



Blockchain Basics
Agency of Digital Services



Blockchain is a decentralized "append-only" peer-to-peer public ledger, where transactions (Blocks) are linked and secured using cryptography. Participants all receive complete copies of the ledger and reconcile the ledger through group polling.

WHAT IS BLOCKCHAIN TECHNOLOGY?



A digital ledger that keeps a record of all transactions taking place on a peer-to-peer network



All information transferred via blockchain is encrypted and every occurrence recorded, meaning it cannot be altered



It is decentralised, so there's no need for any central, certifying authority



It can be used for much more than the transfer of currency; contracts, records and other kinds of data can be shared



Encrypted information can be shared across multiple providers without risk of a privacy breach

Source: IoT World News



HOW BLOCKCHAIN WORKS

“ A Blockchain is a cloud based database shared by every participant in a given system, in the case of this exemplar, its a currency trade. The Blockchain contains the complete transaction of the cryptocurrency or other record keeping in other applications. Think of it as a cloud based peer to peer ledger. ”

1 Alice wants to send money to Ben



2 The first Block is created online and represents the transaction



3 This Block is broadcast to every party in the network



4 Those in the network approve the transaction and validate it



5 The Block is then added to the Chain which provides a permanent, nonrepudiable and transparent record of the transaction



6 Ben receives the money from Alice



Notes: Transactions are not valid until added to the Chain. Tampering is immediately evident.

The Blockchain is regarded as safe as everyone in the network has a copy. The Source of any discrepancies are usually evident immediately.

@PDForrest

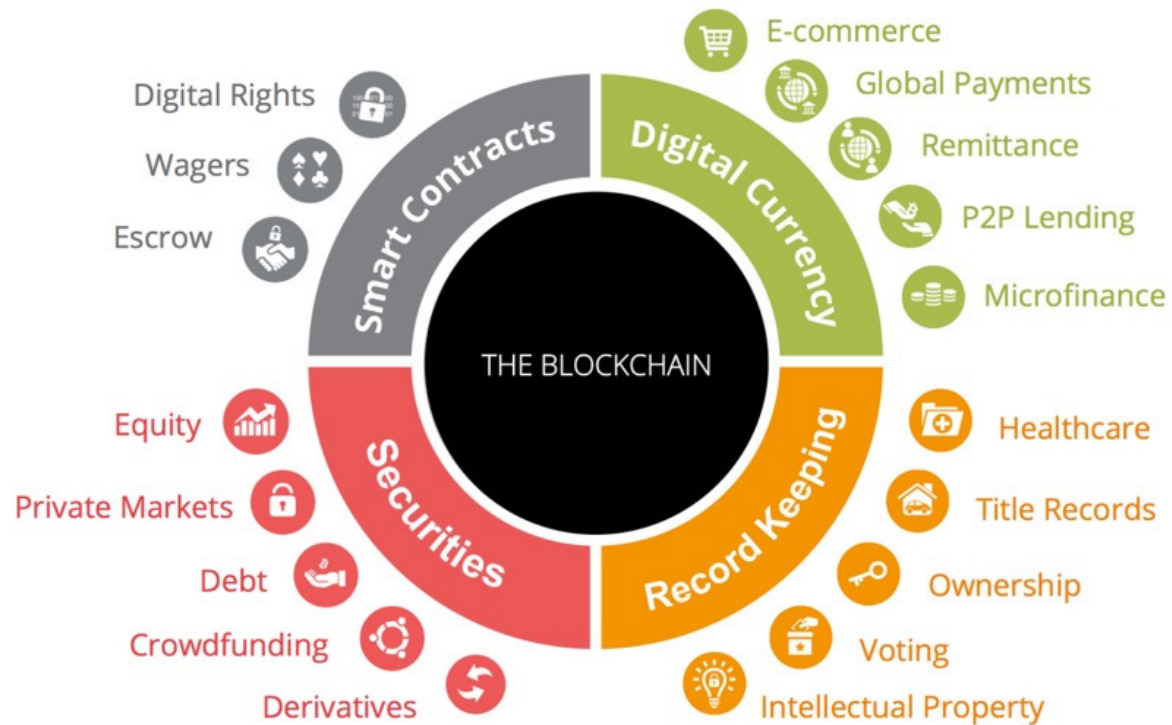


Details to Know

- Transactions are broadcast to all participants
- "Miners" are participants who provide additional computational resources to settle, audit and reconcile transactions.
- With Bitcoin – Miners are compensated for their resource allocation.
- Without Bitcoin or another asset to reward miners – appointed validator officials/systems are required.
- Blockchain is ill-suited for storing large amounts of data; inefficient data insert/retrieval compared to Relational Databases



Where is Blockchain Useful





PAST



PRESENT



FUTURE

Blockchain Startups

Top Blockchain startups disrupting non-financial markets



Venture Radar



THE WALL STREET JOURNAL

THE TIMES

HM Government



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Cloud storage



TIERION



STORJ.IO

Smart Contracts



Social Networking



GEMS

Anti-Counterfeiting



BLOCKVERIFY



Governance

OTONOMOS



Supply Chain

Tradle

thingchain



followmyvote



Digital Identity

ONENAME



Prediction Markets



Internet of Things



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