, when using the mobile phone, the innovative design of MSB and Block purge make it possible to partake in voting and witness block validation with low energy consumption. The result will be verified and integrated back into the main chain when the mobile side chain has access to the Full Node in TEE.

Witness weight (W) is based on the composite weight of the three values below:

$$W = a*R + b*P + c*S$$

The larger W is, the more probable it is to be selected as the transaction witness:

1) Witness reputation value (R): malicious acts will lead to deducted pledged SOP and R.

2) Voter value (P): the number of voters in the community, for equal rights and incentive feedback.

3) The number of SOPs held by the voters (S): protect the biggest SOP holders.

Values of a, b and c in the formula above will be numerically adjusted along with the community growth, as an attempt for equality and freedom:
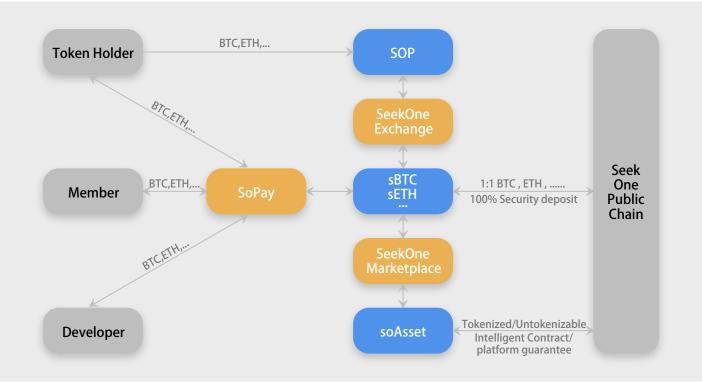
1) Equality: Users with SoPay have the right to vote for witnesses, and can cast votes to potential witness simply by using the SoPay APP.

2) Freedom: Any user who are using SoPay are allowed to join in witness competition. The number of SOPs and supporters determine the probability of being finally selected as the witness.

4 Incentives

4.1 Tokens

Token Holder	→ BTC,ETH,... →	SOP
Member	BTC,ETH,... ↔ SoPay	SeekOne Exchange
Developer	BTC,ETH,...	sBTC sETH ...

1:1 BTC , ETH , ...
100% Security deposit

Seek One Public Chain

SeekOne Marketplace

soAsset

Tokenized/Untokenizable Intelligent Contract/ platform guarantee

△ Economic incentives system

4.2 Members

Safe and easy digital payment

NO service charge

Have fun and earn digital profits

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4.3 Merchants

1) dApps who get verified by SoPay will receive certain amount of SOPs;

2) Conventional Apps can easily support digital payment through integration with the SoAPI;

3) Earn cryptocurrency with no need to master the blockchain underlying technology;

4) SOP will be consumed each time SoAPI being called and SoPay network is used.
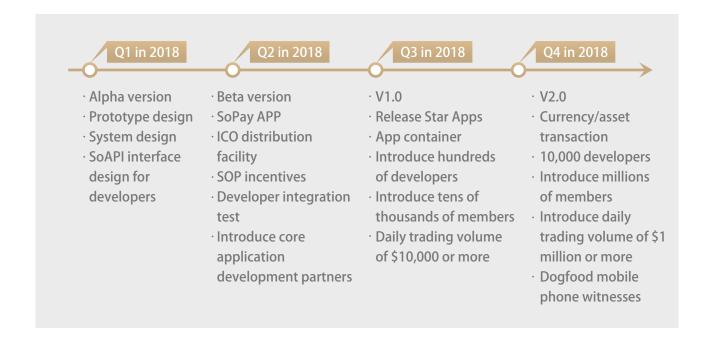
4.4 Witnesses

Install SoPay APP, top up SOP tokens and contribute to the community. That's the way to vote and determine validity of a block and earn more token revenue.

Witnesses who have location base info will have better credibility, more likely to settle potential disputes or quicker to verify a valid block.

5 Roadmap

Q1 in 2018
- · Alpha version
- · Prototype design
- · System design
- · SoAPI interface design for developers

Q2 in 2018
- · Beta version
- · SoPay APP
- · ICO distribution facility
- · SOP incentives
- · Developer integration test
- · Introduce core application development partners

Q3 in 2018
- · V1.0
- · Release Star Apps
- · App container
- · Introduce hundreds of developers
- · Introduce tens of thousands of members
- · Daily trading volume of $10,000 or more

Q4 in 2018
- · V2.0
- · Currency/asset transaction
- · 10,000 developers
- · Introduce millions of members
- · Introduce daily trading volume of $1 million or more
- · Dogfood mobile phone witnesses

5.1 Cornerstone Under Construction

Jan-Jun 2018

Optimized OpenAPI, to make it more convenient and simple for developers and merchants to integrate digital currency payment.

As the domestic blockchain and smart contract infrastructures are not well established. Such as the storage, computing and traction providers are under developing. SoPay will be released in the Japanese network environment firstly. The development progress will be disclosed on Github and the official website (https://sopay.org) for public scrutiny.

After the pilot test is completed In Japan, SoPay will engage the system migration according to the market demands gradually and improve infrastructure step by step

across the globe. In the case of the technical readiness especially the maturity of the EOS main chain and source code, it is necessary to build centralized nodes first before getting them onto the decentralized network later.

5.2 Gaining Tractions

Jun-Dec 2018

Based on the established infrastructure, the team will accelerate the function optimization of SoPay App OpenAPI to improve SoPay marketability and scenarios for better user experience.

After its launch, the platform will gradually activate tens of millions of users mainly from the game publisher partners, they will join the asset network and spending tokens with fun.
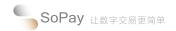
In the meantime, the SoPay operation team will keep exploring more content partners and retail networks for O2O cooperation.

5.3 To Infinity and Beyond

By 2019

SoPay will kick off the era of E-business with cryptocurrency after online game content access, as well as offline retail networks are perfectly hooked up. Thousands of E-business and skus will be listing on SoPay for our users can spend cryptocurrency (by then they should have some). And continuously expand the growth of the SoPay ecosystem.

6 Laws & Regulations

6.1 Operation Entity

The SoPay Team is committed to "decentralized organizations work far better than centrally-controlled entity". SoPay per se was born as part of the decentralized community.

To this end, SoPay had established the SoPay Foundation in Singapore with the approval of ACRA in accordance with the Singapore Companies Act. It is committed to running the SoPay network in an open, fair, transparent and non-profit way, and giving support to the SoPay developer team. The Foundation is operated by the board of trustees or management composed of qualified trustees, independent of any government. Singapore provides a favorable environment legally and financially. As the Non-Profit-Entity lawfully founded in Singapore, in accordance with local laws, the Foundation supports or participates in activities for public or private interests, instead of seeking any business profit. Its "profit", or regarded as abundance balance, will be kept as fund for market education related activities rather than profit sharing among key stakeholders.

SoPay is planning to initiate root service and set up the law-related content review board in every necessary country to ensure that the contents are legally and culturally correct locally. With legal compliance, the organization culture will be defined by the ethnic culture review board when taking featured culture into account provided by the traffic center.

7 Who Are We?

Mission	No.1 instrument of cryptocurrency payment
Vision	"Cryptocurrency pays all." Cryptocurrency is expected to realize real value through application, and to put into efficient and more practical use, eventually gets connected with the real world.
Values	Integrity builds the digital and real world both. Technology is by the people and for the people, and integrity is its foundation. The blockchain application in the financial world cannot survive without security in ethics, institution and technology.

7.1 Investment Institutions

Epoch Capital   CollinStar   Brink Asset   LD CAPITAL

EAGLES FUND   CODERICH CAPITAL   CHAINPE   Offshore Capital

XBTing   GENESIS   CAPITAL   Double Chain Capital

GeekBeans Capital   BYZANTIUM   WANDARIN   JINZE CAPITAL

Transference Fund   ANSH CAPITAL   Evolution Capital   K.capital

Hayek Capital   ICON FUND   HE · YUE · ZI · BEN   OneBit Capital

Lianying CAPITAL
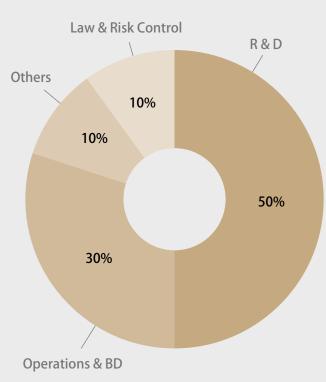
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8 ICO

8.1 Coins Distribution

In April 2018, SOP, ERC20

Total issuance: 4.5 billion SOP,

top-up 5% every year

Private offering: 18% (0.81 billion SOP)

Token Allocation

- Angel & Consultant — 4%
- Law & Tax — 3%
- Private Offering — 18%
- Team Member — 10%
- Community — 40%
- Foundation — 25%

Fund Usage

- Law & Risk Control — 10%
- Others — 10%
- R & D — 50%
- Operations & BD — 30%

9 Risk Tips

Policy risks

Regulatory policies are yet to be clear concerning blockchain and ico financing, which will probably cause losses for participants. Regarding risks on the market, if the digital asset market is overvalued as whole, investment will face even more risks that perhaps participants are over expected on the project achievement.

Regulatory Risks

Digital asset transaction, including SoPay, faces extremely high uncertainties. This field is so far yet to be well regulated, so E-tokens take risks in fluctuating and being manipulated by dealers. Individual participants, if inexperienced, may be hard to fend off shock on assets and release mental pressure due to market volatility. Although scholars and official media often give advice on prudent participation, handicapped by lacking regulatory measures and regulations, the risk is so far hard to hedge. It is undeniable that, in the foreseeable future, there will be rules to regulate the blockchain and E-tokens. If regulators have a hand in this field, it will perhaps have bearing on tokens bought during the swap period, including (but not limited to) fluctuation or constraints on price and convenience to sell.

Team Risks

Too many blockchain teams and projects join in the severe market competition, bringing heave pressure on project operation. The SoPay team, in order to stand out and be widely accepted, shall sharpen its own competence, make better planning, and rid off impact by competitors or even the oligopolistic. Malignant competition is inevitable.Thanks to the founder's relationship circle, a strong and energetic team is built composed of sophisticated specialists and technicians in the blockchain field.

A stable and cooperative team is critical to the overall development of SoPay. In the future, SoPay will probably be adversely affected by key member's quit or team conflict.

Project Management Risks

The SoPay founding team will do its best to achieve goals mentioned in this White Paper as an effort to extend its headroom. At present, the team has accumulated great business experiences. But given unpredictable elements in this sector, the existing business mode and mindset of coordination don't meet the market demands perfectly, thus hard to gain considerable profits. In the meantime, the White Paper will be improved along with updates in project details. If the updates fail to be acquired by participants, or the public are blind to the latest information about SoPay, participants or the public's lack of information will impede the progress in the project.

Technical Risks

First, SoPay is built on the basis of cryptographic algorithms. The rapid development in cryptography will inevitably bring potential risks in being cracked. Next, blockchain, distributed ledger, decentralization and tamper-resistant support the core business development. The SoPay team cannot fully guarantee putting any of these technologies into practice. Third, underlying bugs will be fixed by way of releasing packs to update SoPay, but the defects caused by bugs cannot be predicted.

Security Risks

In this regard, as the payment transaction goes up with mass adoption, this requires a high level of security of SoPay. E-tokens are anonymous and hard to trace so that they are easy to be manipulated by criminals or hacked or probably involved in illegal asset transfer. Presently, other underlying risks include: With advances in blockchain and the overall industry, SoPay will be confronted with unpredictable risks. Before joining in, please get full knowledge of the team background and the overall framewo and mindset of the project so as to rationalize visions on token swap.

9.1 Disclaimer Notices

The document is provided for informational purpose only for reference, and doesn't constitute any advice, instigation or invitation on investment in stocks or securities of related companies. Such invitations shall be made through confidential memorandum and abide by laws of securities etc. Contents of this document shall not be interpreted as forcible join in swap. Any action related to the White Paper shall not be regarded as part of swap, including obtaining its copy or sharing it with others. Participants in swaps shall meet age requirement and have full capacity of civil conducts to ensure validity of contracts signed with SoPay. All participants shall sign the contract voluntarily after having a clear understanding of SoPay. The SoPay team shall make reasonable attempts to ensure information in the White Paper is true and correct. In development, SoPay might be updated, including (but not limited to) the platform mechanism, token and mechanism concerned, and token distribution. Part of this document might be adjusted along with progress made in this project into a new version, which will go public on the website as a post or a latest version of White Paper. Please download it and adjust decision-making in accordance with the updates. SoPay expressly disclaims any liability of participants' loss due to (i) their reliance on this document's contents, (ii) inaccuracies in information herein, and (iii) any actions caused by this document. The team will work hard to achieve goals mentioned herein, which will not be a promise, though, due to force majeure.

SoPay acts as a valuable instrument to produce performance, rather than a kind of investment. Holding SOP tokens doesn't mean any ownership or right to control or make decisions regarding the SoPay platform. As a digitally encrypted currency, SOP doesn't fall into any of the following categories: (a) currency of any kind; (b) securities; (c) equity of legal entities; (d) stocks, bonds, notes, warrants, certificates or other grants of any rights.

Appreciation of SoPay tokens depends on the market discipline and requirements after the App is put in practice. It might bear no value, and the team makes no promise on appreciation, and is not responsible for any consequence from value fluctuation. Fully permitted by applicable laws, the team assumes no responsibility for swap-related damages or losses, including (but not limited to) direct or indirect individual loss, business loss, loss of business information or other kinds of economic losses. The SoPay platform shall conform to any regulatory rules and self-regulation declarations favorable for the healthy development of the industry. Any participation means complete acceptance and accordance with inspections of this kind. In the meanwhile, all information disclosed for inspection must be complete and accurate. SoPay has clarified underlying risks to participants. Participation represents clear understanding and acceptance of articles in detail and potential risks brought by the platform. Persons concerned shall take sole responsibility for their deeds.

10 References

DPoB《A Proof-of-Belief Cryptocurrency》

TEE《Trusted Execution Environment》

EOS Official Website

《What is EOS》

《the-difference-between-public-and-private-blockchain》

《Proof of Work (PoW) vs Proof of Stake (PoS) vs Delegated Proof of Stake (DPoS)》

《Atomic cross-chain trading》