WHITEPAPER

Stark CHAIN

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STARK CHAIN

STARK Whitepaper is the official document of the STARK Project. This document presents technical review and characteristics of STARK Network, unique features and purposes of the STARK.

Whitepaper is going to be updated constantly due to Project Progresses and is a variable Document because we are going to develop continuously new technologies and software's to improve STARK Project and STARK Token.

Whitepaper and Roadmap is a dynamic list of the project and is going to be updated due to community and market requests.

STARK Development Team will always make the necessary effort to focus on the core components of the project, but will maintain a viable roadmap and show flexibility when required.

SUMMARY

Mining in the cryptocurrency industry has spread rapidly with Bitcoin Mining and started to get developed. While people started to mine privately in the crypto money industry, many facilities for coin mining were established almost all around the world. Under normal circumstances, Cryptomining requires expensive devices and special equipment and consenting high power costs but nowadays, crypto mining has become much easier thanks to the growing knowledge and new developments on new technologies. During the process, we saw that the Proof Of Stake consensus mechanism, which gives the oppurtunity to earn a reward after a certain period of time by renting a crypto currency, has achieved a success as well as the Proof Of Work consensus algorithm. But it still requires a lot of technical and software knowledge to become a coin's Masternode. Due to these difficulties, many people can't start crypto mining alone. As a solution to this Problem, we improved STARK CHAIN and enabled as running the mining application (Proof of Active) on any average PC or Server that people use in daily life without any technical knowledge to become a Masternode and ability to provide their activity who wants to start mining in only five minutes.

The second important development is the Memo Feature which is actually available in coins like EOS and Stellar with a very limited number of characters. With the STARK CHAIN Project, it is now possible to perform Transfers over Blockchain-Network (BEP20) with Memo Text (alphanumeric characters) in an encrypted form that can only be decoded by the recipient.

What is the Problem?

The biggest problem in the cryptocurrency industry is that it is very difficult to integrate cryptocurrencies into e-commerce systems coz it requires too much fees and too much manpower. For example, imagine a large E-Commerce company decides to accept payments in Bitcoin. In that case they have to create for every customer a new Bitcoin Wallet who wants to use BTC as Payment Method. When the customer makes a purchase and pays from his Bitcoin Wallet, the E-Commerce company has to withdraw the BTC from each customer's wallet to his own pool account and needs to pay additional fee for that. Considering that tens of thousands of transactions are carried out daily, this kind of operations require extra qualified personal and extra efforts. Because of this and similar problems, E-Commerce Companies do not tend to accept cryptocurrencies. This is a problem not only for large companies but also for middle or small commerce systems.
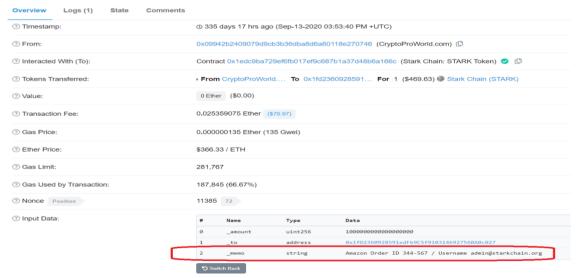
SOLUTION

STARK CHAIN was born as a solution to all this problems. Thanks to the Memo feature of STARK CHAIN, all commercial enterprises and all commercial companies can accept cryptocurrency as a payment system and integrate crypto into their systems very easy. For example, let's assume that Amazon wants to accept payments with cryptocurrencies. They can easily receive payments with STARK CHAIN without need to open individual accounts for each customer like the above-mentioned BTC and avoid constantly paying unnecessary fees and extra unnecessary manpower. Only one pool account of E-Commerce company and an ID code defined for each customer will be enough.

When the customer wants pay with crypto money, the money comes into the pool and the customer can type his ID code into the STARK CHAIN Memo feature when transfering cryptocurrency, and with this Customer ID code, the system can define from which customer this payment is coming from and automatically confirms the payment of the product that the customer trying to buy. Thus, the company gets rid of both unnecessary fees and unnecessary manpower, and transactions are performed much faster. All commercial companies who are interested can easily integrate STARK CHAIN into their payment system and accept payments with crypto currency.

For example, Memo Feature used for Amazon Order ID 344-567 from Amazon Account admin@starkchain.org ; You can check the Transaction over Etherscan with following Link yourself :

https://etherscan.io/tx/0xd43b360880b11c96262960323b637eff11b22b3a913794986b384e06d388113a

	Overview	Logs (1)	State	Comments

⑦ Timestamp:	⏱ 335 days 17 hrs ago (Sep-13-2020 03:53:40 PM +UTC)
⑦ From:	0x09942b2409079d9cb3b36dba8d6a60118e270746 (CryptoProWorld.com) ⎘
⑦ Interacted With (To):	Contract 0x1edc9ba729ef6fb017ef9c687b1a37d48b6a166c (Stark Chain: STARK Token) ✅ ⎘
⑦ Tokens Transferred:	▸ From CryptoProWorld.... To 0x1fd2360928591... For 1 ($469.63) ● Stark Chain (STARK)
⑦ Value:	0 Ether ($0.00)
⑦ Transaction Fee:	0.025359075 Ether ($79.97)
⑦ Gas Price:	0.000000135 Ether (135 Gwei)
⑦ Ether Price:	$366.33 / ETH
⑦ Gas Limit:	281,767
⑦ Gas Used by Transaction:	187,845 (66.67%)
⑦ Nonce Position	11385 72
⑦ Input Data:	

#	Name	Type	Data
0	_amount	uint256	1000000000000000000
1	_to	address	0x1fD2360928591edFb9C5f9103146927560A0c027
2	_memo	string	Amazon Order ID 344-567 / Username admin@starkchain.org

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What is STARK?

STARK has been created on the Ethereum network on 24.08.2020 as an ERC-20 token with a different algorithm and technical features.It was designed as completely decentralized application (DApp) and based on four very important features. First, it is designed to be able to mine without any technical or software knowledge/skills by just providing Proof of Active with an average PC or server. Second Feature is the MEMO feature, which eliminates the difficulties of commercial integration of cryptocurrencies.Third unique Feature is Reverse Halving and finally Green Mining without any additional power costs.

Update 05.05.2020

Due to the fact that the Ethereum network started to become too dense, the uncertainties in the network and the higher transaction fees began, STARK CHAIN changed the network on 05.05.2021 and swapped into the Binance Blockchain BSC (BEP20) Network.

1- Proof of Active

Proof of Active; in other words, the Proof-of-Activity algorithm represents the Situation of being turned on and active (connected to the internet) for mining devices to receive their rewards. Let's look at how these devices can provide proof that they are active in a decentralized way.

First of all, we need to look the details of the Block Structure in the Binance Chain Network.

Considering Block 9801511 in BSC, this block header contains the block height, timestamp and hash code. These values are updated for each block and form parts of the blockchain. According to Consensus Algorithym, miners earn a certain percentage of rewards from the formation of these blocks. Depending on the density of the BSC Network, these values vary so that a block is found every 3 to 5 seconds. Hash Value is a certain necessary element on each block and it can not be combined with the next blocks, as it contains a summary of the transactions in former Block. You can view these details by observing this block on BSC Scan.

The Proof of Active algorithm is based on the condition that the remaining value from the division of the hash values of the blocks formed in the BSC network by 34344 is 1. The mathematical equivalent of these hash values is a randomly generated numeric (uint256) value consisting of large values. It is very important for decentralization and fairness of reward distribution that the algorithm takes randomly and not interfered numbers from blockchain and combine them into the a mod operation. For example, regardless of how many digits the number you divide has, the probability that the remainder of the division of an even number by 2 is 1 is 50%.

In the STARK CHAIN algorithm, if the remainder of division to 34344 of this random large number on the blockchain is 1, the block is awarded and this block is recorded on the Blockchain as a reward block.

uint256: 2844

uint256: 9801511
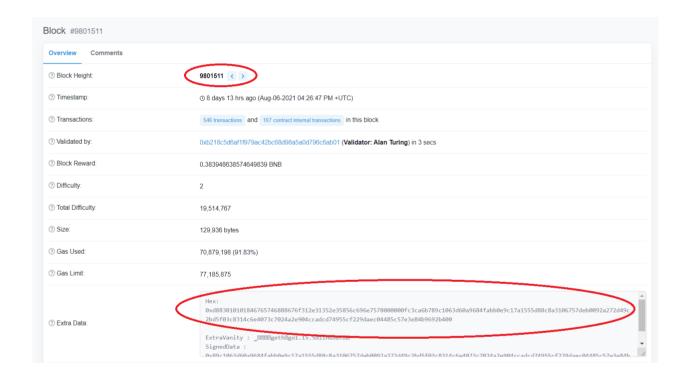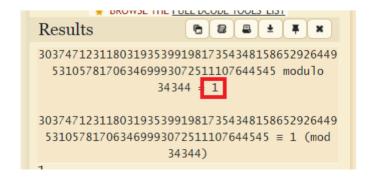
Example Block Number: 9801511

Hashcode-hexadecimal:
0x43277a5952b1033e388e53aaaaab37f044ab8ec6309b81efc363303ea15abc81

Hashcode-Decimal   :
30374712311803193535399198173543481586529264495310578170634699307251110764 4545

2- MEMO Feature

People handling with crypto currencies usually have one or more exchange accounts. For example, Exchange A has two members named Mary and Walter. Mary send 1.5 BTC to her BTC Account on the exchange and 0.5 BTC to Walter. The exchange A cannot know whether this BTC Deposit came from Mary or Walter. Therefore, Exchange has to open a separate BTC account for each member, which requires an extra fee and a lot of effort. Or as another example, let's say you have registered on a new Exchange and you want to send ETH to your Exchange account, you need to create a deposit address. In that Case Exchange will create and provide an ETH address that only belongs to you. Likewise, if everyone who is a member of this exchange wants to deposit, they should create a separate address for everyone. When you send your crypto asset to this deposit address, coins that comes to your exchange wallet is going to be withdrawed from your wallet to exchange's pool account and exchange pay a fee for this second action. If the deposit coin is an Ethereum-based ERC-20 then they pay two-time fee, which requires a lot of work again. For two people, this may seem easy, but imagine that there are 10,000 or 50,000 transactions in some Exchanges daily , it means for both side lots of unnecessary fees and a lot of unnecessary effort for Exchange. STARK eliminates all these problems with its Memo feature. Exchanges should have only one pool account. Exchange provides a fixed ID code to all registered customers. When the customers want to deposit into their Exchange Wallet, the send crypto assets to the pool account of exchange and sends it by typing the ID code in the Memo part, thanks to the STARK CHAIN unique Memo Feature. Due to this ID code, Exchange system automatically detects where crypto assets are coming from and immediately reflects it to the sender's account. In that way Exchange may save many fees and unnecessary efforts. Crypto Exchange is just one example for this topic. Many systems that handle with cryptocurrencies are experiencing such problems. With the STARK CHAIN project, all this kind of problems will be eliminated or minimised.

3- Reverse Halving and Reward Distribution

When the reward block is found in accordance with the STARK CHAIN algorithm (when the mode is equal to 34344 is 1), active miners are required to sign the contract. Miners must be constantly connected to the Blockchain network through a mining program. As proof of this, they must perform the signing process and it is time limited to 100 blocks.Miners who do not sign within 100 blocks are denied their transactions because they do not fullfill properties of Proof of Active consensus.

STARK CHAIN award distribution algorithm is designed to be the first in the world. In other Coins or Tokens, Halving can happen at various times. The amount of reward distribution goes everytime from high to low. However, STARK CHAIN has developed a proprietary reward distribution algorithm to maintain the balance of supply and demand to keep mining from beginning profitable. We call this concept Reverse Halving.

This algorithm works not according to certain time, but with periods consisting of 365 blocks. For Example, the amount of reward per block to be distributed in period of 0-365 blocks will be 128 STARK. Details are written on the table below which expires with 300th Block.

Period	Block Numbers	Rewards Each Block	Total Amount of Mining in Period
1.Period	0-365 Block	128 STARK	46720
2.Period	366-730 Block	256 STARK	93440
3.Period	731-1095 Block	512 STARK	186880
4.Period	1096-1460 Block	1024 STARK	373760
5.Period	1461-1825 Block	2048 STARK	747520
6.Period	1826-2190 Block	4096 STARK	1495040
7.Period	2191-2555 Block	8192 STARK	2990080
8.Period	2556-2920 Block	4096 STARK	1495040
9.Period	2921-3285 Block	2048 STARK	747520
10.Period	3286-3650 Block	1024 STARK	373760
11.Period	3651-4015 Block	512 STARK	186880
12.Period	4016-4380 Block	256 STARK	93440
13.Period	4381-4745 Block	128 STARK	46720
14.Period	4746-5110 Block	64 STARK	23360
15.Period	5111-5475 Block	32 STARK	11680
16.Period	5476-5840 Block	16 STARK	5840
17.Period	5841-6205 Block	8 STARK	2920
18.Period	6206-6570 Block	4 STARK	1460
19.Period	6571-6935 Block	2 STARK	730
20.Period	Above 6936+	1 STARK	365

The reward distribution is made on the basis of the number of signing miners and the amount they stake. Thus, a fair distribution system has been realized. Thanks to this unique distribution algorithm of STARK CHAIN, problems between miners and market actors are prevented. Token inflation in other coins has been made almost impossible to happen in STARK CHAIN. It is aimed both to maintain market balance, to obstruct token inflation and to keep the rate of earnings of miners at a certain level.

STARK CHAIN is a first in the world with these features. Considering that even major coins having problems on these topics, the advantages of Stark Chain are clearly visible.

Update 14.08.2021

In order to make STARK CHAIN more valuable in the crypto sector, to attract more attention as a trade coin on exchanges, to make Stark mining more profitable, we are going to perform a scheduled Hard Fork at the 300th Block. We are going to reduce the current total supply by 96,40% but former STARK Holders/Miners ae going to keep their coin amount 1:1. A new reward distribution algorithm as the table below are going to be activated which reduces Halving Periods from 365 Blocks to 300 Blocks..

PERIOD	BLOCK NUMBERS	REWARDS	TOTAL COINS IN PERIOD
1.PERIOD	0-300	128 STARK	38.400 STARK
2.PERIOD	301-600	192 STARK	57.600 STARK
3.PERIOD	601-900	288 STARK	86.400 STARK
4.PERIOD	901-1200	192 STARK	57.600 STARK
5.PERIOD	1201-1500	128 STARK	38.400 STARK
6.PERIOD	1501-1800	64 STARK	19.200 STARK
7.PERIOD	1801-2100	32 STARK	9.600 STARK
8.PERIOD	2101-2400	16 STARK	4.800 STARK

4- Green Mining

With our Green Mining concept, which is friendly to nature, people and energy resources and allows Users to mine with minimum cost. Users can easily do mining activities without purchasing expensive equipment and paying high electricity costs.

STARKCHAIN EcoSystem

Personal Mining is the action that users stake STARK Token into Contract and be a miner over their personal PC or virtual Server PC. With a sufficient amount of staked STARK Token and a computer connected to the Internet, anyone can do Personal Mining.

Pool Mining is the Method, which is preferred by users who cannot keep their computer turned on continuously or having internet connection problems, continues to mine by cooperating with other users when they stake enough STARK Tokens. Users who can not afford the minimum Stake Amount can use this Method too.

starkchain.org: It is the only official Webpage of STARK Chain.

STARK CHAIN Academy: It is planned as an educational platform that aims to produce quality content by operating in digital media, especially Youtube and with university clubs, which was established to inform everyone who is interested in the crypto industry and to increase their experience, whether they own a STARK token or not.

ETHEREUM (ERC20)
Contract Informations

Name   **:** STARK CHAIN

Symbol   **:** STARK

Standard   **:** ERC-20

Total Supply: 8.959.005

Decimals   **:** 18

Contract Adress : 0x1edc9ba729ef6fb017ef9c687b1a37d48b6a166c

Token Distrubition

Premined (0,04% of Total Supply)   : 35.850 STARK

- **STARK Foundation (0,02% of Total Supply) :** 17.925 STARK

It is a community that will work constantly on upgrading STARK Chains Reputation such as managing necessary activities and providing the necessary finance for the Stark Chain Activities or running the Discussions with major Exchanges or similar Steps which helps to increase popularity and fame in all over the World. Another purpose of this community is to develop Stark Chain's ecosystem, to provide commercial integration in various countries with unique Memo feature. During the creation of the project, 17,925 STARKs Premined for the STARK FOUNDATION which will only be used by the Stark Foundation for the development of the Stark Project.

- **Developers (0,02% of Total Supply)   :** 17.925 STARK

The Stark Chain Developers Team has the responsibility of progressing the Tokens technical Development. The Developer Team controls Stark Chain's social media, advertising activities, organise various seminars or conferences on behalf of the promotion Stark Project. Developmen Team attend varios Workshops to develop themself and in that way find/create new Features for STARK Chain. They give whole technical support to the Exchanges while Listing Period or manages whole Progress if any E-Commerce Companies wants to impelement STARK Chain into their Systems. Developers Team support official Pool Minings in all technical areas.

Update 05.05.2021

BSC BLOCKCHAIN (BEP-20) SWAP PROCEDURE AND DETAILS

The Stark Chain Smart Contract rewarded 205th Block Rewards on ERC20 Network. On 05.05.2021, STARK Chain Smart Contract have been transferred (SWAP successfully to Binance Chain Network (BEP20), which kept the production algorithm same as in ERC20 and ensured that the algorithm continues uninterruptedly, starting from Last Block - 205 on the BSC network.

Depending on previous minings, 73005 (**Seventy-three thousand five**) STARKs were premined for circulating STARK CHAINs (ERC20) and distrubited to holders with new STARK CHAIN (BEP20) Tokens. Swap Ratio was 1:1 . After the distribution to the holders, 13721 (**thirteen thousand seven hundred and twenty-one**) STARK contracts were sent back to Contract. TXIDs amongs to this Transfers can be checked below.

https://bscscan.com/tx/0xc3c1f87365fe7883dadf921865cd50bd93da86c4fbbd66cef55fa5f022a59b88

https://bscscan.com/tx/0x0e91faa1f0cf79e509e96536fc092bac9084649baa1c594ad0e3b07d14617b6d

BSC BLOCKCHAIN (BEP-20)
Contract Informations

Name :   **STARK CHAIN**

Symbol   **:** STARK

Standard   **:** BEP-20

Total Supply: 8.959.005

Decimals   **:** 18

Contract Adress: 0xe23d36f4805a405d6ea5021b623d0a5fd2075307

Update 14.08.2021
BSC BLOCKCHAIN (BEP-20)
Scheduled Hard Fork

Stark Chain has planned a Hard Fork which is going to be actived after the 300th Block, to advantage its miners and Holders those who trust Stark Chain.

With this Fork, 96.40% of the Total Supply will be burned, but the amount of Coins in the wallets of STARK users will not be changed. The Total Supply, which was 8,959,005 prior to this change, will be reduced to 322,000 Coins.

No PreMined coins will be issued to the STARK Chain Foundation, the Foundation's Tasks will be overtaken from Developer Team and **10,000** Premined STARKs will be issued to be used for the tasks described above.

STARK Chain Halving Periods will be reduced from 365 Blocks to 300 Blocks.

The Total Mining Periods of the STARK Chain will be reduced from 20 periods to 8 periods and the Reward Distribution Scheme will be changed as below.

PERIOD	BLOCK NUMBERS	REWARD	TOTAL MINING in PERIOD
1.PERIOD	0-300	128 STARK	38.400 STARK
2.PERIOD	301-600	192 STARK	57.600 STARK
3.PERIOD	601-900	288 STARK	86.400 STARK
4.PERIOD	901-1200	192 STARK	57.600 STARK
5.PERIOD	1201-1500	128 STARK	38.400 STARK
6.PERIOD	1501-1800	64 STARK	19.200 STARK
7.PERIOD	1801-2100	32 STARK	9.600 STARK
8.PERIOD	2101-2400	16 STARK	4.800 STARK

Contact

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