NextyPlatform

Nexty Public Blockchain

Whitepaper | v3.0

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Contents

Introduction

A future of payment would be completely different from the traditional one. Future payment refers to when people can make any purchase without cash, anywhere, at any time and without any transaction fees. Foreseen as a mean of future payment, Nexty shall support businesses of all sizes and scopes to overcome barriers of trading, revolving around three deciding factors:

- Instant Transfer
- Zero Transfer Fees
- Price Stabilization

How can Nexty do this?

Nexty = Ethereum Open Source + DCCS Consensus Algorithm

Ethereum was created in 2015. Since then, it has become one of the most successful blockchain platforms among the others. Ethereum's core feature, smart contract, distinguishes it from Bitcoin. Developers can build dApps on Ethereum that can serve different purposes: wallet, finance, entertainment, marketplace, and so much more. There are thousands of them were built and running on Ethereum. However, new improvements are necessary if Ethereum becomes a payment platform.

Transaction fees and time of Ethereum are problematic for a payment of the future.

Implemented on Ethereum source code, Nexty shall support other dApps which are running on its predecessor, to swap to Nexty easily. These dApps will benefit greatly from Nexty core features: Instant Transfer and Zero Transfer Fee.

Problem

The modern banking system, although made some adaptation from ever changing technology, still has major setbacks, especially in international transaction. Cross-border payment processing corporations i.e Visa, Mastercard, Paypal and Stripe are invented to handle such problems. However, the fees are so high, which can reach 5% for each transaction. This often requires frequent travelers to bring cash along with their trips. Cryptocurrency has been drawing a lot of attention recently, although it is 'evaluated' to be the solution of the above backlogs but has not really solved them. Some Cryptocurrencies has reduced international settlement time to near-instantaneous threshold, but soon after, it became overloaded when the number of users increased drastically; not to mention some is lacking decentralization which people love in Bitcoin and Ethereum.

Vision

Leica is an intern. She is new in the city, carrying a small luggage and her phone. She has been in contact with her landlord Jimmy to discuss sub-renting his studio apartment. After receiving the apartment's location and pictures, she transferred the deposit to Jimmy's Nexty account. On handover day, they set up items of the existing digital contract established by Nexty's partners. To accept the contract and confirm the payment on a period of six months, Nexty just needs to scan the QR code on Jimmy's phone. After that all other steps will be performed automatically. All daily payment activities of Leica are that simple. From food to fashion, or other expenses can be performed through Nexty's account by easily scanning the QR code.

Jimmy has his own business, importing large amount of lamb from other countries to sell in the domestic market. Every time performing an international transfer to a business partner abroad, it requires a lot of time with high transaction fees. However, with the help of Nexty blockchain, Jimmy does it quickly by the partners belonging to the ecosystem of Nexty in terms of creating and following LC. The Contract's articles are intelligently formatted under the electronic form.

This can be well reflected by this new business transaction stream. Jimmy recently signed a contract with Lambrovider, a lamb-exporter in New Zealand. The disbursement is guaranteed, and payments are fully made every point the action is compliant with the contract.

Lambrovider has a bunch of orders this year. With its limited cash available on account, they are not able to gather enough lamb meat to export. They have worked with ecoBank, one of the partners in the Ecosystem of Nexty. Since ecoBank could verify that the contract with Jimmy is reliable and they are able to reimburse the payment, the loan was quickly approved. Everything needed was the information of digital contract between Lambrovider and Jimmy.

Mission

Nexty wants to create a blockchain platform for:

- The unbanked people who doesn't have access to the banking system.
- Travelers that need low-cost international financial services.
- Business owners who want to accept cryptocurrency payment.
- Anyone that requires a contract that execute the terms inside automatically without any third-party.
- Innovators who need fast and low-cost transaction for their decentralized applications (dApps).

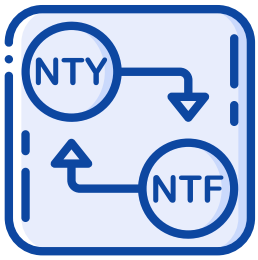
Nexty blockchain will integrate all the necessary dApps, online retailers, and businesses to create an ecosystem that allows people to transact freely and instantly. A future where money from Kenya travels to Singapore in a matter of seconds. Since the outburst of privacy violation scandals, Nexty shall be an autonomous blockchain that allows our users to monitor each other on the network. Furthermore, the network will be entirely open-source. Developers, freelancers, and businesses could advance the network by building new and pragmatic dApps, that has the necessity for instant transaction confirmation with minimal fees.

Solution

Nexty understands the importance major blockchain networks, so our solutions only seek to provide users with simplicity and security while interacting with blockchain technology.

Appendix

NTY	Nexty Coin
MNTY	Package equivalent to 1,000,000 NTY
NTF	Nexty Foundation Coin
DCCS	Dual Cryptocurrency Confirmation System
VDF	Verifiable Delay Function
RNG	Random Number Generator
VM	Virtual Machine



Dual Cryptocurrency Confirmation System

Fast and free are the first and foremost vital feature that Nexty harbored since the ICO. Our consensus, Dual Cryptocurrency Confirmation System includes two types of Cryptocurrency operating concurrently. The former called NTY, is the main cryptocurrency for daily transactions. The latter called NTF, is for transaction confirmation system. Transaction confirmation system is built on a peer-to-peer network with specific criteria to meet operational requirements. The breakthrough here is that instead of charging per transaction, those who are the holders of 50,000 NTF will be able to set up a sealer and get rewarded with a small amount of NTY at the end of sealing round. This allows the transaction fees to be zero while still guaranteeing the benefits to the persons who contribute to transaction confirmation system.

Any sealer who had deposit sufficient NTF into Governance can become a sealer and enter the sealing round. They will be shuffled randomly The process of selecting a set of sealers is simple. Essentially, there are n eligible NTF holders enter the sealing round. They will be numbered from 0 to n-1 as the sealing id, and each id is calculated based on a hash to ensure the randomness. Then the sealer will be picked by the following formula:

$$\sigma \equiv (v - block) \bmod \Pi$$

v is the current block number that is being sealed.

block is the canonical block number when the sealing round started.

Π is the total number of authorized sealer when the sealing round started.

If the σ number equal to the sealing id, then who has that sealing id will seal the block, followed by the subsequent sealers based on the order imposed by the random number generator.

Specifications

Coin	NTY
Presale Date	December 12, 2017
ICO Date	December 19, 2017
Transaction Fee	0.00 NTY
Block Time	2 seconds
Circulating Supply	~ 151,595,800,000 NTY
Total Supply	180,000,000,000 NTY

Nexty Foundation Specifications

Coin	NTF
Available on	August 12, 2018
Available for	Holders of the first 10,000,000 pNTY
Maximum Supply	10,000,000 NTF

Governance

The original model of Proof of Stake(PoS) requires sealers to stake into the network, which in turn determines the percentage of successfully mined blocks for every sealer. With DCCS, Nexty separate the responsibilities of each token. For only the first 10 billion of NTY joining Smart Staking program within 3 months: 10,000 NTY in the wallet will have 1 NTF generated automatically. Only NTF holders will be given the right to be sealers and confirmation machine for NTY.

> For a full sealer with 50,000 NTF, the NTY rewards for each block is:
> (180,000,000,000 / 365 / 86,400) * 2 = ~ 11,415 NTY / block

However, NTF holders do not have the right to vote for Nexty blockchain decisions in the future, such as block size upgrades, mining speeds, transaction confirmation. The rights will belong to NTY holders with fair votes, hence the creation of Nexty Governance.

Governance sole purpose is offering Nexty users the ability to regulate the network activities including mining pool creation and vote. Because of the limited number of NTF, wholly owned sealer is uncommon. Only users who invested in Nexty during the ICO could possess NTF, which hinders the availability of NTF on the market. Poolmaster is an addition to Nexty Governance, that grants users the ability to support the network and get rewards based on their contribution. Every pool needs 50,000 NTF to run, exceeding this amount won't give the sealer more rewards. Any user could create a new pool and get a predetermined portion of the sealing reward.

Trustless Stablecoin

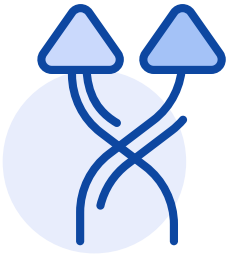
Stablecoins was invented to be a solution for cryptocurrency mass adoption. Essentially, stablecoins are pegged to a fiat value, usually $1.00, with the purpose of mitigating fluctuation in cryptocurrency investments. Collateralization with fiat currency or cryptocurrency will maintain the pegged value around its place. While it has one leg in the decentralized area, the other leg is still buried in the centralized bank. Fiat backed stablecoins like Tether (USDT) has raised some serious trust issues, because of the concern that it doesn't have enough fiat currency in reserve to keep its 1:1 peg.

Moreover, Some of earlier elastic supply stablecoin attempted to bring centralized banking model to the cryptocurrency (like NuBits, Basis or even Nexty Smart Staking to some extent). But the critical failure come from the fact that centralized banking rely on the growing economic, so they don't have to permanently deflate a fiat supply, they can just borrow money from the future (using bonds), and expect the economy will grow, along with the new demand. In cryptocurrency, especially in the early adoption state, demand can be decreased to zero, and there's nothing wrong with that. A working elastic supply stablecoin needs to deal with all the changes of demand, in the best and the worst case scenarios..

Not only rewarding people for joining the network, Nexty incentivizes them to stay. Our stabilization procedure consists of 2 coins: NTY and NewSD. NTY holders represent the contribution to Nexty ecosystem by transactions confirmation, capital investment or providing service to the network. They are rewarded with capital gains when the network grows. NewSD holders represent the customer interacting with Nexty services, given prioritized protection by the network.

When the absorption mechanism is triggered by any fluctuation from the market, NTY holders are responsible for ingesting the fluctuated price by converting between NTY and NewSD. Market order issued by the consensus will automatically fill enough buying/selling NewSD orders from the highest bidders or lowest askers. An x% rate expansion will convert NTY to at most %x of NewSD supply. A c% rate contraction will convert at most %c of NewSD supply to NTY. Exchange rate is determined by the market itself, via system exchange orders. This means any changes in the price of NewSD would be absorbed by pushing the fluctuation onto the supply of NTY. Additionally, market orders will match from the highest bidder downwards, until the absorption amount is filled. For example, when an order from the market requires 100 NewSD to be minted, with the price of $0.000017 per NTY, anyone who's willing to sell 5,882,353 NTY will match that order; then 5,882,353 NTY will be converted to mint 100 NewSD, and burnt afterwards.

When the network grows, meaning that demand for NewSD will increase. The system will activate absorption phase to convert NTY to NewSD, which increases the price of NTY. All NTY holders have the responsibility to stabilize the network, and greatly benefit from it.



Unbiasable Randomness

Randomness is crucial to many applications from real to the computer world, centralized to distributed system, and now to the blockchain world. Unfortunately, distributed RNGs are susceptible to prediction and biasing, including Nakamoto Consensus, Private VRFs, PVSS, and Unique Threshold Signature. Verifiable Delay Function is the only known solution to a truly unbiasable randomness, and it's now available for both the new Nexty consensus and user smart contract. Systems and applications secured by VDF have the following valuable properties:

- Truly unpredictable and unbiasable.
- Minimal security requirement: one single honest participant can secure the whole network.
- Energy efficient.

Nexty consensus uses VDF to generate random numbers, so the result is not predictable nor biasable by any adversaries. It minimizes the risks of malicious sealers and protects the network. The consensus is designed so that every time a VDF output is found, the sealing queue will have a new random set of sealers. VDF will also be the backbone for many future applications that require reliable randomness, whether it's an on-chain smart contract, dApps, or even traditional centralized applications. It could be a voting app to elect official candidates to a committee; or another app to generate random numbers for a lottery company. There are myriads of use for an unbiasable randomness generator.

Cross-chain Relay & Lightclient

In the near future, different blockchain platforms shouldn't restrict user's activities only inside that chain. They should be able to communicate with each other, even though they have different protocols and token standards. Acknowledged this, Nexty proposed cross-chain relay and lightclient as our future development plan.

Cross-chain communication is not an easy task, because the protocols of the involving blockchains do not support it. Relaying chain data and lightclient both require a protocol for the client to easily verify any data contained in the blockchain with only a small part of the chain data. A relay contract is also a light-client with even more limited resources. Eventually, cross-chain relay will allow users to verify Ethereum transactions on Nexty blockchain.

Lightclient is the vital part of the cross-chain relay protocol. The conventional way to verify any transactions on blockchain is including every block from the genesis block to the current block. That is infeasible because the whole blockchain could be upto 30 GBs of data. Lightclient is a solution to reduce the size of the blockchain by containing and verifying only the blocks that affect the consensus. It is able to authorize any blocks can be relayed with much less data than the total data of the blockchain.

Future Development

Nexty is not a destination, but rather be the process of constant development and innovation. Many core technologies and features will come to the platform to adapt to new communities and markets. The next upgrade of the protocol will focus on improving the contract language and storage model to support many dApp designs and patterns, including (but not limited to):
Distributed Storage Model
Asynchronous Contract Call
Scheduling and Event Handling
These upcoming features will be helpful tools for freelancers, developers, and businesses to seamlessly build their dApps which helps expanding the ecosystem of Nexty.

Roadmap

Please refer to Nexty homepage for more information about the roadmap at nexty.io/roadmap/

Conclusion

Achievements

Since 2017, Nexty has completed many milestones set both inside and outside of the roadmap including:

- Nexty Consensus: DCCS
- Mainnet Release
- Smart Staking
- Nexty Wallet App
- Multisig Wallet
- Nexty Govenance
- Sealing Pool
- Unbiasable Randomness
- Decentralized Trustless Stablecoin
- Relay-friendly Consensus

Epilogue

Although Nexty blockchain is auspicious, even competitive to similar blockchain platforms, lack of adoption is still presenting a hindrance to our forthcoming development. Possessing adoption weapons and partnerships with our strategic allies such as EzPay distinguishes us from others. Nexty hope that we could find and collaborate with more and more platforms and businesses that need our exceptional features. Nexty will persevere until the vision of the payment blockchain platform of the future is fulfilled.

Acknowledgement

Nexty Public Blockchain would like to thank the effort of the board of executives, the development team, the marketing team, and the board of advisors for their tireless contribution to this open-source project.

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