

Blockchain 101

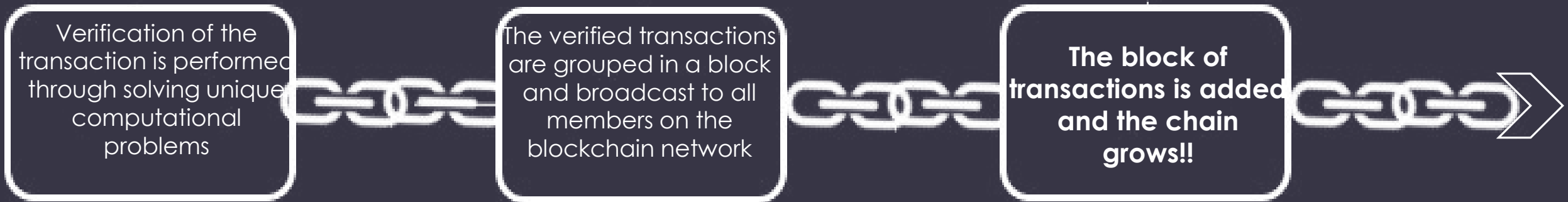
- a “*decentralized, distributed ledger*” system
- The blockchain is digitally distributed among decentralised nodes. Each node has a full copy of the blockchain. Nodes can be miners or simply people running the software.
- Miners - who are specialised computers - contribute computing power to verify transactions and prevent tampering of the ledger by attackers in a method called “Proof of Work”.
- Miners who solve the Proof of Work puzzle are rewarded more cryptocurrency for their efforts.
- Transactions are grouped into “pages” of transactions called blocks. Blocks are timestamped and cryptographically linked to previous blocks...hence a “blockchain”
 - All miners must agree on the validity of transactions in the current block in order to have “consensus”
 - Extremely difficult to modify previous transactions after the transaction has been verified and added

Blockchain Key Points

- Decentralized network → Security
- Distributed ledger → Transparency
- Verification → Consistency
- Chaining to previous block → Immutability



A Blockchain Illustrated



Blockchain Use Case: Bitcoin



- ❑ A digital currency stored on a blockchain
- ❑ The bitcoin blockchain is open to the public
 - ❑ **Anyone** can participate in the verification process
- ❑ Transferred from person to person
- ❑ **Decentralized** – no central or intermediate authority to regulate bitcoin transactions
- ❑ Transferred directly from person to person
- ❑ Low transaction fee
 - ❑ Same cost to send \$1,000 as \$.01

Blockchain Use Case: Ethereum



- ❑ Smart Contracts platform
- ❑ Define and enter into automatically enforced agreements with anyone
 - ❑ Many Different Use Cases:
 - ❑ Insurance
 - ❑ Prediction Markets
 - ❑ ICOs & Crowdfunding
 - ❑ Tokenizing real world assets, stocks, bonds
 - ❑ Utility Tokens
 - ❑ Security Tokens
 - ❑ Many More Yet To Be Discovered!