Contents

[Gas 2](#_Toc98455260)

# Gas

In this section we will discuss notion of gas. It is an important factor to know in ETH network.

Solidity is Turing Complete language which means you can have loops. Loops allow programmers to give instructions to computers

and then execute them over and over again. Basically, take this code and execute it million times.

This loop could create problems because ETH network is network of computers and ETH network having limited amount of memory of CPU and storage.

Limited Resources

Unlimited programming languages

This is the reason why BTC did not want to have TC because you run into issue of spams.

**This is where Gas comes in,**

**in order to prevent spams on ETH network you have to pay for each transaction for each smart contract that executes**. Smart contract is bunch of instructions and then the EVM will go through each instruction and execute them.

The gas fee is used to provide a layer of security to the ETH network by making it too expensive for malicious users to spam the network.

For example, instruction could be ADD or MULTIPLY.

The instruction code such as ADD, MUL, SUB, DIV, EQ … etc all have different GAS cost. Why are the Gas cost different?

It is because all the prices are hardcoded into the protocol, so the protocol hardcoded into itself and it becomes a problematic because the price in ETH in US dollar can change a lot and who knows the price of ETH will change tomorrow.

So if we hardcoded the prices and the ETH skyrockets it becomes a problematic because simple ADD could cost more than hundreds of dollars. So in old prices you have set in the gas.

The gas need to convert into ETH, and one gas should not be worth 1 ETH