



Permissioned Blockchain vs. Distributed Database

PERMISSIONED
BLOCKCHAIN
DISTRIBUTED
DATABASE

A Blockchain is a distributed ledger, shared amongst a network, on which participants exchange items of value. Blockchains can be either public or permissioned depending on the network purpose.

Permissioned Blockchain

A permissioned blockchain is a distributed ledger in which access to ledger is dependent on a verified identity.

Usage

Transactions are added to the blockchain based on a pre-defined consensus algorithm. After verification, each node on the network updates their copy of the blockchain to reflect the change.

Privacy

Permissioned ledgers restrict access to the necessary parties in a business transaction.

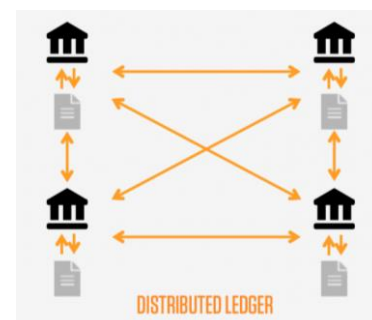
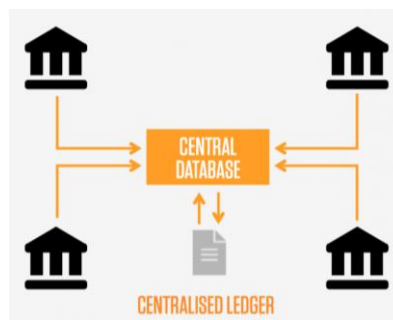
Storage

The entire lifecycle of an asset is recorded as a series of transactions— creating an immutable record of events. Transactions are grouped into blocks which are then distributed to each member of the network.

Distributed Database

A distributed database is a database in which storage devices are not all attached to a common processor.

- Requires a Central Database Management System
- Information can be easily changed, updated and edited by any users without permission
- Internal and external reconciliation required to ensure correct data



Permissioned Blockchain

- Transactions are added to the blockchain based on a pre-defined consensus algorithm
- The entire lifecycle of an asset is recorded as a series of transactions, creating an immutable record of events
- Cryptography embedded

Distributed Database

- Information is easily accessed, managed, and updated
- Requires a database management system
- Internal / external reconciliation required
- Cryptography is afterthought
- Backups are set manually
- Actions done on behalf of others

Central administrator
Distributed among many machines
Privacy can be configured