

7CCSMDLC TUTORIAL QUESTIONS and SOLUTIONS

TOPIC 5: MONEY and e-MONEY

TUTORIALS WEEK 7

Q1. What is the difference between Ether and gas on Ethereum?

Ether (abbreviated to ETH) is a cryptocurrency (or token) created to fund the project. Investors in the Ethereum ICO could buy these tokens and later sell them, as the project became more valuable. Ethereum has become the cryptocurrency with the second highest market capitalization, which means many people are buying ETH for investment (as a way to store their wealth) or for speculation.

Gas is an internal currency in Ethereum used to control demand and supply of transaction-processing on the platform, and to prevent infinite loops. As with Bitcoin, proposers of transactions may nominate a fee in gas to be paid to miners. When demand for transaction processing is high (ie, when the numbers of proposed transactions increases), users can offer higher gas payments in fees to miners. Higher gas fees make the processing task more financially attractive to miners, so more nodes will see to process transactions. Hence the higher demand should lead to higher gas charges which will lead to greater supply of processing services, and so supply will rise to match demand. Proposed fees should then fall, as the imbalance of demand over supply is reduced or even eliminated (to the point where supply is greater than demand).

Q2. CryptoKitties was launched on Ethereum in the first week of December 2017, and caused congestion on the network. What caused the congestion? How was this resolved?

The cause of congestion was a rise in transactions, as well as some design deficiencies in the user interface and in the underlying code. For many transactions, users had offered gas levels that were too low, especially as the demand rose, and so their transactions were not processed immediately. The queue of pending transactions rose, and there were delays in processing. Most users did not realize that they could resubmit their transaction with a higher gas fee offered. The developers of CryptoKitties, working with others, accordingly changed their interface to make submitting a higher gas fee much easier (in fact, a matter of a single button click on the interface).

More details here:

<https://www.bbc.co.uk/news/technology-42237162>

<https://consensys.net/blog/news/the-inside-story-of-the-cryptokitties-congestion-crisis/>

Q3. Identify examples of stable coins which are linked to (a) US dollars (b) Euros (c) Gold and (d) Bitcoin.

- (a) There are many linked to the US dollar, eg Tether, TrueUSD, DAI Stablecoin
- (b) Stasis Euro
- (c) Digix Gold Token (DGX), GoldX token
- (d) Wrapped BTC (WBTC).

More examples and information here:

<https://changelly.com/blog/best-stablecoins-comparison/>