ShuttleOne: Digital Finance for An Age of Programmable Money

Litepaper

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About ShuttleOne

ShuttleOne is a digital asset blockchain infrastructure company that builds systems that support governments, institutions and business to business platforms. ShuttleOne services the Southeast Asian region in remittances, microlending and trade financing.

The ShuttleOne Litepaper is intended to be purely informative and not exhaustive in its delivery. The Litepaper is not a financial advice, nor investment advice.

RISK WARNING ON DIGITAL PAYMENT TOKEN SERVICES

The Monetary Authority of Singapore (MAS) requires us to provide this risk warning to you as a customer of a digital payment token service provider.

- Before you pay your DPT service provider any money or DPT, you should be aware of the following.

- Your DPT service provider is exempted by MAS from holding a licence to provide DPT services. Please note that you may not be able to recover all the money or DPTs you paid to your DPT service provider if your DPT service provider's business fails.

- You should not transact in the DPT if you are not familiar with this DPT. Transacting in DPTs may not be suitable for you if you are not familiar with the technology that DPT services are provided.

- You should be aware that the value of DPTs may fluctuate greatly. You should buy DPTs only if you are prepared to accept the risk of losing all the money you put into such tokens.

Overview of ShuttleOne.Network

The ShuttleOne.Network brings together an ecosystem that allows for digital asset on/off ramps for digital assets with a protocol for decentralize asset financing.

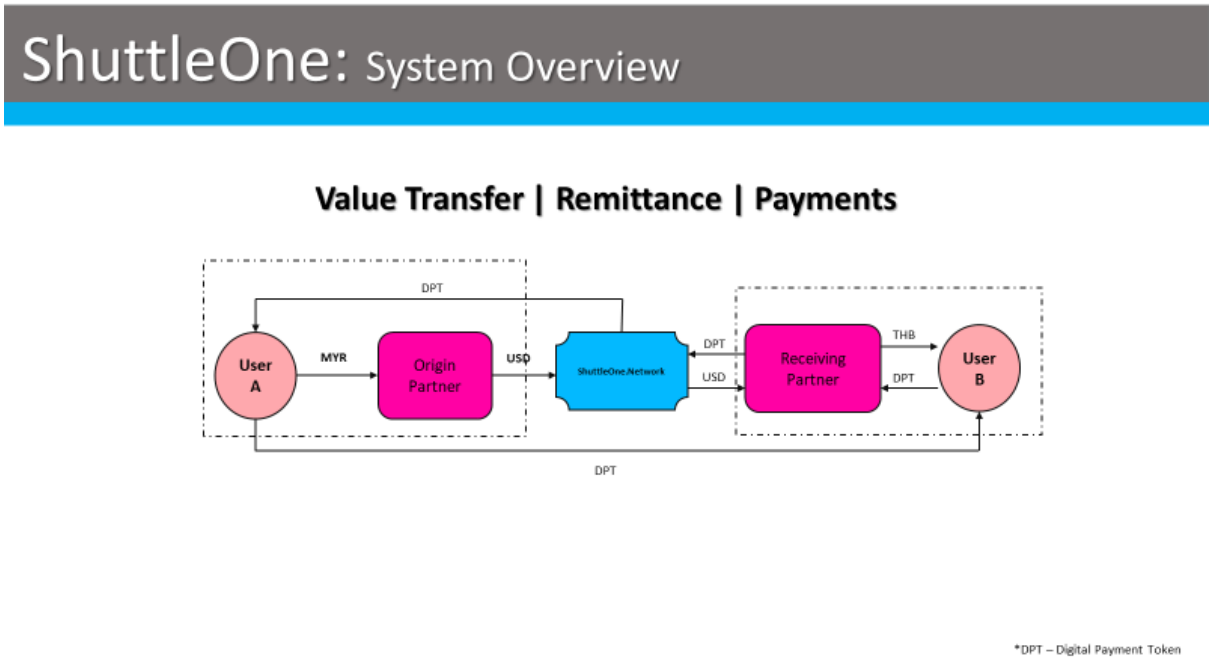


Figure 1 Fiat On/Off Ramps

Fiat On/Off Ramps allows for digital assets (i.e Digital Payment Tokens) to be exchanged for domestic currency of the intended destination of value transfer.

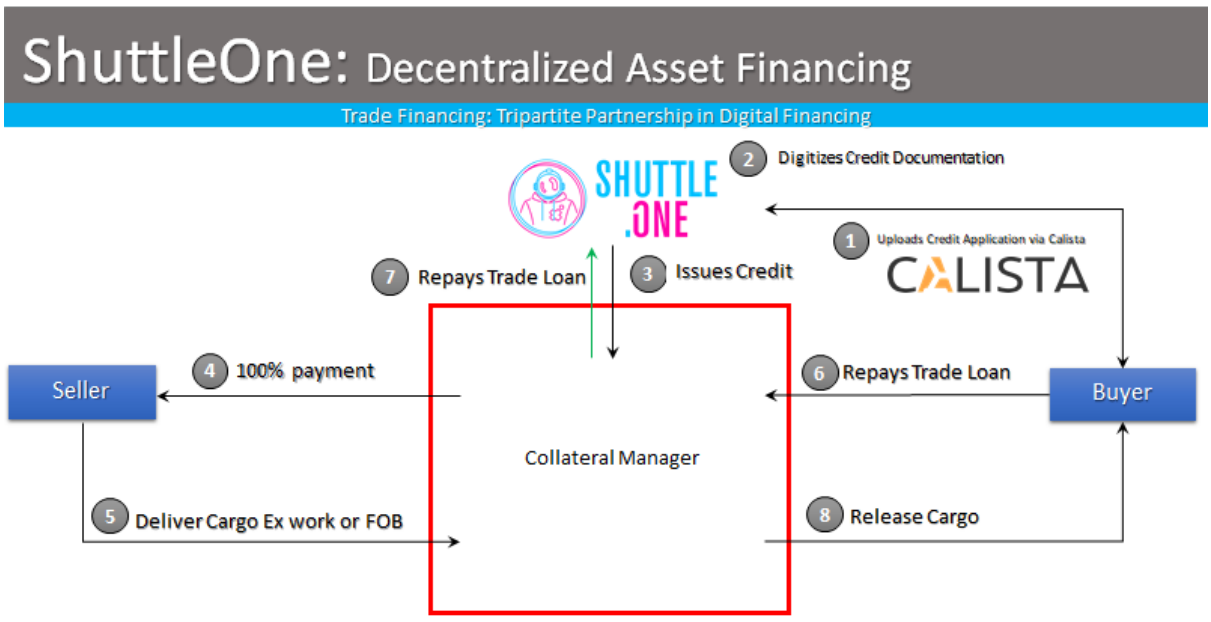


Figure 2 Decentralized Asset Trade Financing

Case Study: Product Overview

CALISTA™ powered by ShuttleOne (in partnership with GeTS Asia Pte Ltd)
Bringing together both digital logistics prowess and ShuttleOne's ecosystem, ShuttleOne's defi infrastructure supports CALISTA Finance by way of financial risk management in a A.I powered credit scoring for the financial and business viability of merchants in the supply chain with financial data.

ShuttleOne maps the fiscal health of the merchant applying for a loan alongside port operations data to get a complete picture of the business viability of these merchants in asset-based cargo movements.

Merchants can apply for a loan anywhere globally where GeTS has port and custom linkages. So far, CALISTA Finance powered by ShuttleOne has serviced more than 30 over merchants in a POC within Southeast Asia and China in over US$300,000 of trade financing.

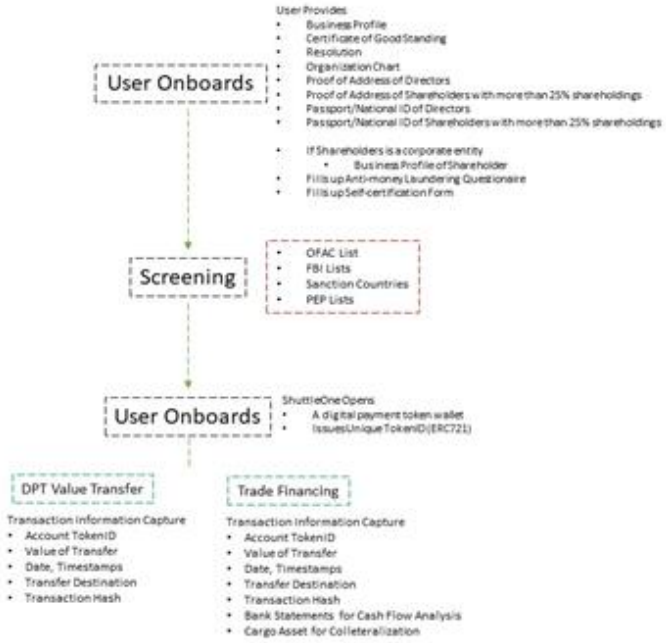
Port Operators can verify goods' and trades' legitimacy (i.e physical checks on cargo in storage awaiting shipping). This is achieved by strategic partnerships with port operators globally.

The data GeTS possesses provides oversight of cargo movement and powers financing decisions. Financiers have greater confidence to finance trades that they have sight over. Trade data is also used within financier's credit assessments. This provides them with a deeper understanding of borrowers from not only financial data but also alternative operational data. This sharpens their risk management of credit disbursement. CALISTA Insights also provides trade-related data to empower lending decisions.

On-Chain Risk Assesment: Risk Assessment Token (RAT, ERC721)

During the process of risk assessment and verification of cargo, ShuttleOne captures basic merchant information and tokenizes the merchants' financial data and port operational data into a non-fungible token in RAT. RAT tokens data are stored on chain and can be easily verified by parties within the supply chain logistics platform from operations to finance.

1. Data Captured:
2. Master Bill of Laden
3. Customs Declaration
4. Packing List
5. Agent Agreement
6. Buyer/Seller Details
7. Invoice of Cargo
8. Other Logistics Operational Data



Credit Model Methodology

Standard Scorecard

The hypothesis of the credit risk weighted model is as follows:

1. At any given random day towards maturity, the borrower has predicted ability to repay the trade financing

2. The methodology is a statistical model to predict quality outcomes of

    a. Default

    b. No-Default

3. Operational Data combined with Credit assessment of merchant provides an all-round analysis of fiscal performance of credit and scoring

Let be the probability that the event occurring where , the the odd ration can be defined as

$$Odds= p/(1-p)$$

Therefore, the credit risk weighted model is as follows:

$$\log_{f0}(Odds)=\beta 0+\beta\_1\ x\_1+\cdots+\ \beta nxn$$

The Weighted Evidence (WE) is utilized by applying operational data correlation using the Kolomogorov Smirnov (K-S) as a performance measure against standard deviation of the

calculated parameters given a coefficient for confidence that risk governance will decide over a given period of time.

Thereafter, the score card can be calculated with the following:

$$Score=A-B*\log_{f0}(Odds)$$

$$Score=(A-B*\ \beta0+\sum(-WEi\ *\beta\_i)$$

Where

- B -operational data regression coefficient of data attributes
- β0-operational data regression intercept
- WE-Weight of Evidence value for the given operational data

Operational Data is collected via platforms of operational partners where correlations between operational data of merchants are scored alongside standard deviation of cash flow analysis and weighted into a score percentage of a maximum of 1000 basepoints as a form of risk management combining not only credit cashflow analysis but also operational data of merchant in assessment for risk.

Aside from financial data and port operational data utilized for risk assessment, ShuttleOne also ensures process control and assessment to compliment these on-chain assessments as described below under Section 8.

Credit Application Token (CAT, ERC20)

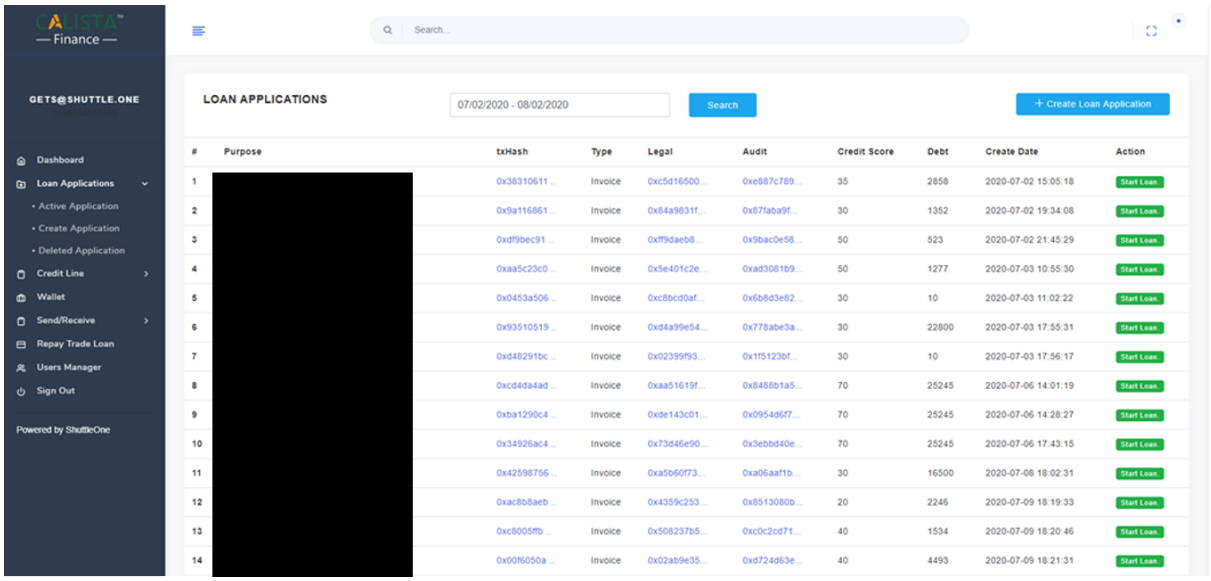
Merchants' data as risk assessed above are thereafter issued CAT token(s) according to the invoice of cargo requesting for credit.

Credit Application Token (CAT).

Addressable Yearly Cargo Assets: US$800bn
Average Yearly Interest Rate (APY): 9% APY
Trade Finance Tenure: 30 Days - 60 Days
Estimated Average Trade Financing Ticket Size: US$50,000

CALISTA Finance Powered by ShuttleOne

CALISTA Finance Powered by ShuttleOne takes advantage of the blockchain for basic financial services in trade financing and value transfers.



ShuttleOne was a connection into CALISTA to enable CALISTA Finance with partnered terminal/port operator in Singapore operational processes in ASEAN.

Goals

1. Utilizing alternative port operational data to improve credit scoring for merchants
2. Collateralizing cargo assets onto the blockchain complying with strong offline operational processes to safeguard defaults
3. Perform remittance/pay transactions in cross border trade financing in a compliant manner in digital assets
4. Operationalize Computer Vision, Algorithmic Credit Scoring to automate Financial Risk Management

Performance Summary

ShuttleOne conducted businesses in ASEAN wide between May 2020 - July 2020.

Countries

1. China
2. Thailand
3. Malaysia
4. Singapore

Total Merchants Interacted

50

Average APY on Loans

12% APY (0% Default)

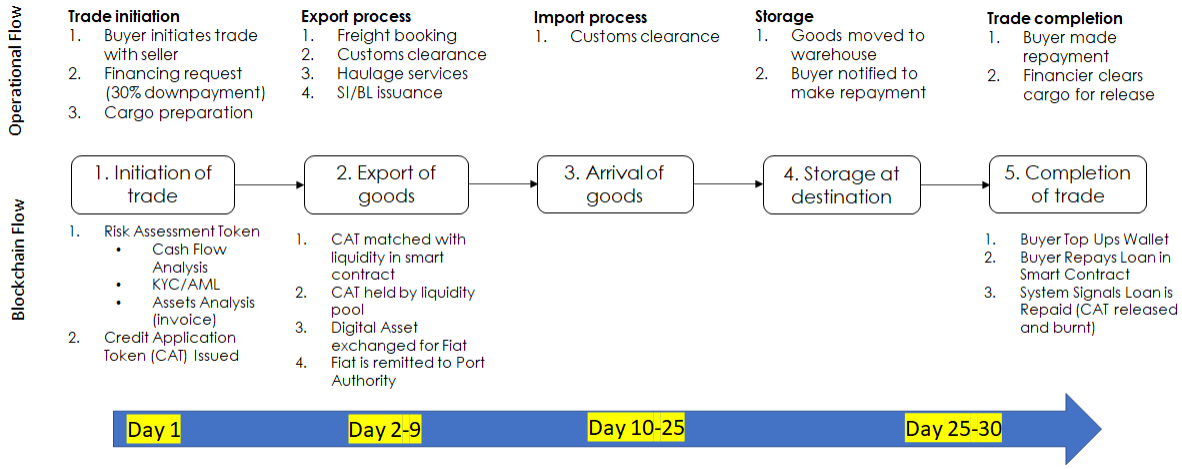
Total Loans Disbursed in Digital Currency (Dai)

US$143,432 (ShuttleOne)

US$6,636 (Institutional)

US$30,000 (Third Party Deposits)

Onchain & Offchain Management



Linkages of CALISTA systems into ShuttleOne

1. Initiation of Trade
    a. Trade documentation is uploaded into the ShuttleOne systems by port operators
2. Export of Goods
    a. ShuttleOne gets a signal within the cargo trade systems that cargo is prepared and ready for export

3. Completion of Trade
    a. Cargo Systems Signals Payment has been made to ShuttleOne's fiat off/on ramps and merchants repays smart contracted loans via Collateral Manager

The ShuttleOne Token (SZO)

OVERVIEW

Blockchain wallets powered by smart contracts are a novel way for traditional businesses to conduct cost efficient, convenient and speedy cross-border transactions. However, most of these blockchain wallets require the native tokens of that blockchain to conduct and facilitate these activities. This causes 2 impediments:

- **Unnatural to the lay man on the street**
  Users at this stage of crypto and fintech have limited knowledge on how these native wallets work. It goes against the grain of utility and increases friction for blockchain wallet utility. This causes a paradox as non-crypto natives do not and will not want to understand why a native token is needed for transactions (as no real world wallets have a need for these).

- **Subsidizing of user acquisition**
  User acquisition is generally a challenging exercise in centralized models, not to mention costly. However, native blockchain wallets increase user acquisition costs as every transaction eats into the profits of the pre-coded fees in ShuttleOne (1.5%).

In a decentralized ecosystem, the costs of computing is transferred from centralized datacenters (AWS, Google Cloud etc) to the users who want to take advantage of a better and more equitable financial tool. This reduces the costs of bandwidth, storage and security for next generation financial companies such as ShuttleOne. However, due to a lack of user education and awareness, blockchain companies are still impeded from persisting in this evolution and most fall back onto a centralized model.

Consequently, to reduce these costs further and going back to the original goals of not subsidizing user transactions. We moot to introduce the ShuttleOne Token ($SZO). Perhaps in another paradigm this would not be possible. But in a crypto related world this is entirely possible

Utility

a. To pay for gas fees (SZO/Dai/USDT/Eth) (savings of US$444mil)
b. SZO priced in Gas Fees (approx Gwei)
c. Regulatory Compliance in access to ShuttleOne products and services

Conditions for Issuance of SZO

a. Open a ShuttleOne Wallet
b. KYC Verified and Passed
c. 1st top up done (fiat to crypto or crypto to fiat)
d. Time Weighted Rewards on Liquidity Provision

The number of tokens that will be issued upon satisfaction of the above will be priced according to the price of the ethereum gas network at the point of time. We may choose to increase or decrease the number of tokens issued per successful

This further reduces the cost of network fees needed running ShuttleOne significantly.

Cryptoeconomics

SZO is designed to have 230mil total hardcap tokens in our smart contract of which more than 52% of the tokens are unminted supply. It is modelled with our initial number of users and partners within our current ecosystem to achieve this number within assumptions.

In the economic model, we reckon it is good to have a hard-coded inflation of 5% per unix time year in terms of new tokens minted to manage the adoption of the ShuttleOne mobile application. The inflation condition for new minting of tokens will only kick it after all 230mil tokens are issued and minted to maintain a supply of SZO called by business demand (i.e conditions of issuance).

Rationale of Inflation

We believe that good token issuance is tied to the velocity of business demand. In our case of a utility token, if there isn't a well-managed inflation supply, the token economy basically ceases to function after all tokens are minted. We do not see SZO as a store of value, nor a token for speculative purposes. SZO functions within the ShuttleOne ecosystem to enable our users to participate in the products and services upon proper KYC that we will introduce (for e.g cross border transaction). In addition, it allows ShuttleOne to maintain parity in terms of costs to the ethereum network without the users having to deal with ETH (which may be expensive for them to purchase, and not KYCed properly outside our systems).

Burn & Mint

In good crypto economics, consideration of a burn and mint model is necessary. This model allows token supply to increase or be taken out consistently to maintain parity within the commercial ecosystem of the business (i.e tied to business model). What we cannot anticipate at this stage is the level of speculation or irrational economic behaviour which we also see in the world of stocks and equity at the same glance.

SZO is minted upon topping up the wallet as part of the fees generated from that business activity (Stablecoin/SZO) pricing to be done in eth fees as small order books on the exchanges we will be listing on. Any difference between gas fees and SZO excess SZO will be sent to a smart contract to be burnt.

Further Consideration

While we have a simple and elegant burn and mint model, due process will be given in the coming year on the SZO token as a governance token to set rates and truly decentralized finance in further research and tests.