



**CPAs & BUSINESS ADVISORS**

## **BLOCKCHAIN**

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Chief Innovation Officer

# BLOCKCHAIN DEFINED

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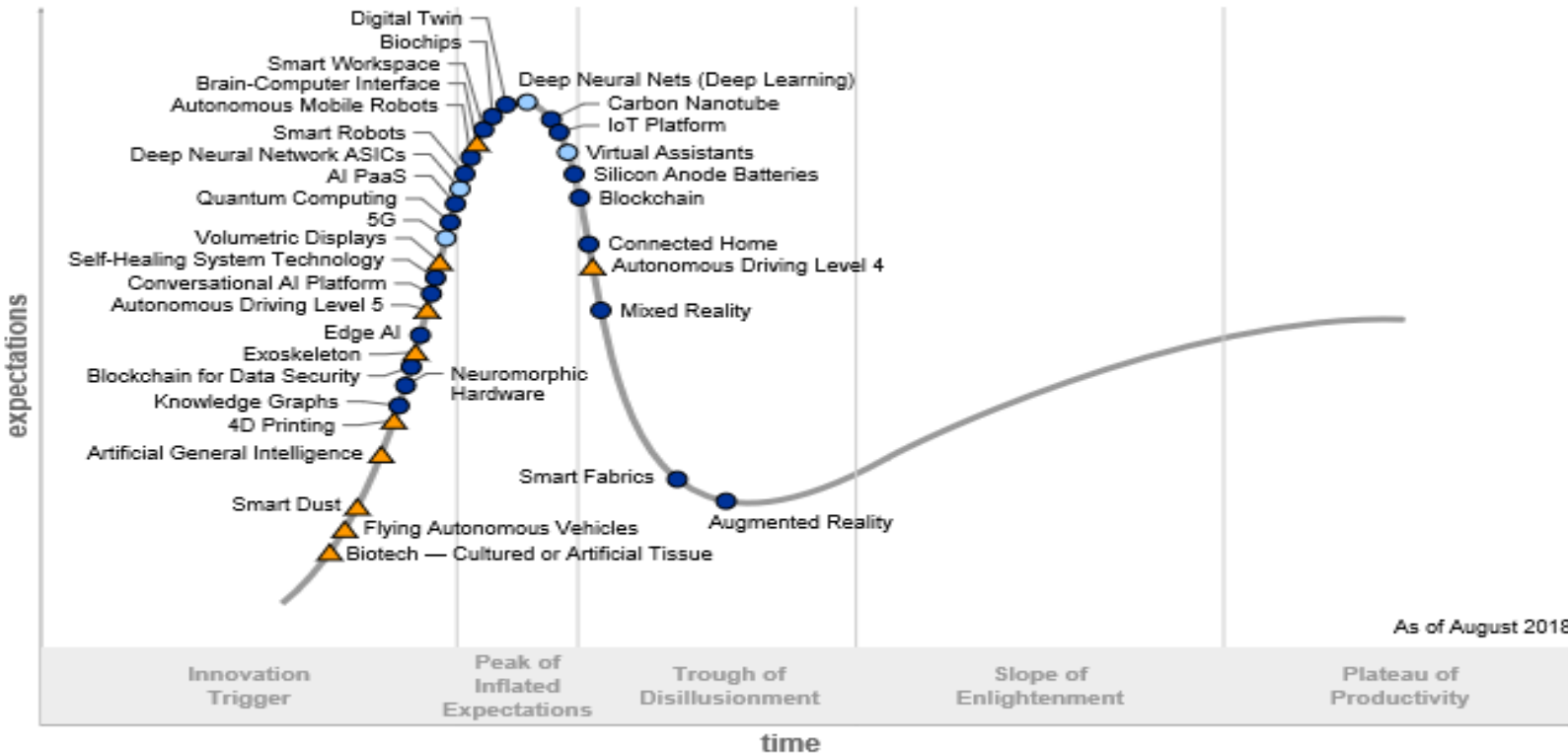
## **Blockchain –**

is a growing list of records, called blocks, which are linked together using cryptography. Each block contains a cryptographic hash of the previous block (a timestamp).

- It is a distributed ledger.
- Peer to peer technology to group data.
- Immutable chain of transactions.
- Accomplishes without a trusted central authority.
- Maintenance is performed through a network of nodes.
- Information put on the blockchain is approved by nodes prior to addition to blockchain.
- Added to blockchain in real time.

# GARTNER HYPE CYCLE FOR EMERGING TECHNOLOGIES 2018

## Interactive Hype Cycle



As of August 2018

Plateau will be reached:  
 ○ less than 2 years   ● 2 to 5 years   ● 5 to 10 years   ▲ more than 10 years   ⊗ obsolete before plateau

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# TYPES OF BLOCKCHAINS

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## ***Public Blockchain –***

- (think of Bitcoin), are large distributed networks run through a native token. They are open for anyone to participate at any level and have open source code that their community maintains.

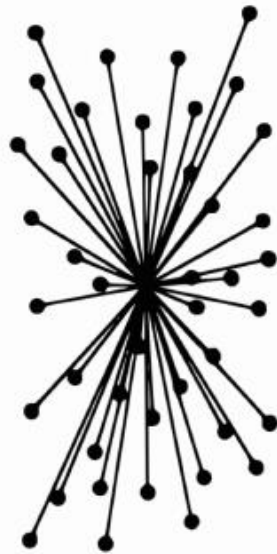
## ***Permissioned Blockchain –***

- (think of Ripple), has rules that individuals can play within the network. It is still a large and distributed system that uses a native token, and the code may or may not be open source.

## ***Private Blockchain –***

- Tend to be smaller and don't generally use a token. Membership is closely controlled, these types of blockchains are consortiums that have trusted members and trade confidential information.

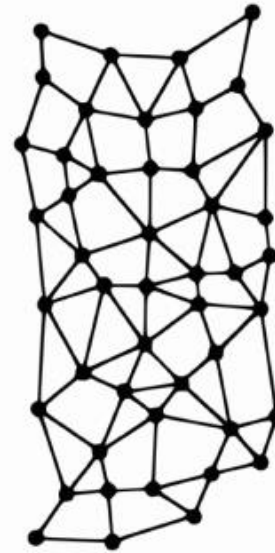
## Blockchain - Definition and Origins



Centralized



Decentralized

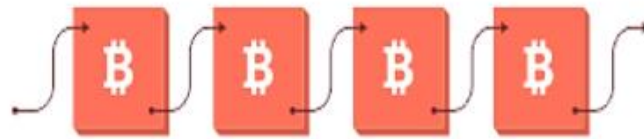


Distributed

Simply a new type of distributed **data storage** system.

## ▲ Blockchain - Definition and Origins

+ { A blockchain is just a file on computer(s) that contain 'blocks' }



{ Blocks in a chain = pages in a book } +

+ {  Each block references the previous block using a 'fingerprint' }

## Blockchain “Fingerprints”



These “fingerprints” are cryptographically encrypted data (hashes), **uniquely** derived from the block’s contents.

Source: [Bits on Blocks](#)



# BLOCKCHAIN USE CASES

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## Walmart implements IBM's blockchain for food traceability

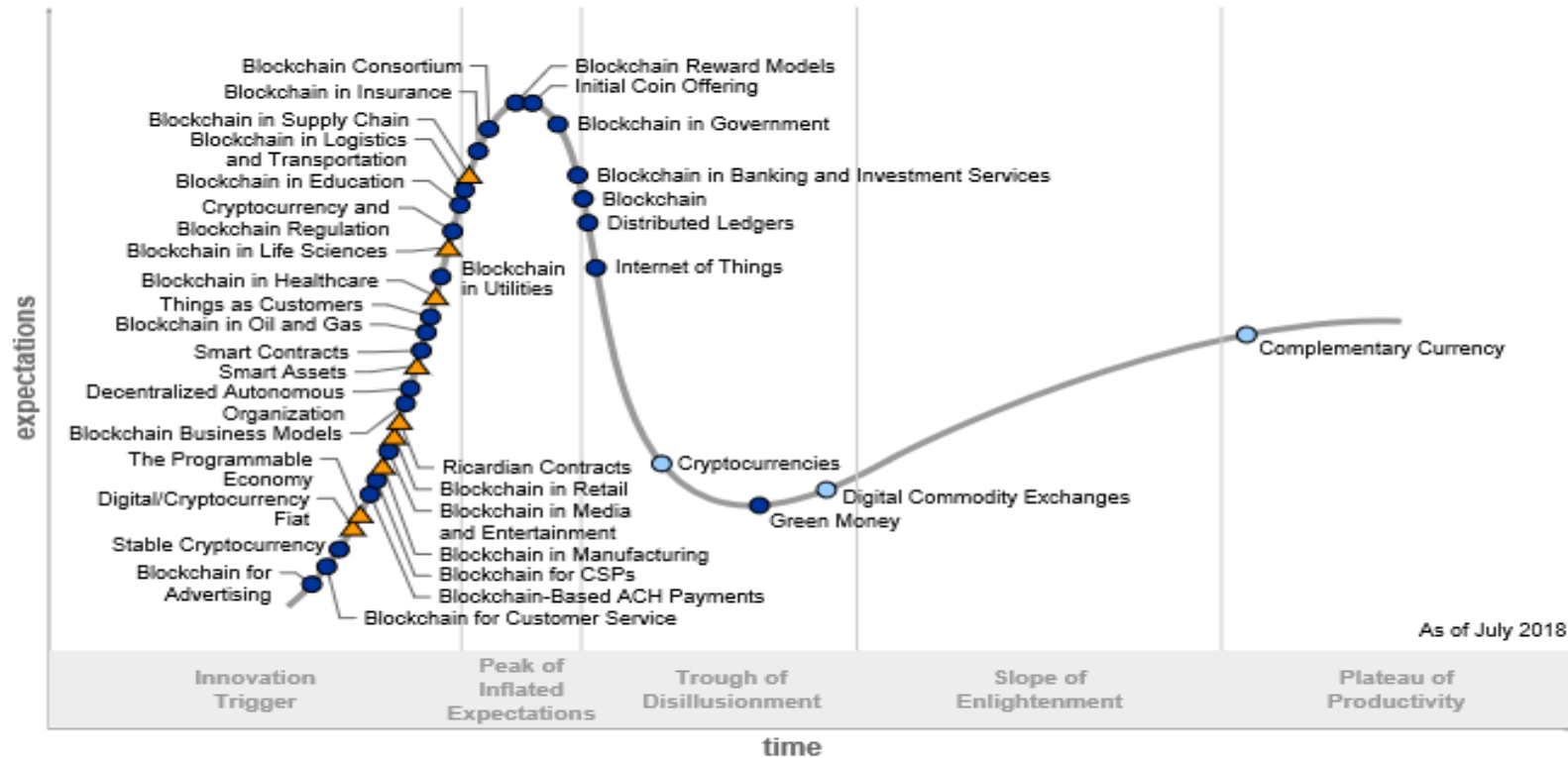
The aim is to track food from farm to store in near real time using blockchain's distributed ledger system.

JPMorgan mulls spin-off of blockchain project Quorum: sources



# GARTNER HYPE CYCLE FOR BLOCKCHAIN BUSINESS

## Interactive Hype Cycle



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# THANK YOU

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