

HB Token

Nowadays, there has been a significant upraise in the interest in crypto currencies and in the crypto-technology. As a company that has focused on crypto mining and hardware back up of block chain technology, we want to change the way cloud-based power mining contracts work, through our HB token.

Mining crypto currencies, as well as the block chain technology itself is a long-term, cost-effective business. The bitcoin mining started 9 years ago and has not yet lost its relevance to this day. There is one significant change in the mining process since it began. The mining process started with processors, and then changed and continued with video cards and then in its final stage transferred on to the ASIC Antminers. In order for a company to succeed and continuously remain in this business, it needs to constantly reinvest in a new technology. At the same time, there are always higher risks in mining only 1 crypto currency - the risk of a bug in its initial design, the risk of an alternative market that avoids deficiencies and introduces new extras, and of course the risk of a drastic drop in price. To diversify the risk, we invest in different yield algorithms.

I. Equihash:

Equihash is a proof of work scheme. It calculates mathematical puzzle that needs specific memory and resources. There are three parameters – n , k and d . They define the Equihash – n , k , d , time and complexity of the puzzle. Parameter S – seed, it gives uniqueness to every puzzle. The best algorithms for Equihash – n , k , d demands resources of time $O(2^{n/(k+1)+d})$ and memory $O(2^{n/(k+1)})$. Definition for Equihash puzzle can be found through the Wagner algorithm for the birthday problem $O(2^{n/(k+1)})$ when every memory decreasing increases the time complexity. It demands more time and more hardware. Equihash is asymmetric. With Equihash is possible achieving two goals:

1. Decreasing advantages of the crypto mining machines against the regular computers and smartphones;
2. Easy verification like with the Ethereum contracts. To achieve these two goals it is needed proof of work, that needs less memory and time to verify – it is the so called asymmetric proof of work – Equihash. Equihash is more simplified due to its defined need of memory. With Equihash can be solved algorithms with natural parallelism with time factor can be reduced.

Advantages and disadvantages of Equihash

1. Advantages:

- effective verification. This is very important due to use from many users with mobile devices for Ethereum contracts;
- computer memory based. This is an advantage due to expensive crypto mining hardware;
- there are not more optimisation expected soon;
- it does not give ability for centralisation of mining cryptocurrencies. With this it makes the digital currencies more democratic;
- helps for computer science development;

- it is flexible, limited to specific cryptocurrencies.

2. Disadvantages:

- requires more computer memory;
- there is no specific Equihash hardware;
- can be eventually used in more complex ASIC hardware.

II. Cryptonote

CryptoNote is an application platform for creating a family of anonymous cryptocurrencies, the most famous of which are Bytecoin, Monero and DarkNote. Anonymity in CryptoNote is accomplished by using a collective signature of the sender and a one-time address (hiding the recipient). The protocol was developed in 2012 by a group of developers under the pseudonym Nicolas van Saberhagen. Bytecoin, launched in the summer of 2012, is the first cryptocurrency that uses this technology. Later, other cryptoblocks using the Bytecoin code were launched.

As with Bitcoin, the miners earned a reward for the solutions found. But the procedural complication of calculations typical of Bitcoin in CryptoNote has been replaced by a progressive floating complication: the rebate decreases with each new processed block.

It was made for reasons not to have a drastic impact on the market value of the cryptocurrency. Bytecoin and Monero use different emission curve parameters. DarkNote's developers decided to re-use a column of computational complications by cutting twice the issue each month.

Official Website: <https://cryptonote.org/>

Advantages and Disadvantages of Cryptonote

1. Benefits:

- Enhanced security - Requires several keys to perform verification.
- prevents duplicate transactions with the same key;
- Flexible limits. The size of each block is automatically adjusted.

2. Disadvantages:

- the presence of systemic errors with strings when working with Poloniex;
- System errors with Ubuntu
- System failures when compiling;
- System errors in larger transactions
 - presence of invalid block timestamp.

III. Scrypt

Scrypt is a cryptographically password-protected feature created by Colin Percival for Tarsnap's online service. The algorithm is designed to prevent hardware attacks. A simplified version of scrypt is used as a proof-of-work cryptography for the first time used by an anonymous programmer ArtForz. It takes a considerable amount of time to complete scrypt. Authorized users can execute scrypt for a short time, but unauthorized (hackers) who want to

access features would need multiple operations.

Older functions (PBKDF2) require significantly less equipment and resources. So they are easier to execute than malicious users. This allows hundreds of thousands of implementations of the hardware algorithm to occur. Scrypt is designed to reduce such attacks by creating an almost unnecessary need for hardware and other resources.

The great need for scrypt resources is generated by artificially generated string lists that are part of the algorithm. Once the string list is generated, the elements are accessed at random, combined, and thus "produced" the necessary information.

Because the list items are generated algorithmically, each item can be generated quickly by having only one of the elements. This greatly reduces the need for RAM.

Algorithm Parameters:

1. Key phrase - the string of characters to be hateful;
2. Salt - a string of symbols that modify hash against Rainbow table attacks;
3. N - parameter for CPU value and memory;
4. P - Parallel Parameter;
5. dkLen - source length of the octets;
6. r - block size parameter. The most commonly used 8;
7. hLen - length of the hash function octets (32 for SHA256);
8. MFlen - length of octets output mixed function.

Scrypt is used in cryptocurrencies such as Litecoin and Dogecoin. For their mining, ASIC machines are used for scrypt algorithms.

Advantages and disadvantages of Scrypt

1. Advantages:

- faster and simpler algorithm
- Easier to use with available CPUs
- it requires less electricity;
- enables extraction through ordinary computers;
- used for extraction of one of the most popular cryptocelluli - Litecoin.

2. Disadvantages:

- the cost of Scrypt machines would be higher;
- it needs a considerable amount of computer memory.

IV. X11

X11 is a widely used hash algorithm created by Dash developer Evan Duffield. The X11 chain has series of eleven hash algorithms to prove the work. The objective is to ensure a fair distribution of cryptoblocks as Bitcoin has been allocated. X11 makes ASIC machines more difficult to create, thus giving more time for cryptocellular development before a centralized yield occurs.

Nowadays, X11 ASICs make up a significant part of the overall network hashire, but have not affected Bitcoin's level of centralization. X11 was introduced in January 2014 under the name "Xcoin". Its creation is partly inspired by the quark chain Quark, adding a deeper and more complex method that increases the number of hashes. However, it differs from Quark in that the series of hash is determined in advance and not by chance. X11 uses a series

of eleven different hashes (blake, bmw, groestl, jh, keccak, skein, luffa, cubehash, shavite, simd, echo) making it one of the safest and most sophisticated models in modern cryptolight. X11 is not associated with the UI for Unix / Linux users. The algorithm is used to extract:

Dash (DASH)

CannabisCoin (CANN)

StartCoin (START)

MonetaryUnit (MUE)

Karmacoin (Karma)

XCurrency (XC)

Advantages and disadvantages of X11

1. Advantages:

- Enhanced complexity and chain algorithm improvements provide higher security levels and less uncertainty for digital currencies than proof-of-work solutions that are not protected by the SPOF. For example, if a SHA-256 breakthrough is likely to endanger the entire Bitcoin network. In this case, the X11 algorithm cryptography will continue to function with high security levels. Even the eleven hats may be compromised, there will be time for action to be taken;
- Considering the speculative nature of cryptocells, X11 can provide a high level of protection and security that can not be achieved by single-hit algorithms;
- Graphics video cards do not need a lot of power to work. This leads to lower electricity charges;
- Because of its high complexity, the algorithm will provide a longer digging period for CPU / GPU-based users.
- uses a series of eleven hash algorithms to prove work done;
- energy efficient;
- is used to extract one of the popular cryptocoins - Dash;
- holds low temperatures of the used equipment;
- allows users with ordinary computers to engage in crypto mining.

2. Disadvantages:

- CPUs get Scrypt's hash, which makes it vulnerable to botnets attacks;
- From a financial point of view, not all new users could afford to use the X11 algorithm.

V. B2X

Futures trading commenced on 19.12.2017. On December 28, 2017, a fork was launched. The total amount of coins is 21 million. Uses X11 algorithm. The size of the block increases to four megabytes. The block is generated for 2.5 minutes. Replay protection is available - against repeated transactions. Recalculate the complexity after each block. There is a unique address format. Transaction anonymity via ZkSnarks technology. Use Smart Contracts. Supports Zuminer and Freewallet wallets.

Official website: <https://b2x-segwit.io>

Advantages and disadvantages of B2X

1. Advantages:

- uses X11 encryption algorithm;
- block size is up to four megabytes;
- fast generation of blocks - 2.5 minutes;
- protection against double payment for transactions - Replay;
- recalculation of the yield complexity after each block;
- unique address format;
- is used on an online changeover platform ChangeNOW;
- fixes a Bitcoin bug problem called Malleability.

2. Disadvantages:

- it is not a long-term solution due to the need for larger blocks;
- unconfirmed property information of six million developer units;
 - the popular Treasure Portfolio warned of potential cryptographic problems.

Cryptocurrencies

1. Zcash

Zcash is cryptographic, using cryptography and providing enhanced security for its users compared to other cryptoLabs. The Zerocoin protocol has been upgraded and transformed into a Zerocash system that was developed to Zcash cryptoLata in 2016. Developments and improvements to the protocol were made by Zerocoin Electric Coin Company or, in short, Zcash Company. The creator and manager of Zcash Company is Zooko Wilcox-O`Hearn. The company's team includes Matthew D. Green's cryptography specialist from Johns Hopkins University, and one of the original investors is Roger Ver. Zcash payments are made in a public block, but users have the opportunity to take advantage of an additional option allowing them to hide a sender, a recipient, and an amount to be sent. Like Bitcoin, Zcash has a fixed amount of twenty-one million units. In the first four years of its creation, 20% of the units have been redeployed between investors, developers and non-governmental organizations. Transactions can be visible in blockchain but can also be with zero information called zk-SNARKs. If they are of the second type, they are called "protected" and are controlled by z-addr. Zcash quantities are either in visible pools or in protected pools. Since December 2017, only 4% of Zcash quantities are in protected pools because of the inability of portfolio software to support them.

Official website: <https://z.cash/>

Advantages and disadvantages of Zcash.

1. Benefits:

- technology with a higher level of security for consumers;
 - Technology with a higher level of anonymity for users
 - GPU extraction to prevent centralization;

2. Disadvantages:

- probability of possible malicious attack through poorly developed zk-SNARKS;
- price volatility;
- the organization behind the cryptocurrency is not an open source society but a legal entity;
- The team behind the cryptocurrency hit gets fees called the "Creator Award";
- It's not Bitcoin based. This means that some of the features of Bitcoin may not be applicable;
- the key is that it is the root of the cryptocurrency and is considered to be destroyed, it is possible to be available and to create an unlimited amount of coins;
- Chief Executive Officer is a former member of the cypherpunks activist group.

2. BTCGold

Bitcoin Gold is the forerunner of the Bitcoin block. Block 491407 Bitcoin Gold diggers begin to create blocks with a new proof-of-work algorithm. This, in turn, creates a division of the block. The original Bitcoin block continues unchanged, but a new block break separates the original. The new branch is a separate block with the same transaction history as Bitcoin, but it is distinctive from there. As a result of this process, a new cryptocurrency is born. The goal of Bitcoin Gold is to make Bitcoin again decentralized.

Satoshi Nakamoto's idealist view of "one CPU - one voice" is compromised by separate diggers and extraction farms on Bitcoin. By altering Bitcoin algorithm from SHA256 to Equihash, the SHA256 yield technique becomes unusable for Bitcoin Gold yield. Thus, Bitcoin Gold will enable countless new people around the world to participate in the process of mining with generally available equipment and technologies. More decentralized and democratic infrastructure is more sustainable and contemporary to Satoshi's original views.

Official website: <https://bitcoingold.org>

Benefits and disadvantages of Bitcoin Gold

1. Benefits:

- seeks to change the way to obtain cryptocurrency by stopping the use of expensive mining machines;
- seeks to eliminate corporate manipulations on the Bitcoin market by attracting more ordinary users;
- uses the Equihash algorithm.

2. Disadvantages:

- About one percent of the coinage will be used to pay the team behind the cryptocurrency;
- one of the major crypto exchanges, Coinbase, said it would not support the cryptocurrency;
 - one of the big crypto exchanges, Bittrex, does not support the crypto.

3. BTCGold-cash

Bitcoin Cash is part of Bitcoin Block from 01.08.2017. Group of miners disagree with SegWit2x's suggestions and create a separate block code. The new code is not compatible with Bitcoin's. Bitcoin Cash uses the SHA256 algorithm. This algorithm requires more computer power to be mined. The computer technique used for extraction is ASIC. The size of the block is increased from 1MB to 8MB and its range is ten minutes. The amount of Bitcoin Cash is 21 million tokens. The change in difficulty takes place every two weeks.

Benefits and disadvantages of Bitcoin Cash

1. Benefits:

- Supports SegWit2x;
- uses the SHA256 algorithm;
- uses ASIC machines;
- has a larger block - 8 megabytes;
- the difficulty is regulated every two weeks;
- has additional protection against reps of transactions - SigHash;
- decentralized cryptocurrency, resistant to political and social attacks;
- fees for transactions are lower.

2. Disadvantages:

- the possibility of fraud by malicious users who are lying that they can double Bitcoin with Bitcoin Cash;
- Because the crypto data is relatively new, some of the digital wallets still do not support it;
- less familiar cryptocurrency;
 - fewer spending applications.
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4. Monero

Monero is an open source crypto code cryptocurrency created in April 2014 that focuses on privacy, decentralization and scalability. Unlike other cryptocurrencies, which are Bitcoin based, Monero is based on the "CryptoNote" protocol and has significant differences in the algorithm associated with block equivalence.

Monero was launched on April 18, 2014, initially named "BitMonero," a combination of "Bit" (from Bitcoin) and Monero (which literally means Esperanto's "Coin"). Five days later, the community chose the name to be shortened to "Monero". It is launched as the first fork ("fork" or "fork" in English) based on a "CryptoNote" currency called "Bytecoin", but with two important distinguishing marks. The first is that block creation time is shortened from 120 minutes to 60 minutes. The second is that the broadcasting rate is reduced by 50% (Monero later returned to 120 minutes block creation time while retaining the broadcast schedule, doubling the new block reward). In addition, Monero developers have found numerous bad code incidents that are later cleared and reconstructed.

A few weeks later, an optimized GPU "digger" for CryptoNight Proof-of-work,

feature is being developed.

On September 4, 2014, Monero recovered from an unusual and new attack against the crypto network.

On 10 January 2017, the confidentiality of Monero's transactions was further strengthened by using the Ring Confidential Transactions algorithm, created by Gregory Maxwell, one of the developers of Bitcoin Core. "Ring signature algorithm" introduces an additional layer of confidentiality by hiding the quantities involved in a transaction with someone who is not directly involved in it. "RingCT" transactions are included by default, but it is still possible to send a RingCT transaction to the next hard-fork on September 17, 2017. Until the beginning on February, over 95% of all non-coinbase transactions used the RingCT option.

Official Website: <https://getmonero.org/>

Advantages and disadvantages of Monero

1. Advantages:

- it is open source;
- the creators have not released quantities for themselves;
- uses stealth addresses for transactions;
- users have the ability to share their transaction history
- each coin has the same value.

2. Disadvantages:

- price volatility;
- Apple's online stores do not accept payments via mobile applications with this crypto-phone;
- problems in the graphical interface of the digital currency portfolio;
- due to its anonymity, is often used for unauthorized extraction through embedded codes on websites;
- the presence of invalid block timestamp;
- the cryptocurrency is used for payouts in Dark Web stores.

5. Electroneum

Electroneum is a relatively new British cryptocurrency, created on September 14, 2017, through IPO (ICO). Developed to be used in online betting and gaming, it is considered one of the most user-friendly. With one application on the mobile device, Electroneum can be managed with its wallet and mining. The cryptocurrency is developed on its unique block with the main purpose of covering all activities related to online gaming and betting on mobile devices. One of the strongest advantages is that it can be managed and even extracted from a mobile application. This gives it the opportunity to become a new and easy way to make instant transactions from mobile devices - from buying mobile games and sending money to other people, to betting on real-time sports. This distinguishes it significantly from other cryptocurrencies that are more difficult to spend or buy. The amount of Electroneum is also considerable - 21 billion. Creator of the cryptocurrency is Richard Ellis. The cryptocurrency is also an interesting opportunity for investment.

Official Website: <http://electroneum.com/>

Advantages and disadvantages of Electroneum

1. Advantages:

- cryptocurrency has signed a contract with one of the largest telecoms operators in mobile payments - XIUS;
- easy to use;
- can also be obtained from a mobile device;
- can be traded on the big Binance crypto bull market.

2. Disadvantages:

- Transactions sometimes take too long or transactions are simply interrupted without cause;
- lack of sufficient traders receiving payments with Electroneum;
- its mobile application has been attacked and successfully cloned;
- no iOS app has been developed.

6. LTC

Litecoin is a peer-to-peer, open source and MIT / X11 encrypted cryptocurrency. The creation and transfer of quantities are based on an open source cryptographic protocol that is not managed centrally. The creation of Litecoin is inspired by and compared to technical parameters with Bitcoin. Litecoin was launched in the public space on October 7, 2011 by Charlie Lee, a former Google employee. The Litecoin Network becomes available on October 13, 2011. Bitcoin Core is a bit different, mainly due to reduced block creation time (2.5 minutes), increased number of units, a different hash algorithm (scrypt instead of SHA-256), and a slightly changed graphical user interface. Litecoin reached market capitalization of \$20 billion in 2017. Litecoin can be easily purchased and sold by many exchanges with all kinds of currencies. Lightken can be identified on exchanges under the LTC or XLT currency symbols.

Official Website: <https://litecoin.org/>

Advantages and disadvantages of Litecoin

1. Advantages:

- it is open source;
- not managed by a company / organization
- created by a former Google employee
- with reduced block generation time - 2.5 minutes;
- uses the Scrypt algorithm;
- can handle larger amounts of transactions
- the shorter block generation time protects against the risk of double transaction attacks;
- the second largest market share after Bitcoin.

2. Disadvantages:

- the creator of the cripples sold his coins;
- the machines that produce Bitkine can not be tuned for extraction of Litecoin;
 - less liquid than Bitcoin.

7. Dash

Dash (formerly Darkcoin and XCoin) is an open source peer-to-peer cryptocurrency. The cryptocurrency allows instant transactions and secured personal transactions. It has a self-financing and self-management model that enables individuals and businesses to work with value added on the network. The decentralized management and budget system of the cryptocurrency make it a decentralized autonomous organization.

Dash was introduced with the name XCoin (XCO) on January 18, 2014. On 28 January 2014, the name was changed to Darkcoin. On March 25, 2015, her name was changed to Dash.

During the first two days of its launch, 1.9 million units were mined, which is about 10% of the total quantity to be mined.

Unlike the Bitcoin network, where the coins are mined with mining farms, Dash develops through a two-tiered network. Some features, such as the creation of new blocks, are determined by miners. The second level of management is performed by "master nodes" responsible for the PrivateSend and InstantSend functions.

The main nodes need 1,000 Dash to prevent attacks. This charge may be spent at any time, but when this happens, a master node is removed from the network. Since the main nodes provide important network functions, the block reward is split between miners and main nodes equal to 45% of the block. The remaining 10% finance is "budget" and "treasury".

PrivateSend is CoinJoin based coin-based coinage service with countless modifications. These include using master nodes instead of a single website, creating a chain by mixing multiple master nodes. The maximum transaction amount is 1000 Dash. Using PrivateSend allows the master nodes to approve transactions through a dedicated network code called DSTX. This provides additional security for users.

InstaSend is a service that allows almost instantaneous transactions. Through this system, the input information is locked to certain transactions and is verified by a network of master nodes. Problem transactions and blocks are rejected.

Official Website: <https://www.dash.org/>

Advantages and Disadvantages of Dash

1. Advantages:

- one of the most innovative and fast-growing cryptocurrency;
- has a special protocol to hide the origin of assets - anonymous transactions (DarkSend);
- second-order nodes, "Master nodes";
- instant transactions. CryptoLife provides a mechanism for validating network payments within 4 seconds;
- built-in voting mechanism. Anyone can make a proposal on the web and get a positive or negative response from the community.
- has a portfolio.

2. Disadvantages:

- because of the main units, the actual quantities of coins available are less than those announced;
- there are not enough traders receiving Dash payments;
- there are rumors that creators of the cryptocurrency have kept a significant amount for themselves;
- the name of the cryptocurrency sounds trivial - as a detergent, and this, according to some, affects negatively to its marketing;
- not completely anonymous;
- the main nodes cause to some extent centralization;
- high fees for InstantSend;
- uses ASIC machines;
- GPU losses.

8. Madesafe

Safecoin is a digital crypto token that is the heart of the Safe Network. It can be seen as the fuel in the Safe network engine and is used to pay network users for the value they provide. Safecoin resembles in essence Steem Dollars and Steem Power - consumers are rewarded for their networking. Safecoin coins are distributed entirely automated without human intervention - by algorithms. The total amount of coins is 4.3 billion, each having its own unique identity. Coins are "recycled" when exchanged for services to have new stocks of coins for new users. Safecoin coins are given to users against providing unused computer resources on the web. Such include free disk space, processor power, and Internet connectivity. This process is called "Farming". Safecoin coins can be used to access and use network applications as part of the coins is paid directly to the software developer who has developed the application. Coins can also be purchased by users who do not want or can not share a resource on the web. This creates a market in which "farmers" can sell their coins. These transactions are performed through a Safe Application or directly between users.

Official website: <https://maidsafe.net/>

Advantages and disadvantages of Madesafe

1. Advantages:

- disseminated without human intervention;
- each unit has a unique identity;
- in exchange, the units are recycled, which ensures the presence of the crypto-wave;
- availability of a Safe Network application for coinage and sale.

2. Disadvantages:

- not known to date.

Business plan for the token: What causes the rise of the token price?

Main source: Crypto currency mining

Additional sources:

- development of software applications related to the block chain
 - fees from our mining pool
 - Listing on the crypto currencies exchanges
- Revenue distribution:-70% are reinvested in hardware related to the block chain;
-20% for maintenance and increase of the price of the token;
-5% to improve and increase infrastructure;
-5% for software development related to mining.