"Blockchain is an open, distributed ledger that can record transactions between two parties efficiently and in a verifiable and permanent way." (Iansiti & Lakhani, 2017). Blockchain data exchange protocol uses distributed ledger technology to facilitate secure sharing of data across networks without the need for intermediaries. Made popular through its use with Bitcoin and other cryptocurrencies, Blockchain has been promoted as a vehicle for managing digital identity across a distributed network.

Businesses struggle to articulate use cases about the problems that they want to solve with blockchain, a clear indication that the market is in its early stages. However, many organizations are actively looking for how they can leverage blockchain technology to gain a competitive edge.

This article shows a simple data flow through a blockchain and provides some sample use cases in the hope that the reader can continue the discussion of how they can leverage this new technology.

Blockchain Data Flow Infographic

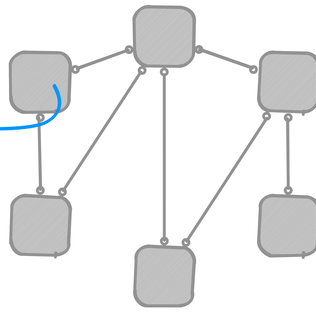
Peer-to-peer/ decentralized network

A group of independent computers called nodes which are interconnected with each other to share data among each other without the use of a centralized computer. Each node has the same capabilities, hence the word 'peer'.

1

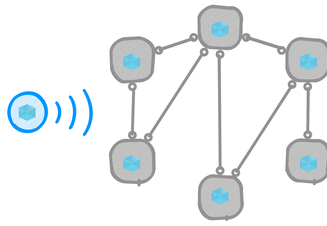
Someone requests a transaction.

Note, it doesn't start out as a block, just for illustrative purposes.



2

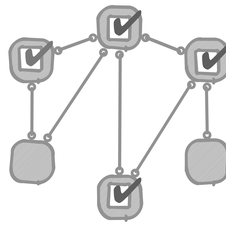
The requested transaction is broadcast to the P2P network.



3

The network of nodes validates the transaction and the user's status using known algorithms. Note that not all nodes need to verify the transaction.

Note that a transaction can involve cryptocurrency, contracts, records or any other information.



4

Once verified the transaction is combined with other transactions to create a new block of data for the ledger.

5

The new block is added to the existing blockchain in a way that is permanent and unalterable. The transaction is completed.

Uses

"The blockchain is an incorruptible digital ledger of economic transactions that can be programmed to record not just financial transactions but virtually everything of value."

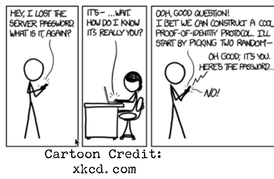
Don and Alex Tapscott, authors Blockchain Revolution (2016)

Most of your ownership records are stored in paper ledgers. These can be altered without your knowledge. Represent these records using blockchain protocol can eliminate physicality and enable transparency of alterations.

Walmart experimented piggishly with blockchain's capabilities to follow pork meat from farms overseas to customers.

Digital (chadless) voting can be a reality using blockchain.

With Blockchain you don't have to build your own identity infrastructure, you can use Ethereum's open Blockchain to store the identity details. Anyone who wants to verify just has to query the open Blockchain.



Cartoon Credit: xkcd.com