BLOCKNODE

BLOCKNODE WHITEPAPER

Decentralised Employee and Customer Reward System

Contents

abstract

Bitcoin's demand has increased exponentially over the last few years and it has pioneered the way for the production of various well-known "altcoins" including Ethereum, Dash and Monero, all offer something new to the cryptocurrency space. However, just as prevalent, are tokens that offer wild and fanciful road maps, throw buzz words around liberally and harbour a value system rife with dishonesty and greed. They are essentially money grabs with no intention or sustainable plan to follow through on their promises.

The philosophy of Blocknode is inspired by a famous Bob Dylan quote: "To live outside the law, you must be honest." We believe the building blocks to revolutionising the financial system, as we know it, have to be built by honest and transparent projects with real world purpose. Blocknode aims to give back and reward the community that embraces new technology. As more businesses embrace decentralisation, payment and loyalty systems also need to evolve.

What follows is a clear and concise demonstration of the benefits and value of Blocknode, and how we intend to succeed block by block.

INTRODUCTION

Loyalty programmes are an integral part to the success of many businesses and prevalent in all industries. The desire to be rewarded and recognised is an eternal human trait. Members of these programmes also show more potential than the average consumer or employee for a more significant relationship with the business in the future. 65% of loyalty programme members would prefer their rewards as points or another currency, and as we transition into a more decentralised world, it is only natural that there should be a rewards system to complement.

65% of loyalty programme members would prefer their rewards as points or another currency

Research tell us 72% of US online adults belong to at least one loyalty programme and more than 60% of both younger and older millennials who belong to loyalty programmes agree that they make them feel more loyal to the brand.

Six years into the age of the customer, power is shifting from organizations to customers, driving more digital disruption, encouraging hyperadoption, and compelling more organizations to embrace customer obsession. All companies will have to evolve their operating model and pivot to customer obsession. This attitude will also needs to filter through to every employee in the organisation - as a rewarded and valued employee tends be be loyal and carry brand values meaningfully.

The Blocknode network and rewards system can be adapted for both consumer and employee reward programmes, depending on the business' need.

Blocknode is a 2nd generation cryptocurrency and offers some new features over traditional cryptocurrencies like bitcoin: By setting up a masternode (which we will go into later), the business will be rewarded themselves, by generating new coins and will thus be able to pay the loyalty programme member from newly produced money surplus to income revenue.

## ONLY 15% OF REWARD PROGRAMME MEMBERS REDEEM REWARDS WITHIN A MONTH OF EARNING

and 27% of "save-for-later" consumers accumulate rewards on cards until they're valuable enough to redeem -

which is great because in our system the member is also rewarded with more coins if they decide to hold onto the reward for a while in a special wallet.

Of course the benefits for using a cryptocurrency as a reward payment are numerous and we will try and go though some of them in the pages that follow. However, just briefly, the currency functions as a reward system and it knows no borders, is lightning fast, extremely secure, and is not controlled by any one entity. Tokens can be exchanged for bitcoin which in turn can be exchanged for FIAT - to spend anywhere - but members are rewarded for keeping them and helping the network grow. Double rewards!

This is what Blocknode is offering, and we will work with individual businesses to help them adapt to a new way of doing things.
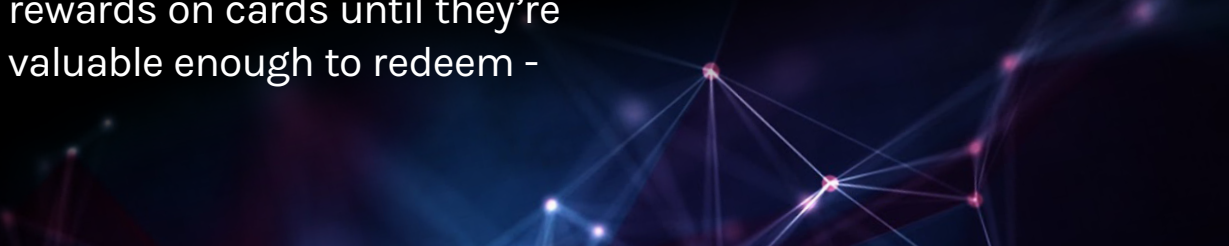
USE CASE 1

Bob is in the advertising industry - he has a small but successful agency called "Agency X" with 16 permanent staff and a pool of freelance staff around the world. As the agency has continued to grow and the workforce has expanded, Bob has decided he'd like to reward his employees somehow, and he chooses the Blocknode platform.

The first thing he needs to do is invest in a Blocknode Masternode by purchasing 100000 BND tokens as collateral. With the help of the BLocknode team he sets up his customised Agency X wallet and masternode server and he begins to generate BND tokens - the rate at which is described further on in this paper.

The Agency X employees also set up their own Blocknode software wallets so that they can receive rewards.

After the next big project is completed by the team, Bob decides he has generated enough tokens and he'd like to reward his team. He sends out the BND tokens he allocated to each staff member and they arrive almost instantly.

The employees can choose to keep their tokens in their special wallet and in turn generate even more BND tokens themselves - through the proof of stake mechanism - or spend them online, exchange them for Bitcoin, or even convert into their regular national currency. (Further down the line, users will be able to do some of this directly in the Blocknode wallet.)

Bob still has his initial investment safely in his Blocknode masternode and has been able to reward his employees with the newly generated tokens - he is happy and his employees are too!

USE CASE 2

Mary has an online store selling various beauty products and wishes to implement a loyalty rewards program for her customers.

She also decides to use the Blocknode platform and as in the case above she purchases enough BND tokens for a Blocknode masternode, with the help of the Blocknode team she sets up her customised wallet and masternode server.

She begins to generate BND tokens which she stores until she has made another 100 000 BND tokens, which is enough to generate a second masternode. She now has two Blocknode masternodes generating tokens for her business.

She sends BND tokens to her customers as per her calculations: she has decided on a reward rate of 3% of purchase price back (which is three times higher than competing programs), giving her an edge over the competition.

She is able to do this as she is generating tokens at no charge - and has actually doubled her initial investment! (We will be able to provide businesses with an automated system, integrated with the businesses payment option, to send out the BND tokens in the near future.)

Mary's customers are happy and prefer to spend their money at her online shop as they get more rewards back than at other retailers. Mary is happy to get the repeat business and also accepts BND back as a discount payment option on her website
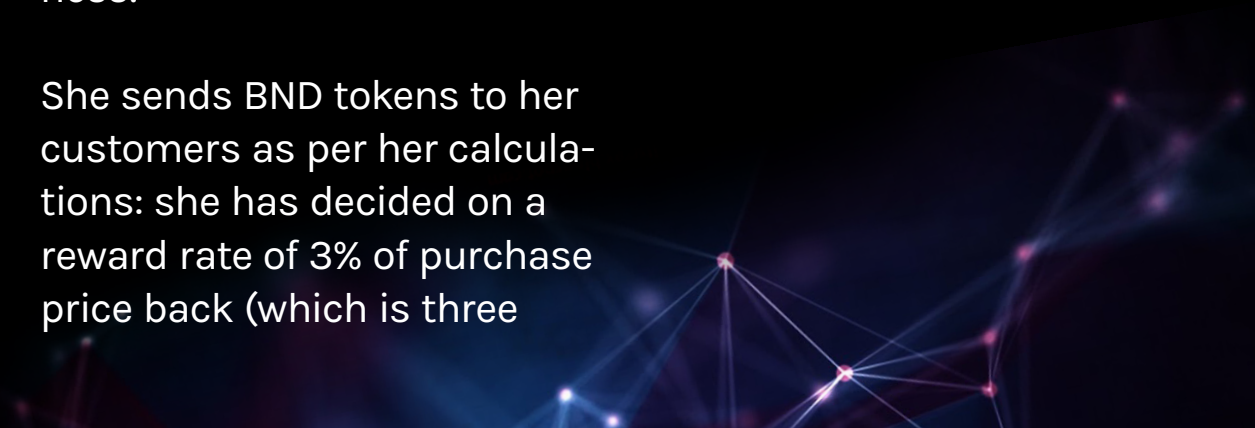
Decentralization

One of the main driving forces pushing the rapid growth and adoption of blockchain technology is its decentralized design. Meaning that not one single entity has control over all the transactions.

Traditional methods of payment require you to trust a third party like a bank or government who then keep accounting records in a central database which only they have access to - and usually at an inflated fee.

A simple example to explain this better is the following: if Bob sends Alice $100, a third-party service would debit Bob's account and credit Alice's account, therefore they would both have to trust that this third-party is to going do the right thing.

With most cryptocurrencies, the ledger (blockchain) is shared and public, therefore no third-parties are needed, because everyone can verify the information.

Let's go through some of the advantages of using a protocol like this over a traditional centralised system:
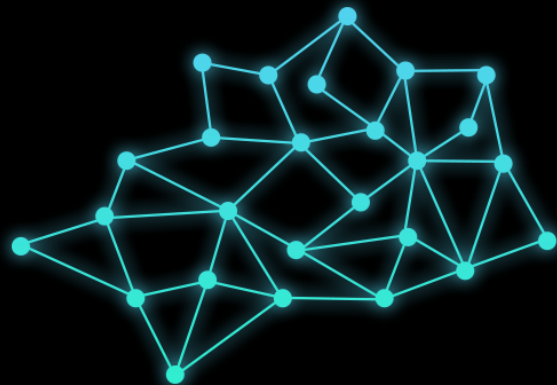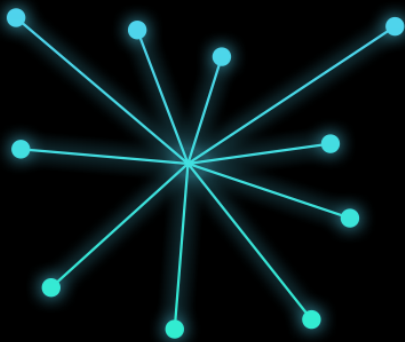
Fault tolerance

Because they rely on many separate components, decentralised systems are less likely to fail accidentally.

Withstand attacks

For all intents and purposes, decentralized systems are impossibly expensive to destroy or control, as they don't have vulnerable central points. The computational power required to attack the entire network is just too great.

Corruption Free

It is common for organisations like governments and big companies to conspire in ways that reward themselves at the expense of others. It is far more difficult for members of decentralized systems to do that, as the entire network needs to agree on the consensus that will benefit the majority.

POW VS POS

First a short intro on how a typical cryptocurrency consensus mechanism works. We'll use bitcoin as the example:

A new bitcoin transaction is sent from wallet A to wallet B. The transaction is broadcast to all the computers (nodes) in the network, who then independently verify if it's correct. These transactions are put together in groups called blocks. All the nodes in the network compete against each other to solve a difficult mathematical problem, and win the reward to add the new block to the blockchain in the form of a newly minted bitcoin. This process is called proof of work (AKA mining) and it protects and keeps the bitcoin network going.

This proof of work mechanism has issues that are becoming more serious as the network grows and gets adopted by more users.

Blocknode will be using a consensus method called proof-of-stake (PoS). In a proof-of-stake system, the coin holders get paid transaction fees for validating transactions via their wallets. Therefore, proof-of-stake creates an intelligible economic incentive to store the currency for the long term and it differs fundamentally from proof-of-work in a few other key areas as well:

SUSTAINABILITY

Bitcoin mining alone uses an astronomical amount of electricity - 250 kWh per transaction. That is enough to power an average home for 9 days. At current growth rates, by early 2020, the bitcoin network will use as much electricity as the entire world does today.

Other cryptocurrencies like Ethereum, Bitcoin Cash, Litecoin and Monero that use the POW method also contribute to the problem and this is obviously unsustainable in the long term.

PoS mechanisms do not require expensive hardware to do energy intensive calculations to add new blocks to the chain. Instead they aim to achieve distributed consensus whereby the creator of the next block is chosen via various combinations of random selection and network weight & age. This is far more energy efficient as minimal electricity is required to connect the node to the network.

SCALABILITY

There are two elements that need to be considered for future scaling of a blockchain: a) cost of using the network and b) the speed of transactions. PoS transactions are much faster than POW as the blocktime can be minimal, because nodes don't have to solve any difficult equations and the fees are very low as it is not expensive to run a PoS node. Blocknode also offers an instant-send feature made capable by the masternodes network.

SECURITY

With POW consensus there will always be a chance for 51% attacks against the network. A 51% attack refers to an assault on the blockchain by a group of miners controlling more than 50% of the computing power. They would be able to prevent new transactions from gaining confirmations, allowing them to stop payments between some or all users.

They would be able to reverse transactions that were completed while they were in control of the network, meaning they could double-spend coins. Even though this is still a hypothetical situation, it is still far more likely to occur as mining pools grow (Bitmain and their affiliated pools currently contribute 60% of the hashrate - Coindance.com), than a PoS system where the nodes are far more distributed, and the coins are not controlled by a single entity.

Another fundamental difference between the two consensus mechanisms lies in the way each handles dishonesty in the network. In POW, if someone tries to cheat when creating a block, their dishonesty is forgiven by the other nodes in the network. In PoS, the dishonesty is penalized instead. Because POW reverts to forgiveness, there's nothing stopping people from being dishonest.

And dishonesty is severely discouraged in PoS because of the penalty.

GOVERNANCE

Blocknode makes use of a community based treasury governance system - in short, the blocknode community ultimately decides which development and marketing path is best for the future of blocknode by allocating the monthly governance budget to a proposal - these proposals can be submitted by the community or by the core devs.

Voting takes place each time a superblock is generated by the network - approximately once a month.

For now, only masternode owners have the chance to vote yes or no for the proposal of their choice - each masternode has the ability to vote once per superblock.

Partner Benefits

By partnering with Blocknode and rewarding your employees with Blocknode tokens, you are eligible to have a custom wallet skinned with your company logo featured within the wallet.

Funds for this process are allocated with proposals via our governance system - these proposals are submitted by our core developers and voted on by the community - this is a service which is unique to Blocknode and is at the core of our product offering - to provide a decentralised, scalable and customised employee reward system.

masternodes

Masternodes are essentially nodes on the network running the same wallet software on the same blockchain which provide extra services and features to the network and its users.

The primary service which Blocknode masternodes provide to the network are:

- **Instant transactions**
- **A decentralized governance**
- **A decentralized budgeting system**
- **Immutable proposal and voting systems**

The reward for each POS block is split as follows: 80% to masternodes, 15% to staking nodes and 5% to governance. Please see the below "Block rewards" section for more details. A masternode requires 100 000 BND, and each Masternode should be getting a reward approximately every

1-2 days depending on how many masternodes are active in the network. For staking, a very general rule of thumb is that for every 1000 BND you can expect a staking reward once every 30 days, but remember that this is a completely randomized process. You may go for 15 days without a reward and then get 2 in 1 day.

The BND tokens in your wallet need to be mature before they can be used for staking - tokens mature after 101 confirmations in your wallet.

TOKEN METRICS Breakdown

Our token metrics were developed with our users needs in mind. Masternodes will consistently reward their owners with a "halving" factor of 0.9 between each step of 64 800 blocks (approximately 3 months) - although it is important to note that blocks will never be rewarded less than 5 BND. The coin supply is high to reduce the usage of decimal amounts during transfers.

The block reward split is in favour of masternodes but also places importance on staking - this ensures that the network will remain operational for the foreseeable future and businesses who make use of Blocknode will have a viable reward system with long term real world value.

New coins are spendable 1 hour after they are minted and coins need to be held for 12 hours in order to be staked.

The blocktime is 120 seconds which helps keep the blockchain size down to a minimum.

We've given considerable thought to our token metrics and know our chosen rewards schedule match our use case perfectly.

Blocknode is a modified Pivx fork.

BLOCK rewards

Time until max supply: Inifinte
Block time: 120 secs
Total supply: 470 717 206 BND +
Premine - 20 000 000 (distributed)
Halving factor: 0.9 every 64800 blocks

Rewards breakdown:
- 80% Masternode
- 15% Proof-of-stake
- 5% Governance fund

Block 1 - 500 Premine   = 200 000 000 BND
Blocks 501 - 65 300 | 700 BND   = 45 360 000 BND
Blocks 65 301 - 130 100 | 630 BND   = 40 824 000 BND
Blocks 130 101 - 194 900 | 567 BND   = 36 741 600 BND
Blocks 100 001 - 259 700 | 510.30 BND   = 33 067 440 BND
Blocks 259 701 - 324 500 | 459.27 BND   = 29 760 696 BND
Blocks 324 501 - 389 300 | 413.34 BND   = 26 784 626 BND
Blocks 389 301 - 454 100 | 372.01 BND   = 24 106 163.76 BND
Blocks 454 101 - 518 900 | 334.81 BND   = 21 695 547.38 BND
Blocks 518 901 - 583 700 | 301.33 BND   = 19 525 992.65 BND
Blocks 583 701 - 648 500 | 271.19 BND   = 17 573 393.38 BND

...UNTIL BLOCK 3 046 101 where rewards are locked at 5 BND

Blocks 3 046 101 - 3 110 900 | 5 BND = 324 000 BND
Blocks 3 110 901 - 3 175 700 | 5 BND = 324 000 BND

AND SO...

APPROXIMATELY 3 MONTHS BETWEEN EACH STEP.

roadmap 2018/2019

Q1 2018
- Project start
- Early partnerships sign up
- Blocknode legal work underway

Q2 2018
- Website
- White paper
- Testnet deployed

Q3 2018
- Social media announcements
- Wallets for Windows, macOS, Linux
- Mainnet Genesis block
- Presale
- Listing on first exchange
- Listing on masternode websites
- Marketing on multiple platforms

Q4 2018
- Wallets for High Sierra macOS
- Listing on more exchanges
- Signing small to medium business
- More exchanges & CMC listing
- Raspberry Pi Wallets
- Android wallet to track rewards
- iOS wallet to track rewards
- Bespoke wallet rollout

2019
- BND atomic swaps
- Enterprise level partnerships
- Blocknode Foundation Launch
- Full Zcoin privacy enabled
- Side Chain development

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