Ethereum Block

Whitepapper

1. About Blockchain & ERC20

Nowadays cryptocurrency has become a buzzwordin both industry and academia. As one Of the most successful cryptocurrency. Bitcoin has enjoyed huge success With its capital market reaching 10 billion dollars in 2016. With a specially designed data storage structure,transactions in bitcoin network could happened without any third party and the core technology to build bitcoin is blockchain, which was first proposed in 2008 and implement in 2009. Blockchain could be regarded as a public ledger an all committed transactions are stored in a list Of blocks.

This chain grows as new blocks are appended to it continuously Asymmetric cryptography and distributed consensus algorithms have been implemented for user security and ledger consistency.

The blockchain technology generally has key characteristics of decentralization, persistency, anonymity and audibility. With these traits, blockchain can greatly save the cost and improve the efficiency.

The Ethereum token standard (ERC-20) is used for Ethereum smart contracts Developed in 2015, ERC-20 defines a common list Of rule that an Ethereum token has to implement. Giving developers the ability to program how new tokens Wil function within the Ethereum ecosystem.
However, Security Of the cryptocurrency relies on its mining process. if majority Of miners are honest, then bitcoin and Ethereum meets its security goals. For the work done a miner is claiming a reward which consists Of two parts. First, some constant number Of bitcoins and ethereum are created out Of thin air according to a predefined and hard-code token emission schedule.

Second, a miner claims fees for all the transactions include into the block. Constant block rewards is an important part of Bitcoin and Ethereum protocol. once a predetermined number of coins will enter a circulation and miners will be rewarded by transaction fees only, their rational behavior could be different from the default mining strategy. it is still an open question whether Bitcoin and Ethereum will meet its security goals in such circumstances.

Ethererum Block (ETHB) Is the #1 Zero fee transaction cryptocurrency on the blockchain# technology governed by the ecosystem.

2. About Ethereum Block

Ethererum Block (ETHB) highlighted and implemented solutions to the problems of unreasonable state growth and majorly the flunctuations of transactions fee (such as spam attacks, or objects not being used anymore but still living in the validation state).
The ethereum block solution and convenient is a zero fee transaction for high and low quantity of any transactions and mandatory for all components.

3. Problem Identified

A rational miner does not include all the valid transactions into blocks as. due to the increased chances of orphaning a block, the cost of adding transactions to a block could not be ignored, even in the absence of block size limit Bitcoin fee market is healthy and the miner's surplus is maximized at a finite size of a block.
Thus miners are incentivized to produce blocks of a limited size,so only transactions providing enough value to a miner will be included in a block. The Ethereum Block provides a procedure to estimate transaction fee based on block propagation time. Besides network utilization, transaction processing requires a miner to spend some computational resources. In Bitcoin the transnational language is very limited. and a number Of CPU cycles needed to process a transaction is strictly bounded, and corresponding computational costs are not included-in the fee. In contrast, in cryptocurrencies supporting smart contract languages. such as Solidity and Michelson, transaction processing may require a lot of computations, and corresponding costs are included in transaction fee. In this work we address a problem of miners storage resources utilization.
A regular transaction in Bitcoin fully spends outputs from previous transactions. and also creates new outputs of user-defined values and protecting scripts. A node checks a transaction in Bitcoin by using a set of unspent outputs (LJTXO).

In other cryptocurrencies a representation of a state needed to validate and process an arbitrary transaction could be different (for example, in Ethereum, such structure is called the world State and fixed by the protocol).
TO process a transaction quickly, the State (or most accessed part Of it) should reside in expensive random-access memory (RAM). Once it becomes too big to fit into RAM an attacker can perform denial-of-service attacks against cryptocurrency nodes. For example, during attacks on Ethereum in Autumn, 2016, an attacker added about 18 million accounts to the state (whose size was less than I million accounts before the attack) and then performed successful denial-of-service attacks against the nodes. Similarly, in 2013 a denial-of-service attack against serialized transactions residing in a secondary storage (HDD or SSD) was discovered in Bitcoin. In all the cryptocurrencies we are aware of an element of the state once created lives possibly forever without paying anything for that. This leads to perpetually increasing state (e.g. the Bitcoin UTXO size).

Moreover, state may grow fast during spam attacks, for example,15 million outputs were quickly put into the UTXO set during spam attacks against Bitcoin in July, 2015. and most Of these outputs are not spent yet. The Ethereum Block (ETHB) is proposing a technical solution for non-mining nodes where only miners hold the full State (assuming that they can invest money in random-access memory Of sufficiently large capacity).

while other nodes are checking proofs Of State transformations generated by miners, and a size Of a proof (in average and also in a worst case) is about log, where Isl is a State size. Nevertheless, big State could lead to centralization Of mining or SPV mining, and these concerns should be addressed.

4. The Ethereum Block Solution

The Ethereum Block highlighted and implemented solution to the problem of unreasonable state growth and majorly the fluctuations of transactions fee (such as spam attacks, or objects not being used anymore but still living in the validation state). The solution and convenient is a zero fee transactions for any transactions either high or low and new mandatory fee component. A user should pay zero fee on both the additional space needed to store objects created by a transaction. and also for lifetime of the new bytes. This model is typical for cloud storage services where users pay for gigabytes of data per month.
We also consider an approach to combine fees charged for different resources consumed by a transaction: bandwidth, random-access memory to hold state, and processor cycles to process computations prescribed by the transaction. We propose to charge only for a resource which is consumed most of all, so we can talk about storage-oriented, network-oriented or computation-oriented transactions.
We provide an evaluation Of Ethereum usage data which shows that it is possible for this cryptocurrency to determine transaction type. consumed most Of all, so we can talk about storage-oriented, network-oriented or computation -oriented transactions.
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storage-oriented, network-oriented or computation -oriented transactions. We provide an evaluation Of Ethereum usage data which shows that it is possible for this cryptocurrency to determine transaction type.

We are implemented a zero fee convenient way to charge for state memory consumption (considering output lifetime also). Our approach is convenient for users Who do not know for how long they would like to store their outputs in the system. Then approach is called "scheduled payments", as we propose to charge periodically for the bytes Of memory consumed.

5. The Ethereum Block Technology

The Ethereum Block technology uses of two goals in mind. namely zero transactions for users. miners and spam prevention. Guiding principles for the fee assignment and end up with an example of a practical fee assignment rule. The evolution Of blockchain networks has demonstrated the main resources being used. First and the most important so far, the memory Of network nodes is limited resource. Blocks in the blockchain after processing are stored in a secondary storage. where a cost Of a storage unit is low. In contrast. to validate a transaction, some State is needed (for example. unspent outputs set in Bitcoin is used to validate a transaction), and this State should reside in expensive random access memory. Secondly , it is obvious, especially with the development Of smart contracts, that a cost to process a transaction can be more than just a storage cost: transactions can contain relatively complicated scripts which are meant to be executed by all the nodes in the network.

The most famous example is the Ethereum network implementing the concept Of a "world computer". Thirdly, there is the network load created by every transaction. If an Output is created in one block and spent right in the next one, it provides almost zero overhead in terms Of validation State size, but Creates the network load needed for synchronization. A zero fee transaction should incorporate all the three components stated above. Assigning the zero fee to the storage as if it was execution of some code can lead to significant dis-balance for rich enough scripting language (for example,for the data being written with an opcode other than conventional storage one). Thus, we propose to charge for a component which demands more resources. That is, storage-oriented transactions should be charged for state memory consumption. the computation-oriented transactions should be charged for script execution, and all the others by the network load.

Here α and β are the pricing coefficients, Nb(tx) is transaction size which defines the network load, Nc(tx) will be the estimation of the computational cost of transaction, S(state) will be the cost of the storing one byte in the state for the unit of time (a block), Li will be the time for which the output i is being stored in the state. and Bi will be the size in bytes. Since the time for the data to reside in the state is usually unknown. the third argument Of max() in Eq. (I) cannot be deduced directly at transaction submission time.
The choice Of the relative values Of α, β, S(state) Assume for now that for every transaction we know for how long its outputs Will be stored in the State. We Will overcome this difficulty later. Based on Eq. we come up With the notion Of space Of transactions, Which is three—dimensional in our case — every transaction is defined by three numbers: Nb(tx). Nc(tx), The rigid boundary can be provided by divergence higher than 1/(xmax — x).

One can also try to estimate the optimal state size for a given differentiable pricing curve. The data submission rate $N(S(x))$is fully defined by the current storage price $S(x)$. Rewards rate obtained by the miners for stable state size at price S is given by $y = S \cdot N(S)$.

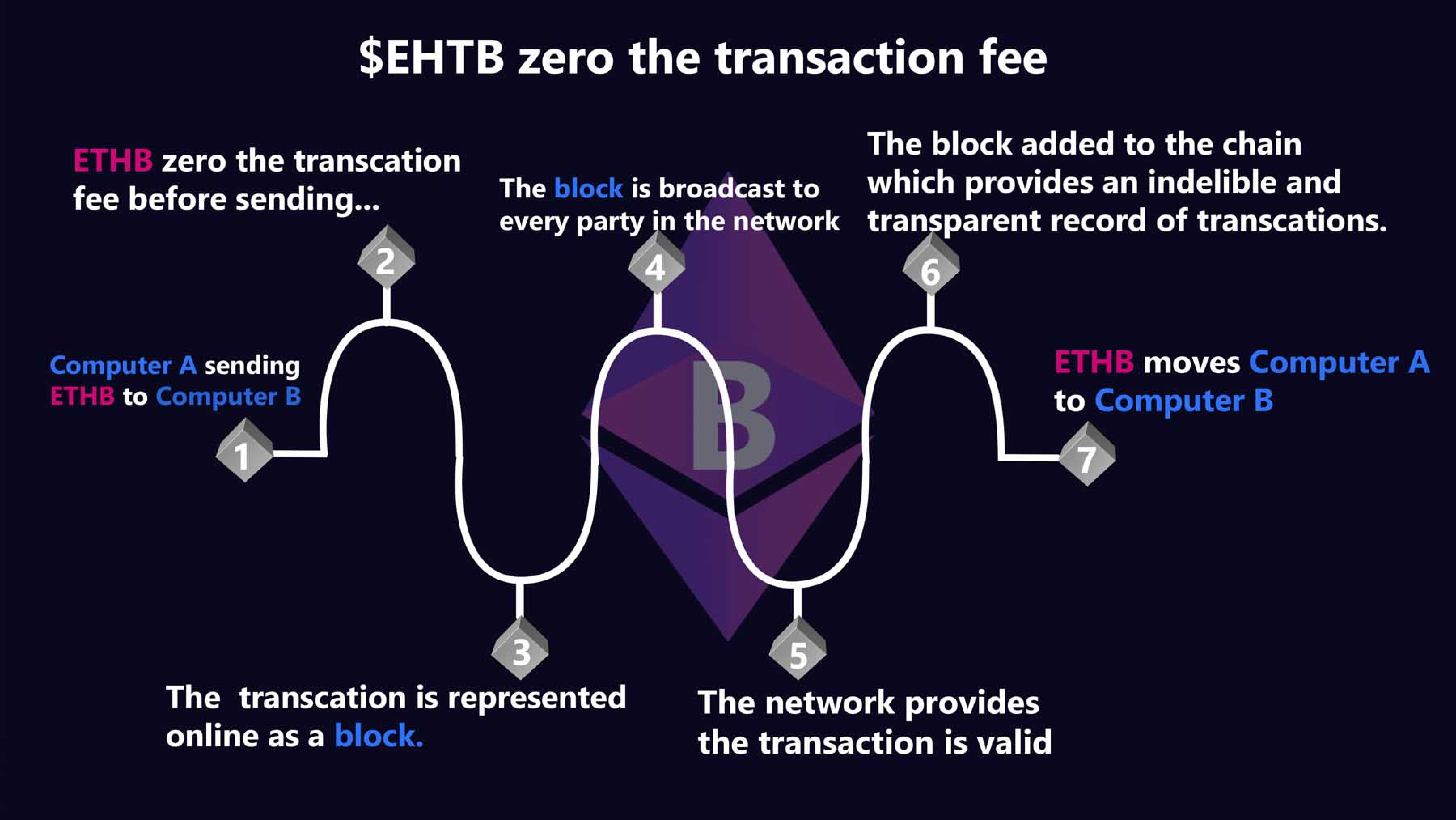
6. The Ethereum Block Remark

Blockchain technology relies on miners, that safeguard the integrity Of the blockchain in exchange for a revenue, that usually consist of two parts: block reward and transaction fees. Transaction fees are useful to limit miners resource usage and prevent spam. While in most of cryptocurrencies a transaction fee is addressed as an atomic concept. The fixed chain has shown reasonable to introduce the three components of a fee associated with resources utilized: network, computation or storage. The analysis of Ethereum blockchain shows that transactions in such a three-dimensional space are distributed close to one of the 3 axes. allowing us to unambiguously classify transactions by consumed resource.

Storage part Of the fee is already discussed in literature as a necessary tool to limit miners storage consumption. This fee component is required to make the state size more predictable, but its implementation is challenging since transaction lifetime is not known at the time when the transaction is created. In this project we have described the concrete method to charge for state bytes consumed that can be fully implemented on the script level. Besides limiting the size of the state. storage fee provides valuable side effects.
In particular. it provides a way to return coins with lost keys into circulation. Enforced coin recirculation has been implemented in some cryptocurrencies.

Another important side effect Of the storage fee is that it provides additional rewards for miners. Even when all coins are emitted and fixed block reward goes to zero, storage fee Will provide stable rewards for miners, which do not depend on user transactions included into block. This Will make destructive mining strategies described in less profitable.

With these factors taken into account. the ready-to-implement system is provided. which is believed to solve the problem of uncontrollable state growth, provide some valuable side effects by the same means, while preserving currently existing methods for transaction fees and code execution costs.


$EHTB zero the transaction fee
Computer A sending ETHB to Computer B
ETHB zero the transcation fee before sending...
The transcation is represented online as a block.
The block is broadcast to every party in the network
The network provides the transaction is valid
The block added to the chain which provides an indelible and transparent record of transcations.
ETHB moves Computer A to Computer B
1
2
3
4
5
6
7
B

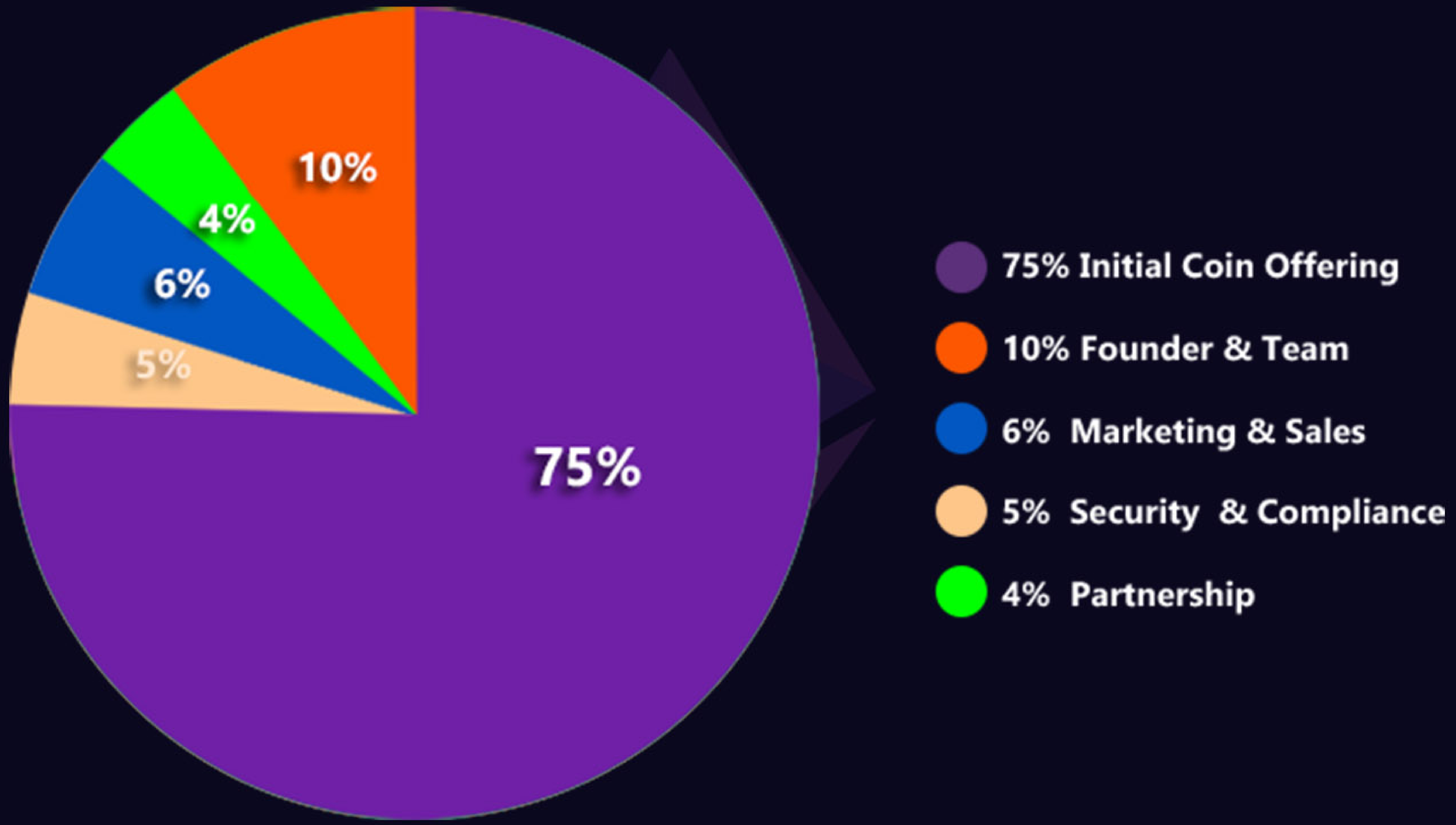
7. Initial Coin Offering

Ethereum block is offering an initial coin offering as a token to all our community members that have interest to join our sales at low price before the exchange.

Total Supply: 95,000,000

Soft Cap: 3,000 ETH

Hard Cap: 6,500 ETH


10%
4%
6%
5%
75%
75% Initial Coin Offering
10% Founder & Team
6% Marketing & Sales
5% Security & Compliance
4% Partnership

8. ETHB Roadmap

December 2017

- ETHB Project Research and Planning

January 2018

- Assemble core team

March 2018

- Investigation into blockchain technology

June 2018

- Write and validate whitepaper
- Finalized proof of concept for Ethereum Block

Febuary 2019

- Mainnet Launch

January 5th, 2018

- ETHB Token Listed on Exchanges
- Beta launch of the Web Version.

December 2018

- Announcement of project, publishing of White Paper
- Launch Public Sale website
- ICO Sale and Airdrop/Bounty Open

September 2018

- Design and architecture for Ethereum Block on blockchain
- Creation of Foundation structure

Q2, 2019

- Launch of the ETHB Open API and Mobile Apps

Q3, 2019

- Relase Github and Web Wallet

Q4, 2019

- Partnership Opens and Release Protocol for Partnership

Q1, 2020

- Roadmap Updates

9. ETHB Team

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Co-founder & CEO

Henry Archie
CTO

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CMO

10. Contact

If you have any question, kindly reach us on the following.

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