

The background is a dark blue gradient. On the left, there are two overlapping geometric shapes: a blue parallelogram and a light green parallelogram. Below these, a circular inset shows a detailed, high-contrast image of a circuit board. In the top right corner, there is a faint, grey, 3D-rendered pattern of interconnected lines and squares, resembling a circuit or a data structure.

# Introducing to Blockchain

# What is ledger ?

Ledger - form of systematization, accounting; list, description, system.

Is in fact a double-entry bookkeeping entry.





# Types of ledgers.

- Traditional ledger
- Private ledger
- Restricted ledger
- Public ledger
- Distributed ledger

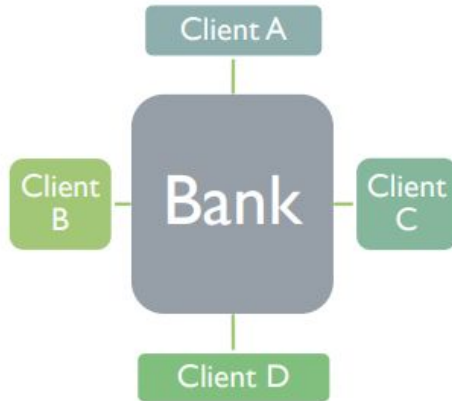


# Distributed ledger

Distributed ledger is a consensus of replicated data that distributed and synchronized on the network.  
They are distributed over a large number of network nodes, as well as geographic locations.  
Unlike with a centralized database, there is no central administrator.

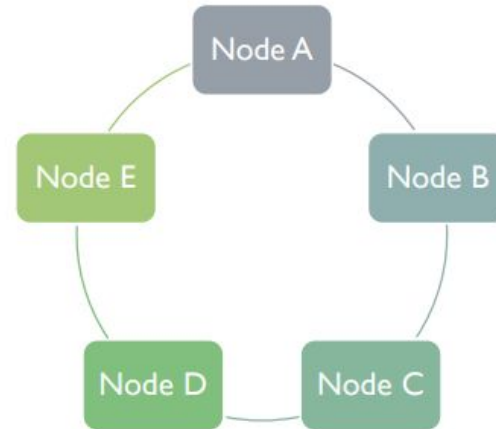
# Types of ledgers.

## Centralized Ledger



- There are multiple ledgers, but Bank holds the “golden record”
- Client B must reconcile its own ledger against that of Bank, and must convince Bank of the “true state” of the Bank ledger if discrepancies arise

## Distributed Ledger



- There is one ledger. All Nodes have some level of access to that ledger.
- All Nodes agree to a protocol that determines the “true state” of the ledger at any point in time. The application of this protocol is sometimes called “achieving consensus.”

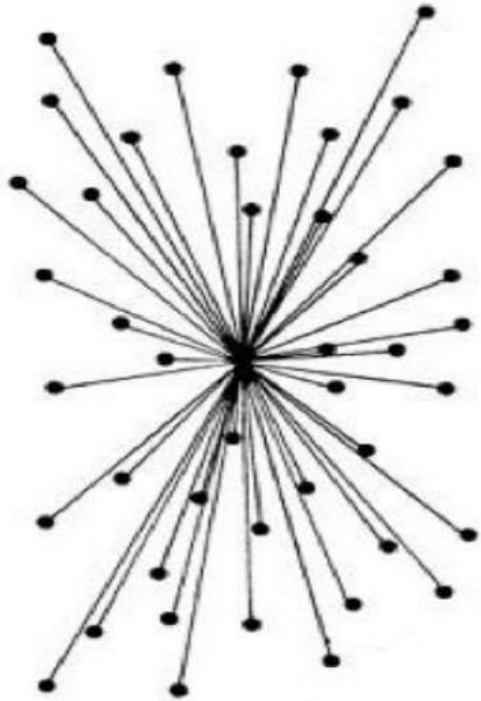


# Network types

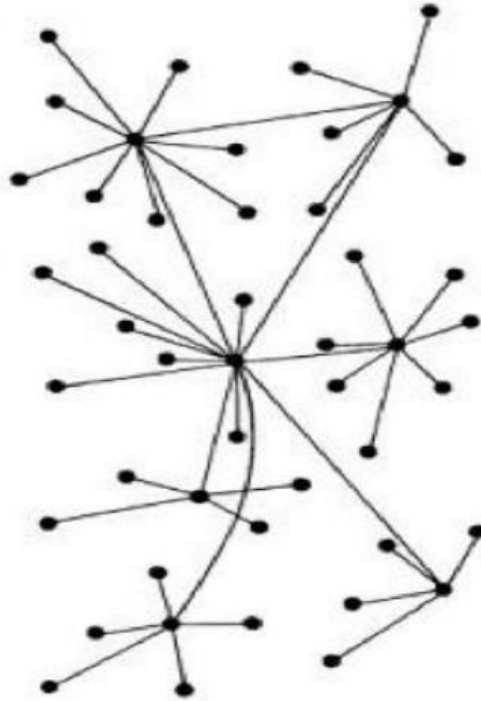
In general, networks can be of the following topologies:

- Private ledger
- Restricted ledger
- Public ledger
- Distributed ledger

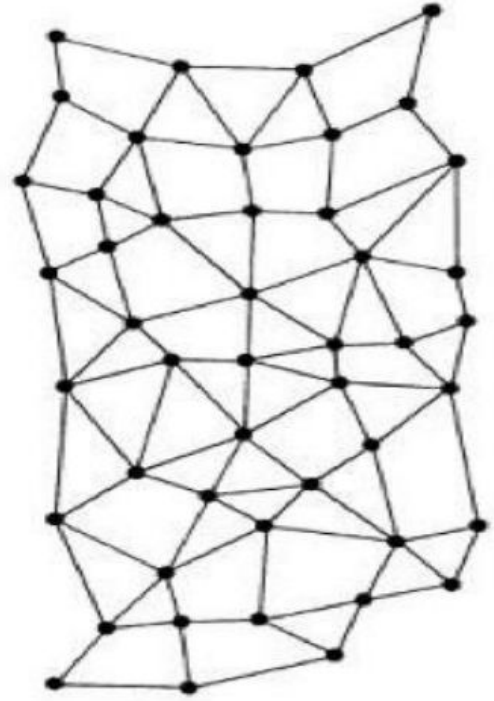
# Network types



Centralized



Decentralized



Distributed



# What is blockchain ?

Blockchain (“chain of blocks”) - distributed public database of all transactions, which combines many blocks, each of which represents a certain type information about transaction performed by network members.

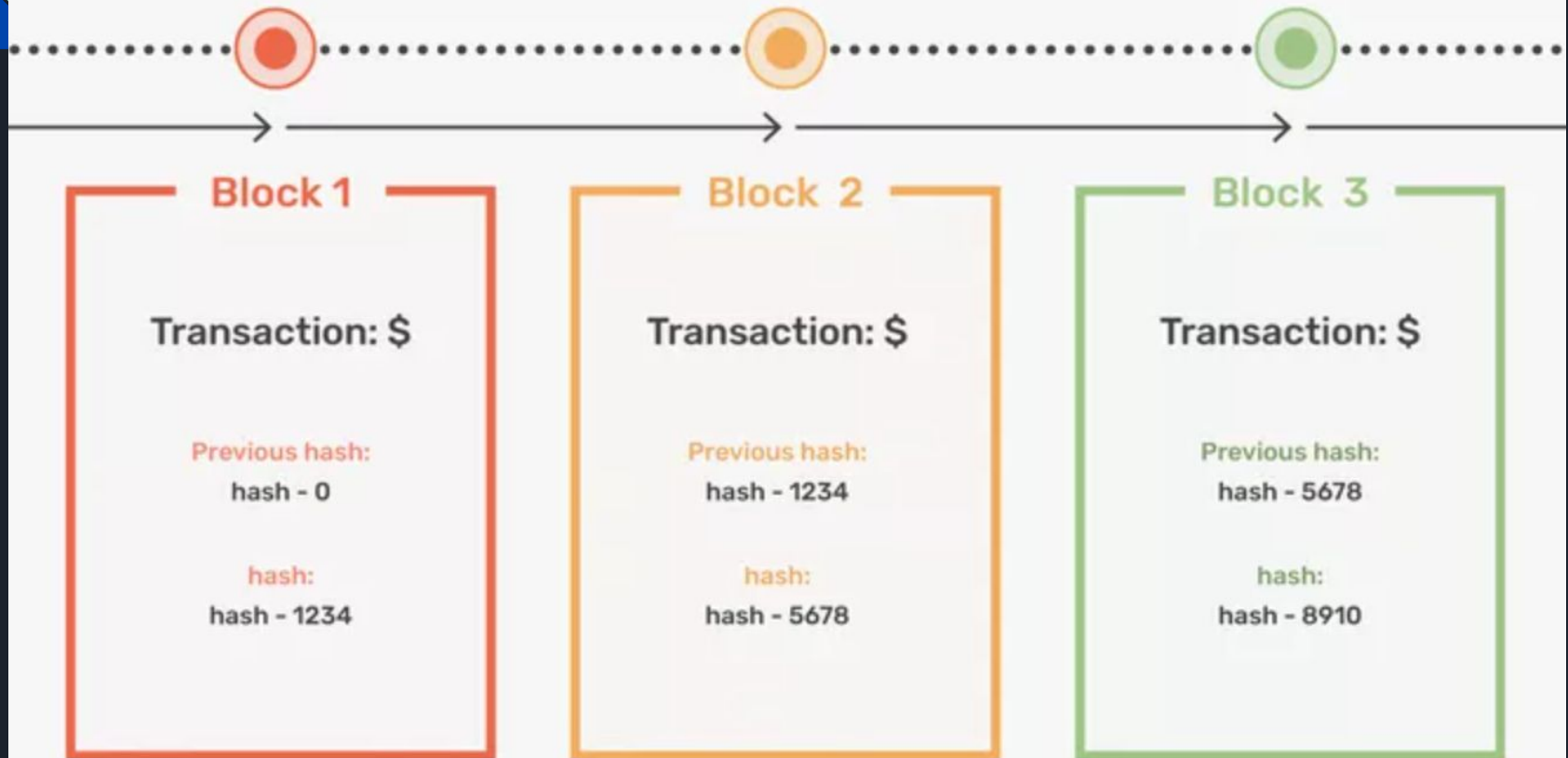




# What is Bitcoin ?

Bitcoin is a decentralized digital currency, without a central bank or single administration, that can be sent from user to user on peer-to-peer bitcoin network without need for intermediaries. Transaction are verified by network nodes through cryptography and recorded in public distributed ledger called a blockchain. Bitcoin was invented in 2008 by Satoshi Nakamoto, the currency began use in 2009 when is implementation released as open-source software.

# How Does a Blockchain Work?





# Most popular Blockchains today

1. Bitcoin
2. Ethereum
3. Binance Smart Chain
4. XRP
5. Solana
6. Terra
7. Cardano
8. Dogecoin
9. Polkadot
10. Polygon



# What is Ethereum ?

Ethereum is a decentralized blockchain platform that establishes a peer-to-peer network that securely executes and verifies application code, called smart contract.

Bitcoin is the world wide ledger, and Ethereum is the world wide state machine (computer).

