**¿WHAT IS ETHEREUM?**

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Ethereum is a Blockchain or Distributed Accounting Technology (DTL) with a fully integrated Turing programming language, a blockchain computer, which allows anyone to write original contracts and decentralized applications by merely writing the logic in a few lines of code.

The Ethereum protocol has initially been conceived as an improved version of the Bitcoin cryptocurrency, to overcome the limitations of its programming language, by providing advanced features such as custody over the blockchain, withdrawal limits, financial contracts, gambling market and the like. Through a very generalized programming language.

In Ethereum, a basic version of Namecoin, the decentralized name registry database, can be written in two lines of code, and other protocols such as coins and reputation systems can be built in less than twenty lines. Smart contracts, cryptographic "boxes" that contain value and only unlock if certain conditions are met, can also be incorporated on top of the platform, with much more power than that offered by the Bitcoin script due to the added strength of the full Turing.

The Ethereum protocol does not "support" any of the applications directly, but the existence of a complete Turing programming language allows arbitrary contracts theoretically to be created for any transaction or request. What is most interesting about Ethereum, however, is that the Ethereum protocol moves far beyond the coin.

Protocols around decentralized file storage, decentralized computing, and decentralized prediction markets, among dozens of other similar concepts, have the potential to increase the efficiency of the computing industry substantially, and provide a significant boost to different peer-to-peer protocols by adding For the first time an economic layer. Finally, there is also a considerable variety of applications that have nothing to do with money at all.

**WHAT IS ETHER?**

Ether is the cryptocurrency of Ethereum, the fuel that drives this platform for distributed applications. It is a cryptocurrency used by customers of the Ethereum platform to make payments to other people or to machines that execute requested operations.

That is, Ether is the incentive that ensures that developers write quality applications (additional coding costs more) and that the network remains healthy (people are rewarded for the resources provided).

The total offer of Ether and its emission rate was decided in the pre-sale of 2014. The critical data are the following:

* *60 million Ether were created for pre-sale taxpayers.*
* *12 million were designed for the development fund, most of them went to the first contributors and developers and the rest of the Ethereum Foundation.*
* *5 Ether is created for each block (every 15-17 seconds) for the miners of the blocks.*
* *2-3 Ether is sometimes sent to other miners if they were able to find a solution but their block was not included (called Uncle / Aunt reward).*

According to the terms agreed by all parties in the 2014 presale, **Ether's issuance is limited to 18 million Ether per year (25% of the initial offer).** Although this rate is expected not to be maintained since in 2017, Ethereum will change its mining scheme from Work Test (PoW) to Proof of Participation (PoS) under the code name Casper.

**WHAT IS GAS?**

To avoid accidental, hostile infinite loops, or other computational waste in the code, each transaction is forced to set a limit to the number of computational steps of code execution that it can use.

The fundamental unit of computing is "gas." In general, a computational step costs one gas, but some operations require higher amounts of gas because they are more expensive computationally, or because they increase the number of data that must be stored as part of the state. There is also a rate of 5 gas for each byte in the transaction data.

The commission system intends to force an attacker to pay proportionally for each resource it consumes, including computing, bandwidth, and storage. Therefore, any operation that leads the network to absorb a higher amount of any of these resources must have a gas commission more or less proportional to the increase.

**SMART CONTRACTS**

A Smart contract is a type of program that ensures that all the terms of a previous agreement between two or more parties are effective. That is, it is a contract that is not based on the trust of the participants in the transaction. Directly is 'the system' who makes sure that everything comes out assigned.

Imagine you want to place a bet: if you win a match, the other person signing the contract will owe you 100 euros, and if not, you will owe 200 euros. This could apply to an insurance company or a loan. In the current economy, either we trust the other person, or we believe the third party.

With Ethereum's smart contracts, this is not necessary. He would be an intermediary, only that in this case no commission is taken.

Thus, there are several advantages: you can not change the contract (*remember that the blockchain is based precisely on the inalterability of the data*); it can not be canceled; intermediaries are eliminated, and the delay in the operation is reduced.