

Mandi – A block chain based decentralized exchange

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Abstract. A pure peer to peer version of the exchange system would allow all parties access to the market without relying on any central organization for market access. Paper proposes a solution for the problem of maintain a order book and determine the execution rate in the peer to peer network. Like crypto-currencies the network relies on blockchain of transaction. Digital signature system would be the core of the decentralized market place (Mandi). The paper defines basic ground rules for the working of decentralized exchange. The major components of the decentralized exchange are issuing process, co-existence of blockchain and order books and functions of the miner. Unlike other crypto currencies de-centralized exchange would have a trust based flexible issuing process which in long run would be a sum zero game. The decentralized exchange would have 3 types of entities namely – Issuer, Trader and Miner.

Keywords: Crypto-currencies, decentralized exchange, Payment system.

1 Introduction

Traditionally exchanges have been a place where buyers and sellers of a commodity meet to decide on a specific price for the commodity based on demand and supply. Initially exchange was a common marketplace, later it evolved into a organized market place regulated by defined rules. The decentralized exchange which can facilitate the functions of exchange without relying on central point of authority embedding all the basic principles of exchange in a autonomous technical protocol by the extending the capabilities of blockchain.

2 Functions of exchange

The exchange by very definition is a organized market place where various commodities, currencies, Financial Securities and derivatives are traded. The basic Components of any exchange are the entities (buyer and seller), A pair of Financial Instrument (Commodity, Security, Currency or derivatives), Quantity in trade and Price for the Financial Instrument against another Financial instrument. For this paper, Currency has been considered as a financial instrument. Each Financial instrument has a finite unit of exchange. (I.e. 1oz of gold is basic unit of exchange or 1 unit of share is basic unit for exchange.). In an exchange the entities bring in their respective financial instrument for trade with other financial instrument and based on demand and supply between two financial instruments the price is determined.