amberdata

On-Chain Data: The Mempool

On-chain, or blockchain data, is a valuable source of information for anyone interested in digital assets. On-chain data includes transactions on a blockchain, users' wallet addresses, smart contract information, and mempool data. A mempool is a hub of pending transactions that have not yet been selected by miners or validators to be included in a block.

Mempool data is ephemeral, meaning transaction information not included in a block is lost forever. Because exchanges themselves do not record this valuable data, leveraging the mempool requires deep historical and real-time collection of blockchain transactions.

A popular form of mempool analysis is to investigate the "time-in-flight," or how long a transaction stays in the mempool before being validated within a block. Analysis of time-in-flight data can help users investigate transaction times and gas fees, compare metrics between different exchanges, and even assist with an arbitrage trade.

For example, here is a time-in-flight analysis of two transactions using the Amberdata Mempool endpoint. One transaction is from the Coinbase 4 ETH hot wallet and the other is from a CryptoPunk NFT.

Transaction One: Coinbase 4	Transaction Two: CryptoPunk
Tx Hash: 0x93b4b4f8d0414358a1ae718bb22bdf893f845f1299d243a9a4446a9b4d19d6b8 From address: 0xdd1d9ad93d2e60cab546edc4990ff074223105cb To address: 0xb47e3cd837ddf8e4c57f05d70ab865de6e193bbb Pending transaction time: 20:11:24 Confirmed transaction time: 20:11:35 **Time-In-Flight: 0:00:11**	Tx Hash: 0x3750f943059ebf1fb7afc1fed87c5aa6dcc042e06e5fad3c55525eee147b8f9b From address: 0xd3e62b81e18a34a4073288931efac9d906dc2815 To address: 0x3cd751e6b0078be393132286c442345e5dc49699 Pending transaction time: 13:20:55 Confirmed transaction time: 13:20:59 **Time-In-Flight: 0:00:04**

The Coinbase 4 transaction was seven seconds slower than the CryptoPunk transaction. This delay could be a result of the size of the transaction, the transaction fees, or many other variables. Further analysis of historical time-in-flight data could indicate how token type or adverse events affects the validation of transactions.

Amberdata has the longest history of mempool data, dating back to November 2017. For more information, please visit Amberdata.io or contact us at hello@amberdata.io.

hello@amberdata.io
www.amberdata.io