

**TESSPAY (TESS INC.)
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TESSPAY: A UBIQUITOUS TRANSACTION SETTLEMENT SERVICE

Component and sub-component supply chain settlements (payments) are about to undergo a dramatic transition from the present state wherein payments down the chain are essentially manual (triggered by a manager or trusted party), to a blockchain protocol that mandates simultaneous payment of all component and sub-component suppliers when the primary party makes a payment into the chain. Using TESSPAY Smart Contracts a payment from the primary party in the chain will be automatically apportioned to all other eligible parties in the chain concomitant with payment by the primary party. The creditworthy financial condition of the primary party will facilitate lender involvement in the supply chain under the security afforded by the TESSPAY Smart Contract. Inefficient manual pay mechanisms will be replaced by programmed peer to peer algorithmically driven payment structures that will reside in sophisticated smart contracts and public or semi-public ledgers. Billions of cryptocurrency values are already transacted securely in distributed public ledgers. Bitcoin, Ethereum and other blockchain networks have demonstrated the viability of payments made without a central manager or a trusted party who endorses the payment events.

The TESSPAY transaction settlement service will be first applied, by way of proof of concept, to the global telecommunications industry to settle cross border voice call minutes transferred between telecommunications carriers. Transactions between telcos will be effected under TESSPAY Smart Contracts using fixed value closed loop *TESSPAY-Minute-Tokens*. Miners who will operate and secure the blockchain semi-public ledgers in support of these transactions will be rewarded by receipt of *TESSPAY-Minute-Tokens* dispensed by TESSPAY for work done.

Following a successful entry into the global telecommunications industry, TESSPAY will proceed to develop blockchain based settlement solutions for component and sub-component cross border supply chains such as those embedded in commercial aircraft fabrication, automobile production, electronic device assembly, retail supply chain, etc. As time goes by, TESSPAY anticipates that experience and know-how gained in these innovative endeavours will open opportunities for many more esoteric settlement solutions across a wide variety of industry settings.

GLOBAL TELECOMMUNICATIONS INDUSTRY

The global telecommunications industry is comprised of approximately 10,000 companies, of which about 1,200 corporations are Major Carriers, often publicly traded, and the other 8,800 entities are Smaller Carriers, generally private companies. The Major Carriers deal directly with the public and the Smaller Carriers whereas the Smaller Carriers have more limited dealings with the public and often deal mainly with each other. Dealings between telecommunications carriers are called "Wholesale Telecom".

The global top ten Major Carriers are recognizable names in order of size as follows: Verizon Communications Inc.; AT&T Inc.; China Mobile Ltd.; Vodafone Group plc; Nippon Telegraph & Telephone Corporation; Softbank Group Corp.; Deutsche Telekom AG; Telefonica S.A.; America Movil; and, China Telecom. These companies are the giants of the industry with millions of customers and billions of dollars of annual revenues. Other Major Carriers, while smaller than the leaders are nevertheless substantial enterprises.

A significant activity of the industry is placing long distance voice calls between parties in widely separated geographies. In more recent times these calls have been effected using Voice Over Internet Protocol (VOIP) technology, which has afforded Smaller Carriers the opportunity of participating in long distance voice transmissions. It is not unusual to find three or more parties involved in a cross border call from origin to termination point using VOIP technology. The involvement of intermediary companies in effecting the call is completely transparent to the caller and/or the recipient of the call.

The Wholesale Telecom business supported by VOIP technology tends to be a high volume low margin activity. Volumes are measured in minutes and currently aggregate a trillion minutes on an annual basis. Telecommunications industry revenue associated with cross border voice calls is estimated at \$110 billion and is believed to be growing at 9% annually.

The Major Carriers work on what is known in the industry as 30/30 terms: a thirty-day billing cycle and a thirty-day grace period from the billing date for payment. Smaller Carriers operate on shorter cycles e.g. 7/1, 7/7, or 15/15. Major Carriers generally won't extend significant credit to Smaller Carriers but expect to be granted credit on 30/30 terms. Smaller Carriers will extend credit to each other on a case by case basis but this is an uneven process. Major Carriers are highly trusted financially sound parties and, consequently, obtain credit in the ordinary course

of business without difficulty. For Smaller Carriers, lender credit can be problematic and dealings with each other can be constrained by lack of finance as well as lack of trust.

THE WHOLESALE TELECOMS PROBLEM

The Wholesale Telecoms segment of the industry is fraught with a series of issues that constitute an impediment to a more orderly and fluid conduct of business. As noted, Wholesale Telecom is a high volume low margin business, with margins often as low as 2%. Credit losses can seriously harm a Smaller Carrier's cash flow, profitability, solvency and, in extreme cases, viability. Most transactions are international with another Smaller Carrier in a foreign jurisdiction, making financial risk assessment difficult, time consuming and expensive. There have been occasions when customers have built up trust over time with a supplier leading to larger and larger credit limits only to eventually default either through deliberate fraudulent activity or from a more honest inability to pay. Owing to the chain of intermediary companies in many cross border calls a default a level or two below in the chain can reverberate through all the entities above with attendant adverse consequences for those extending credit down the line. Legal remedies for breach of contract or non-payment are expensive and cumbersome to pursue with no assurance of eventual payment. Credit insurance, where available, is expensive and the recovery process arduous, lengthy without great certainty of recovery if a dispute between the parties underlies the collection issue.

TRANSACTIONS ESCROW SETTLEMENT SERVICE

The name TESS may be considered an acronym for Transaction Escrow Settlement Service. The company, TESS Inc. was incorporated to develop a general escrow settlement service with an initial focus on the global telecom industry. The TESSPAY solution is designed to overcome the problems identified above.

The essence of the approach is for the industry to adopt a lender funded pre-payment process, whereby all parties to a cross border call have guaranteed assurance of payment within terms, inclusive of the lender to the transaction. Under this business model each of the parties to a cross border call, excepting the Major Carrier, will prepay any party down the chain for minutes purchased thereby eliminating the credit and collection issues that accompany the present approach to settling transaction values in successive layers of the call. The Smaller Carrier dealing with the Major Carrier will grant that party credit on normal 30/30 terms for minutes sold to the Major Carrier and look to a lender, to the extent required, to fund the payment it will, in turn, make to the next party down the chain for purchased minutes.

In practice, transactions between the carriers will occur using TESSPAY Smart Contracts and settlement prepayments will be made using *TESSPAY-Minute-Tokens*, which will be attached to the TESSPAY Smart Contracts. Under this structure, at the end of each 24-hour period, when the Major Carrier consumes minutes purchased in accordance with terms of the smart contract all the participants in the chain will see a release into their wallets of the *TESSPAY-Minute-Tokens* attached to their TESSPAY Smart Contract and will have these tokens available to enter other TESSPAY Smart Contracts or to exchange for fiat currency through the Depository.

The Major Carrier will not use *TESSPAY-Minute-Tokens*. On the due date of the 30/30 contract, it will pay the invoice of the first Smaller Carrier in the chain using fiat currency as it does at present, with one exception: the Major Carrier will make its payment to the Depository referencing the smart contract ID. From the perspective of the Major Carrier the only difference in the process from what is current practice will be the advent of the TESSPAY Smart Contract, which contract will not alter the obligations of the Major Carrier but will have embedded immutable payment instructions that will assure Smaller Carrier and lender alike that the funds remitted by the Major Carrier will go to a designated bank account of the fiduciary. This payment receipt will be the triggering event that releases *TESSPAY-Minute-Tokens* to the lender allowing them to either fund further TESSPAY Smart Contracts or to exchange for fiat currency through the Depository.

TESSPAY-Minute-Tokens will have a fixed value of \$1 USD per *TESSPAY-Minute-Token* and will be acquired by lenders or Smaller Carriers in exchange for USD's from the Depository operated by a major international bank. The *TESSPAY-Minute-Tokens* will constitute a closed loop system and only accredited telecommunications carriers and lenders will be eligible to acquire them from the Depository. This provision should alleviate most concerns that the system could be susceptible to money laundering by unscrupulous parties.

Under the arrangements envisioned by TESSPAY, payments can be effected in minutes worldwide on a 24/7 basis without fees. Invoices will be issued automatically per the terms of the TESSPAY Smart Contract and the prospect of disputes will be virtually eliminated. TESSPAY will maintain the code list ORACLE and will operate pass-through switching CDR verification service with associated reporting to ensure that all parties in the cross-border call chain are secured. It is important to understand that neither TESS nor the miners of the network will have visibility with respect to the parties to the contracts nor the rates charged for the calls that pass through the CDR verification pass-through switch. All TESSPAY Smart Contracts will be recorded and verified on a semi-public blockchain.

These processes eliminate the need for management by a central trusted party and allow parties who do not trust each other either morally or financially to transact securely and efficiently without incurring the cost of credit verification and credit insurance.

Participants will be free at any time after settlement of a TESSPAY Smart Contract to tender their *TESSPAY-Minute-Tokens* to the Depository and receive by wire USD's from the fiduciary agent.

TESSPAY SMART CONTRACTS

Smart contracts are computer protocols intended to facilitate, verify or enforce the performance of legally binding contracts between two or more parties. Smart contracts run on blockchain node networks beyond the control of the parties to the contracts, assuring the contracts will be executed as written once performance begins. TESSPAY Smart Contracts will initially operate on the Ethereum blockchain and will subsequently migrate to a semi-private network based on AION constructed by TESS' technical blockchain partner NUCO. The new network will be highly scalable and secured by a proof of stake protocol.

The objective of a smart contract is to provide security over execution of the terms of a contract that is superior to and less costly than conventionally monitored adherence to legal

agreements. For a financial arrangement, the advantages of a smart contract included minimized counterparty risk, almost instantaneous settlement times and increased transparency. In effect, payment streams can be highly automated to the benefit of all the transacting parties.

TESSPAY Smart Contracts will define: invoice date and interval; payment terms; rates; billing increments; code list; payment coordinates; authorized IP's; protocols—CODEC's

TESSPAY NATIVE TOKENS

TESSPAY will have an initial issue of native tokens (ICO) to fund development of the Telecoms Escrow Settlement Service and to allow the Miners to acquire a "proof stake" to enable them to receive rewards for work done in conjunction with operation of the decentralized blockchain driven network supporting the settlement transactions. During the first two years after launch of the Telecoms Escrow Settlement Service, should TESSPAY Native Tokens have an average trading value for any two-week period at less the ICO price native token rewards provided to the Miners will be supplemented by a make-up amount (not to exceed 50% of TESSPAY revenue) in fiat currency to ensure the Miners receive a total value equivalent to what they would have gotten at the ICO price.

After satisfactory launch of the telecoms settlement service TESSPAY will address other industries with global transactions involving component and sub-component supply chains such as commercial aircraft fabrication, automobiles and electronic devices. Certain native tokens will be reserved for issuance in respect of funding these initiatives.

TESSPAY intends to take steps after the ICO to have the TESSPAY Native Tokens listed on one or more recognized and trusted cryptocurrency exchanges such as Bittrex; Bitfinex; Kraken etc.

TESSPAY MINUTE TOKENS

TESSPAY Minute Tokens constitute a closed loop special purpose cryptocurrency. As noted, they will have a fixed value of USD \$1 and may only be purchased by lenders and accredited telecommunications companies for purpose of prepaying minutes under cross border Wholesale Telecom contracts. Such tokens will attach to TESSPAY Smart Contracts using blockchain technology.

THE DEPOSITORY

TESSPAY will enter into an agreement with a recognized international bank to operate as a fiduciary to hold fiat currency funds remitted by lenders and accredited telecommunications companies when acquiring *TESSPAY-Minute-Tokens*. Such funds may only be withdrawn by lenders and accredited telecommunications companies upon the surrender of *TESSPAY-Minute-Tokens* received by them pursuant to one or more TESSPAY Smart Contracts. Transactions with the Depository are anticipated to take place by wire transfer. For transfers out of the Depository, funds will be received within one business day of receipt of the transfer request. The only charges to be incurred by the telecommunications company will be the pass-through wire fee from the bank.

THE LENDER

TESSPAY anticipates financial institutions that lend to the telecommunications industry will be prepared to finance telecoms companies for purposes of purchase of *TESSPAY-Minute-Tokens* to fund Wholesale Telecom transactions. The Lender will be extending credit to a Smaller Carrier on the strength of a TESSPAY Smart Contract that the company has entered into with a Major Carrier with respect to the sale to the Major Carrier of a specified number of minutes at a set rate per minute with billing and payment terms no worse than 30/30. The Lender will implicitly rely on the credit of the Major Carrier and the security afforded by the TESSPAY Smart Contract that when the Major Carrier pays its bill, funds designated under the TESSPAY Smart Contract will flow to The Lender without exception.

The Smaller Carrier will use the funds advanced by The Lender to acquire from the Depository, the quantity of *TESSPAY-Minute-Tokens* needed to purchase minutes from the next Smaller Carrier in the chain to deliver the minutes sold to the Major Carrier. All TESSPAY Minute Token flows take place automatically under the TESSPAY Smart Contract without third party intervention.

THE MINERS

In recent years, Bitcoin mining has grown from a simple activity performed by individuals on PC's to a capital-intensive industry deploying specialized equipment and software. Very large mining operations tend to be in cooler climates to lessen charges for controlling machine temperatures and in areas where the cost of electricity is attractive. A concentration of miners is found in China and the United States. Overall the mining business has become very lucrative as the rewards for successful work performed have grown and the cryptocurrency industry expanded exponentially. Examples of major mining pool operators are as follows: AntPool; BTC Top; BTC.com; Bixin. TESSPAY however, believes the Bitcoin "proof of work" protocol to be extremely wasteful, accordingly, TESSPAY will adopt the much more efficient "proof of stake" protocol.

The Miners will play a central role in the *TESSPAY-Minute-Tokens* decentralized ledger system. They are responsible for grouping unconfirmed transactions into new blocks and adding them to the global blockchain ledger. They provide the necessary computing power to secure the blockchain in a manner that will make it impossible for an outside attacker to disrupt the ledger

of confirmed transactions. Each new block added will afford the Miners a reward in the form of *TESSPAY-Minute-Tokens*. The size of the Miner's reward will be related to a "proof of stake" concept whereby the reward will be proportional the number of TESSPAY Native Tokens acquired by the Miner either during the ICO or subsequently through an exchange. There will be two classes of miners: Light node miners – TESS will provide a simple software application that token holders can download and install on their personal computers. Configuration will be as simple as providing authentication to the user's existing TESS account; and Full node miners – these will be more sophisticated installations on dedicated servers residing in data centers.