DSS: A Decentralized Stablecoins and Peer-to-Peer Trading System

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Abstract: In this whitepaper, We will introduce DSS. It achieved the decentralization of the stablecoins. Stablecoin USDi in DSS, will become the main currency in the blockchain network and in life. Peer-to-peer trading system in DSS, achieving secure transactions between strangers.

The system can ultimately achieve cryptocurrency price stability, peer-to-peer secure trading, free transfers, real-time confirmation, and millions of transactions per second.

DSS uses the technology of Bitcoin, Ethereum and EOS.

Background

The production of bitcoin and other cryptocurrencies has extraordinary significance, But there are still huge flaws: Price fluctuations are too large, Unable to exercise the function of value exchange. We believe, This is the main reason why

cryptocurrencies are not widely used. The volatility of the cryptocurrency price makes the funds with risk aversion preference not involved, and this part of the money is the highest proportion in the financial market. There are no ultra-low-risk, value-stable cryptocurrencies, It is also one of the main reasons why traditional financial institutions have not chosen to enter the cryptocurrency market. Although many blockchain platforms have been working hard to support the development of stablecoins, But they all adopt the method of credit issuance and asset mortgage, and the risk is very high.

Target

1.price stability

This is the most basic requirement for stablecoins.

2.Free transfer

DSS and USDi transfers should be free, High transfer fees reduce the frequency of people using cryptocurrencies.

3.Real-time confirmation

A transfer should be in real time. Waiting longer will make users feel worried, And make the stablecoins lose its advantage over traditional payment methods.

4.Millions of TPS

The goal of DSS is to become a widely used stablecoins payment system worldwide.

## Multi-token mechanism

DSS contains multiple tokens. There are DSS and USDi at this stage.

DSS ERC20 TOKEN is obtained by crowdfunding. After the DSS main online line,ERC20 TOKEN will be transferred to the DSS main network, Selling DSS to the virtual exchange can get USDi, This is the only way to get USDi.

## Decentralized stablecoins realization

## Consensus mechanism

We introduce a new concept: Proof Of Index(POI). The DSS price index is an index based on certain rules for the price of DSS against French and other cryptocurrencies, is a consensus, Just like the NASDAQ Composite Index, includes timestamp, price and volume. The DSS price index obtained by everyone at the same time is the same. If the index entered in a BP(Block Producer) is different, then the block produced by this BP at this time is illegal. The index is as natural as the timestamp, So that we all ignore its

existence. The DSS price index reflects the myriad of decisions made by people around the world, and these people don't know what other people are doing when they make the decision. DSS takes on the function of price discovery, also indicates, free market is the price determinant.

Virtual exchange

Virtual exchange is the core of DSS, is a system built-in account. USDi buying process, DSS holders send a certain number of DSS to the virtual exchange, and agreed price, The virtual exchange receives orders based on the quantity and price received, other orders within the time period of the same block, calculate the number of USDi that should be obtained. After deducting a small amount of handling fee, send USDi to DSS holders.

Virtual exchange calculates the virtual order book through the Depth Curve Algorithm(DCA).Parameters include trading volume, trading price, rate of price change and DSS price index. The USDi sell process is the opposite of the buy process. DSS was inspired by the contract design in Ethereum and the Bancor algorithm, revolutionized improvement on this basis. The most important of these is the addition of POI and DCA. The DCA effectively

determines the orderbook and the degree of slippage. When users buy and sell in a large number of virtual exchanges, they will get the corresponding slippage.

The virtual exchange combines the transaction price, the reaction time of the fund, the price psychological barrier, the rate of price change, the volume of the transaction, the depth, and the correlation between these factors. Virtual exchanges at a time,The portion of the purchase order and the sell order amount equal to the middle rate[(bidprice one + askprice one)/2]. The difference part of the order will be traded along the order book of the virtual exchange , The highest or lowest price of these trade orders will become the latest price . Everyone's counterparty is the virtual exchange. The difference is a "instance" deal : each order was executed separately and separately from the order book . Low transaction fees contribute to the price stability of USDi. The virtual exchange fees are 2%%- 20%%. A price limit order higher than the askprice one and lower than the bidprice one will be placed under the chain. For an order with a fixed price, the uncompleted portion will be refunded at 1%% of the cost . The virtual exchange dynamically adjusts the minimum order limit based on the amount and quantity of orders received. All designs ensure fluidity and

avoid performance bottlenecks . The virtual exchange realize value exchange across time and space.

People sell DSS to the virtual exchange, get USDi,use USDi to buy DSS from the virtual exchange. The virtual exchange destroys all received DSS and USDi, at the same time, issue the corresponding quantity of DSS and USDi. The virtual exchange have no assets and liabilities.

The median rate in a virtual exchange is synchronized hourly to the DSS price index's final 10-minute arithmetic average price. In the market, the middle rate and the DSS price index affect each other. It can reflect the impact of funds on prices, making USDi a perfect stablecoin.

The advantage of the DCA is that it does not depend on fluidity, all operations are transparent and are calculated by the system.
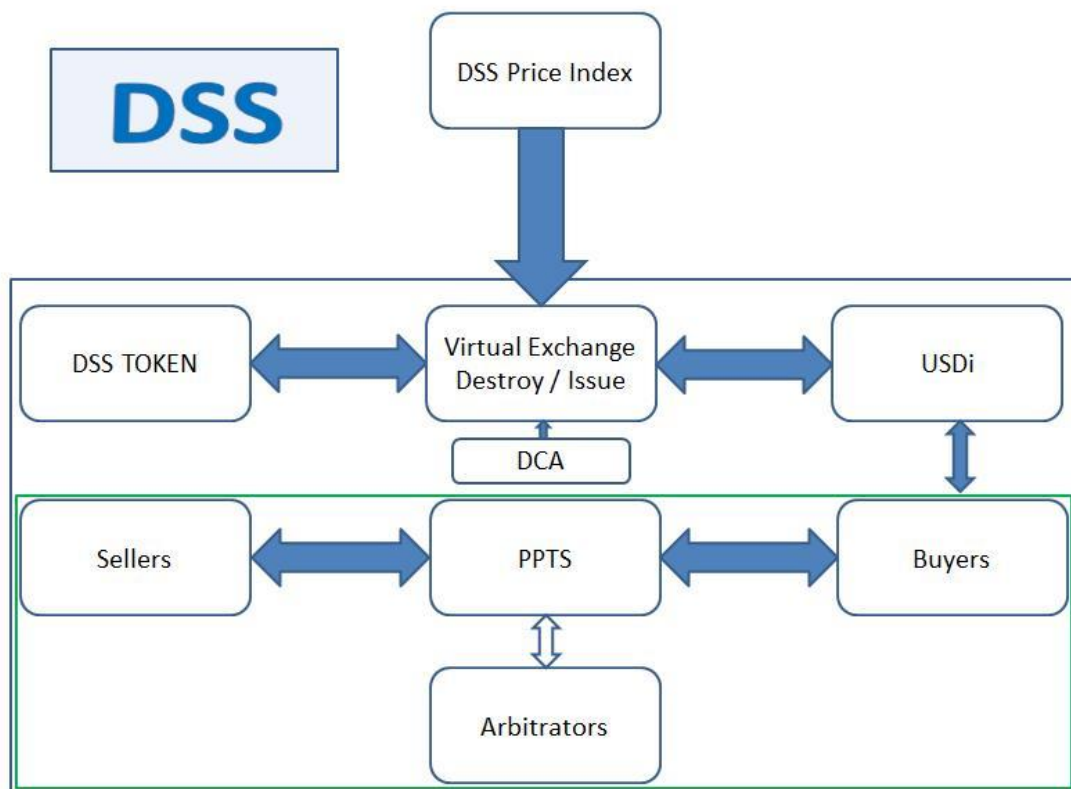
Theoretical Basis

DSS is based on The Law Of One Price and the Arbitrage Pricing Theory.

Arbitrageurs want real profits, find and discover price differences between DSS-USD and DSS-USDi trading pairs, sell and wait for the DSS middle rate to synchronize with the DSS price index to sell these assets. The Law Of One Price is forcibly driven by the arbitrage process, arbitrage guarantees USDi always anchors USD. Arbitrage is the power of spontaneous action, which is human instinct and cannot be stopped. USDi belongs to the money market and DSS belongs to the cryptocurrency market. In fact, in

the case of severe information asymmetry, temporary discounts and premiums are normal, and as long as there is sufficient liquidity, the discount and premium can be quickly eliminated.

We use examples to illustrate that the data here is hypothetical and ignores transaction costs.

Carl has 200 DSS. Now the DSS price index is 20.In the virtual exchange, the middle rate of DSS is 20 USDi. Carl wants to sell DSS to the virtual exchange for USDi and is willing to sell at a minimum of 19.8USDi.So Carl sends the order to the account address of the virtual exchange. At the same time, Linda has 2000USDi,She wants to buy DSS from The virtual exchange. After the virtual exchange received the order from Carl and Linda, calculated the net sales of 100 DSS. Linda will receive 100 DSS. While Carl's 100 DSS net orders will be sold along the depth chart for 50 at 19.9USDi and 50 at 19.8USDi, resulting in Carl's 3985USDi.The virtual exchange will destroy 200 DSS, 2000USDi, and issue 100 DSS, and 3985USDi in both transactions.

Feature

BP( Block Producer ) incentive

The fees charged by the virtual exchange will be awarded to the BP. To prevent resource abuse, some charge will be necessary for their service。 These benefits will be used as incentives for BP.

Technology

DSS was built using EOS technology and made major changes. Vote for 21 BP and 100 observers, and BP need to mortgage DSS for 5 years. Users cannot create contracts and DAPP. No need to buy resources. No 5% inflation per year. Account bidding only needs to mortgage DSS . DSS follows the most important bitcoin spirit: transparent, unchangeable, decentralized, secure. DSS has no constitution, cannot freeze accounts, and private key loss cannot be recovered. In addition to fixing the bug, the BP's changes to any rules, data, and code of the DSS will directly lose the BP identity.

When faced with a malicious attack, the malicious block cannot be brought into an irreversible state unless all BP are controlled. When multiple BP are controlled by an attacker,100 observers and others will find these malicious attacks, vote it out, and select new BP from 100 observers.

After averaging 0.25 seconds of broadcast time, It can be considered that the transaction has a certainty of 99.9%.Provide 100% irreversibility confirmation within 1 second. DSS and USDi transfers can be confirmed in just 1 second, which can be considered real-time.

If EOS technology proves to be unsafe, DSS will use Ethereum technology. DSS will adopt Ethereum technology and improve it: it will shorten the time it takes to get out of blocks, users cannot create contracts and DAPP, and create new blocks without adding additional DSS. This will reduce performance but improve security.

The above technology can fully realize the construction of DSS.

Ease of Use

DSS simplifies USDi usage. Users can easily use USDi at any terminal。 A typical USDi mobile QR code payment takes less than 10 seconds. This includes the time to open the app and confirm it. This is very important. People just need to use USDi and don't care about the value conversion process.

Capital capacity

When USDi is widely used and more USDi is needed, DSS meets people's demand for USDi through market capitalization growth. This is determined by the most basic principles of supply and demand in economics. The demand for USDi is directly, quickly and accurately reflected on the DSS price index. There is no upper limit on the amount of funds that DSS can support.

Mortgage

All resources in DSS are obtained through mortgage. It consumes the time value of the money. In addition to using the account, other mortgages need to specify the time. Up to 5 years. In addition to campaign and bidding, the amount of DSS required to be mortgaged is automatically calculated based on the network state.

Stable system

No other contracts and DAPPs make the system more transparent, more efficient, more stable, less buggy, safer, and simpler.

Mobile payment

DSS will provide USDi payment interface, QR code payment, NFC payment, social payment and other solutions.

Global USDi payments

USDi will become the payment method used by websites and apps around the world. Let people use USDi directly in their lives and business practices. This is our important goal.
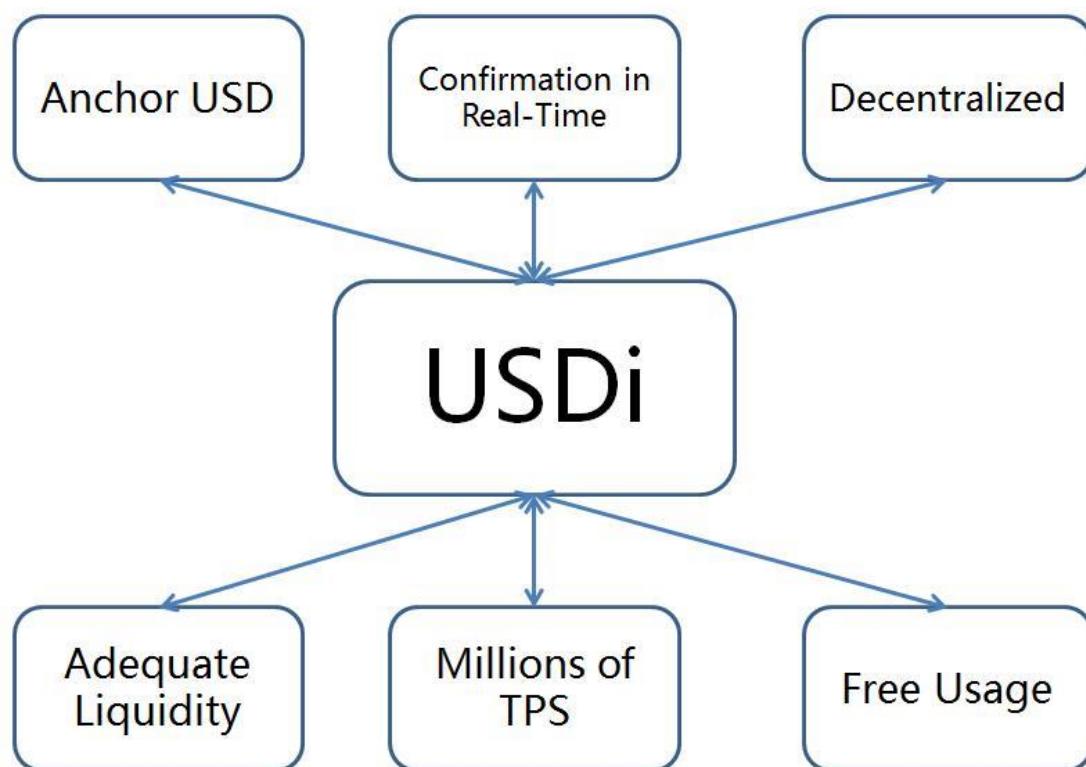


Peer-to-peer trading system

PPTS is a system built-in account. PPTS guarantees the security of the buyers and sellers' funds and is a fund transfer station. Buyers

pay first to PPTS,PPTS will transfer USDi to the seller's account after confirming receipt of the goods. PPTS can only use USDi at this stage.

Counter

The seller gets resources by mortgaging the DSS and using the counter function.

The counter includes an identification tag for inputting information interfaces for multimedia content, for storing transaction information, small storage space for both buyers and sellers to leave messages and ratings, and other necessary functions.

Sellers need to pay a 10 % margin to PPTS to sell merchandise.

If the buyer and seller have a trade dispute, they can apply for arbitration. The arbitrators were randomly get involved, requiring at least 9 arbitrators to vote, with the majority to win. The applicants of the arbitration need to pay 1%-5% of the fee, which is paid by the losing part. The benifit will be obtained by the majority and BP.

The arbitrators practice points and hierarchies

Obtaining the identity of the trainee arbitrator by mortgaging EOS. Before becoming a formal arbitrator, one can only vote but receive no gains and the voting will not be scored. The first batch of arbitrators on the main line directly obtained official status. The identity of buyers, sellers and arbitrators are always invisible on the internet, and voting information is hidden before the results release. Arbitrators earn points by voting correctly (the majority party), they can handle with larger transaction disputes if they get more points. A failure vote (the minority) will reduce the points and it determined by the amount of the transaction proceed.

The above is a method and theory needed to implement a decentralized stablecoins and peer-to-peer trading system.

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