paperchain

PROTOCOL IMPLEMENTATION ON ETHEREUM

Paperchain overview

[Paperchain](#) allows media companies, such as record labels, film production companies, digital publishers and news organizations, to **tokenize their daily media transaction data** into assets that can be sold to a global investment network on a decentralized marketplace, **meaning revenue can be accessed months ahead** of current industry pay cycles.

Protocol implementation on Ethereum

Paperchain is building a decentralized protocol to standardize the way non-fungible assets can be traded between peers on a blockchain. Our [whitepaper defines the Non-Fungible Exchange Contract (NFXC) protocol](#) that facilitates a peer-to-peer methodology for exchange. In this framework, two peers (a Buyer and a Seller), transact with each other in a marketplace.

The Buyer is issued a Non-Fungible Asset-Backed Token (NFT) that collateralizes the Seller's Non-Fungible Asset(s) in exchange for the current notional value of the Asset. The NFXC defines a mechanism for an IOU remittance to the Buyer, attached to the NFT. A Marketplace Oracle Service helps facilitate the IOU issuance to the Buyer, while also executing the burning of the NFT, completing the trade.

Advantages of using Ethereum

- **Cost** of sending 1 token to 1 million tokens is the same on Ethereum. The cost is limited to the 'signing' of the transaction
- Ethereum has flexibility of **customizing token behaviour**. For example, in the proposed ERC-721 token standard, the non-fungible token is used to

represent non-fungible assets. We created a new asset class of media transactions, those that exhibit immediate 'proof of consumption' with a promise of 'eventual payment'.

- We use the **ERC-721 token to represent the notional value of a package** of these media transactions, which can be traded for ERC-20 tokens or Ether. The ERC-721 itself can be traded to indicate the ownership i.e., the entity to which the notional value of transactions is owed towards. If traded, a secondary marketplace can be established easily on Ethereum.

- **Contracts can be extended** to apply concepts like loan maturity fees, futures, escrows, and bonds that are relevant to our offering.

- **Ethereum has a large developer community** with a plethora of integration examples and a huge number of tools are becoming available to ease integration. There is also a large talent pool available too.

- State channels allows us to integrate with other blockchain/services for key functions, such as a Interledger for payments.

Disadvantages of using Ethereum

- Due to the marketplace being present as a 'contract' on Ethereum, any transactions with it **costs gas**, unless running a private network. Publishing an order which may or may not get funded, has a cost regardless.

- Ethereum **may not be very effective at scale** when we deal with **programmatic buy/sell of orders** or high volume day trading to promote faster and efficient liquidity. However, this may change with the upcoming Plasma and Casper implementation.