

BLOCKCHAIN:

THE NEXT TECHNOLOGY REVOLUTION

DO YOU REMEMBER...

- life before cell phones
- life before the Internet
- life before smart phones

SOMEDAY YOU WILL LOOK BACK
ON LIFE BEFORE **BLOCKCHAIN**

WHY IS BLOCKCHAIN A TECHNOLOGY REVOLUTION?

- Blockchain will change the way identity and transactions are handled.
- Blockchain will replace institutional middlemen who currently provide trust and validation.

DATA STORED ON A BLOCK



Medical Records



Real Estate Transactions



Voting Record

HAVE YOU HEARD OF BITCOIN?

DIRECT SECURE CURRENCY EXCHANGE
NO BANK, NO BROKER, NO MIDDLEMAN

BITCOIN IS BUILT ON BLOCKCHAIN

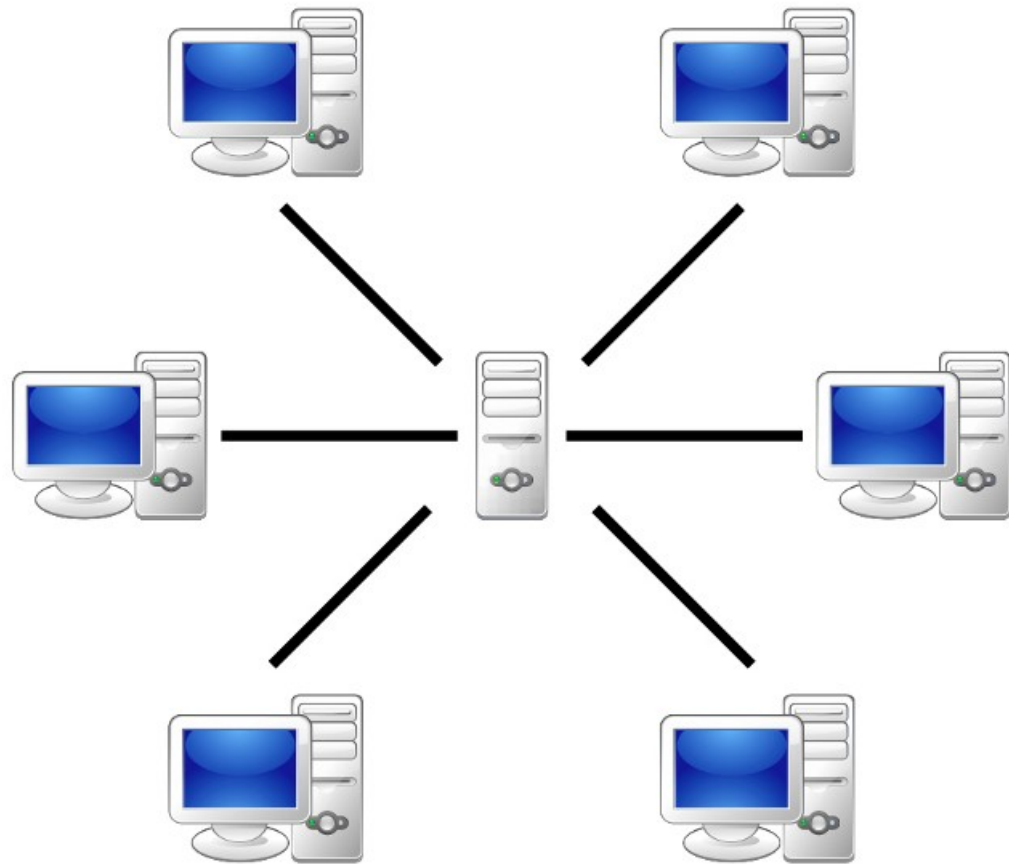
BLOCKCHAIN DEFINED

"A **blockchain** is a peer-to-peer distributed ledger forged by consensus, combined with a system for "smart contracts" and other assistive technologies" -- hyperledger.org

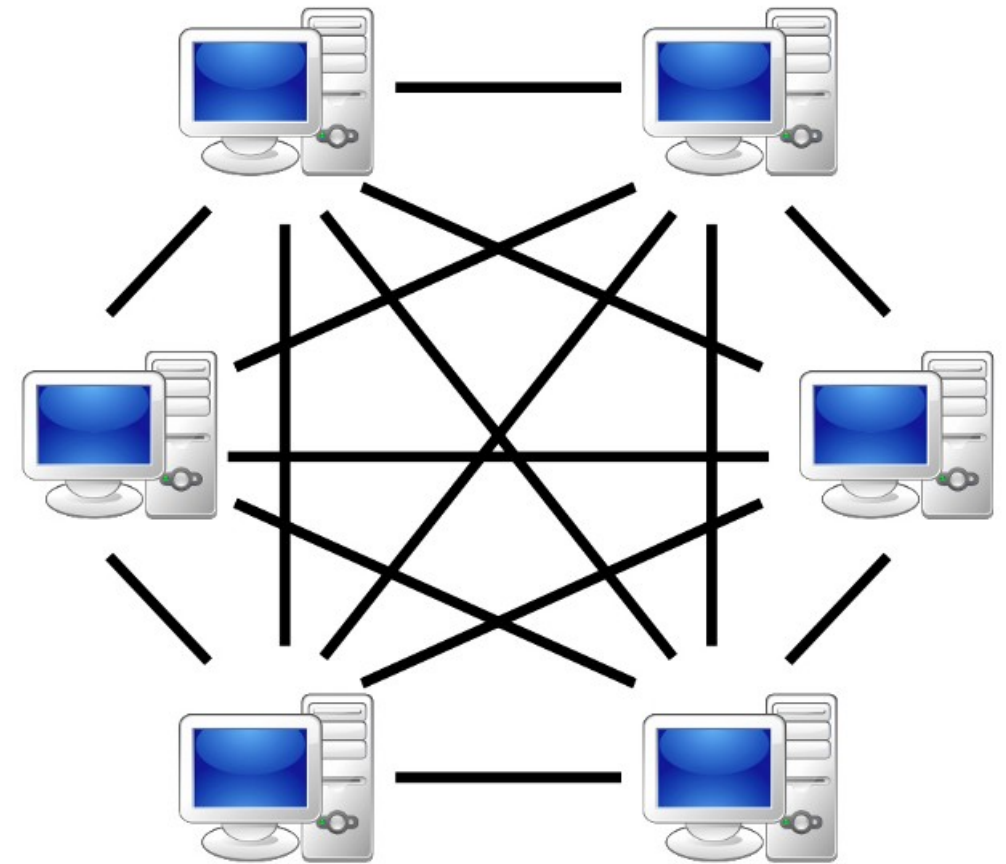
- Blockchain: a chronological chain of blocks
- Block: a bundle of transactions added to the chain at the same time

"A blockchain is a **peer-to-peer distributed ledger** forged by **consensus**, combined with a system for "smart contracts" and other assistive technologies" -- hyperledger.org

- Peer-to-peer (P2P): many networked nodes having no central authority
- Distributed Ledger (DLT): a record of transactions replicated on many peer nodes
- Consensus: agreement of 51% or more of the peer nodes



Server-based



P2P-network

"A blockchain is a peer-to-peer distributed ledger forged by consensus, combined with a system for **"smart contracts" and other assistive technologies**" -- hyperledger.org

- Smart contracts: self-executing contracts with the terms of the agreement between parties (e.g., buyer and seller) being directly written into lines of code
- Other assistive technologies: TBD

A SMART CONTRACT

Small computer programs can execute **complex contracts**. Specific actions can be verified by third parties, and then **trigger** other events. All this gets recorded on the secure blockchain, and can **never be altered** after the fact.



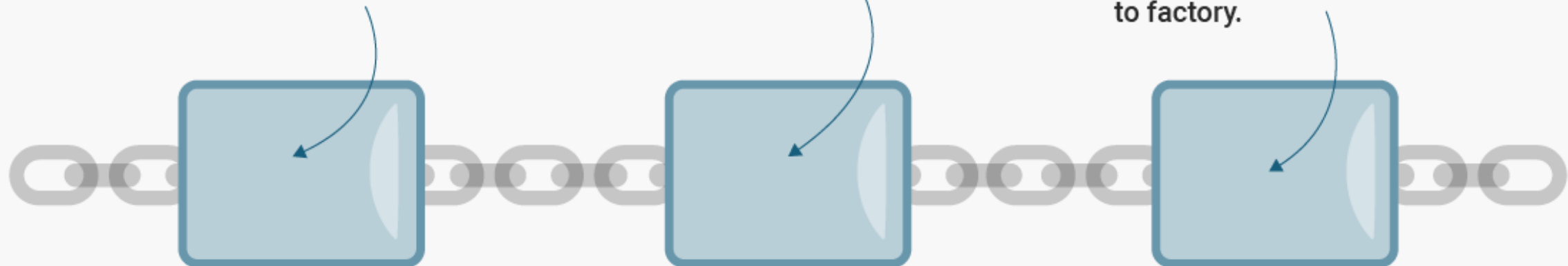
1. Workers scan IDs, which are **verified** by a government database. Work begins.



2. Finished products **automatically** summon delivery trucks.



3. When the driver scans a box, it **triggers a payment** from video-game company to factory.



CONCLUSION

Blockchain is the next technology revolution. It will be a slow revolution like the expansion of the Internet. Blockchain will change how we handle identity management and business transactions.

Stay tuned... Over the next couple of months, I will give presentations on blockchain use cases, technical details, and the Linux Foundation Hyperledger blockchain projects.

REFERENCES

edX | Blockchain for Business

<https://www.edx.org/professional-certificate/linuxfoundationx-blockchain-for-business>

Linux Foundation Hyperledger Projects:

<https://www.hyperledger.org/>