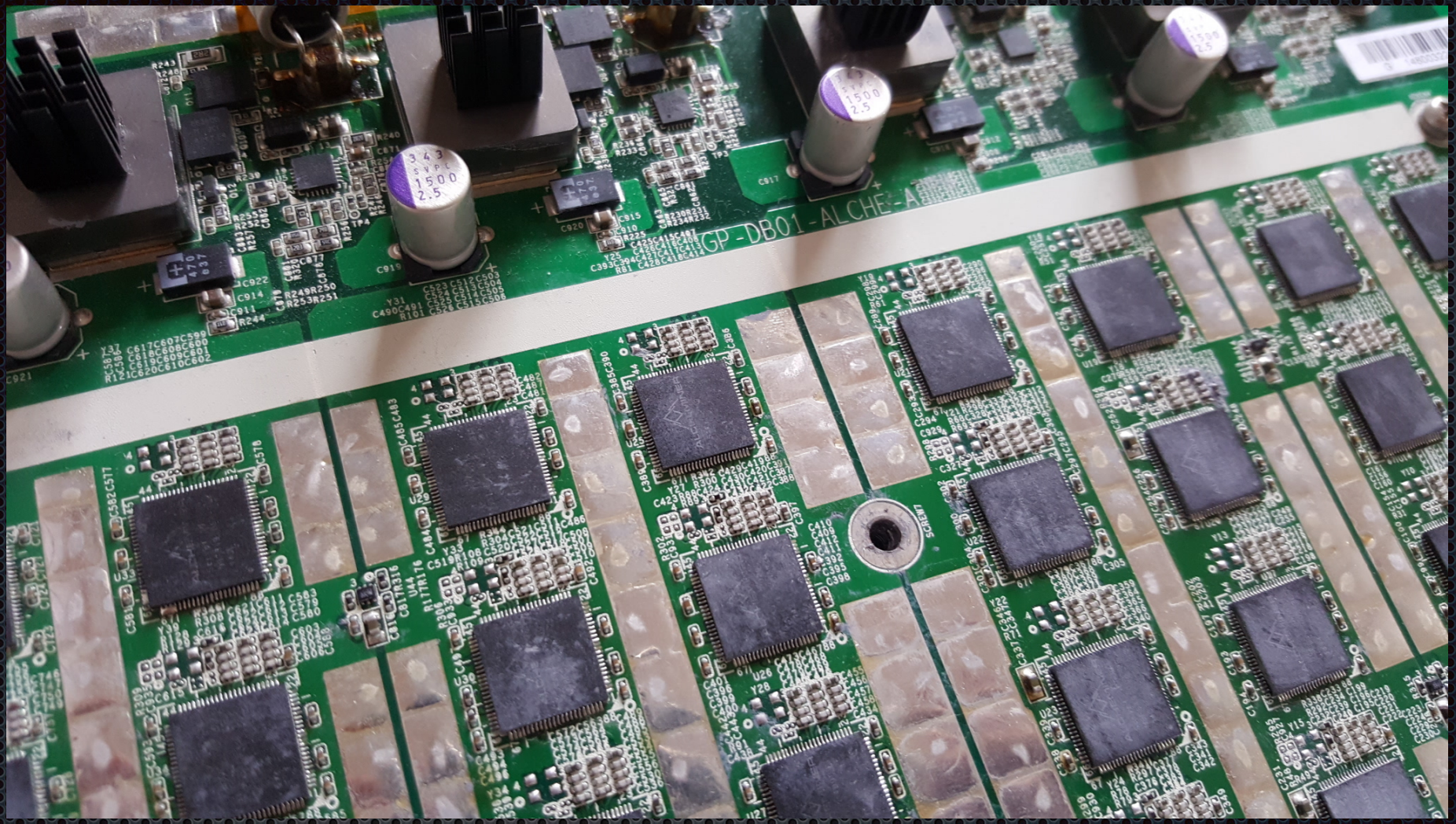


SECURING TRANSACTIONS ON THE BLOCKCHAIN

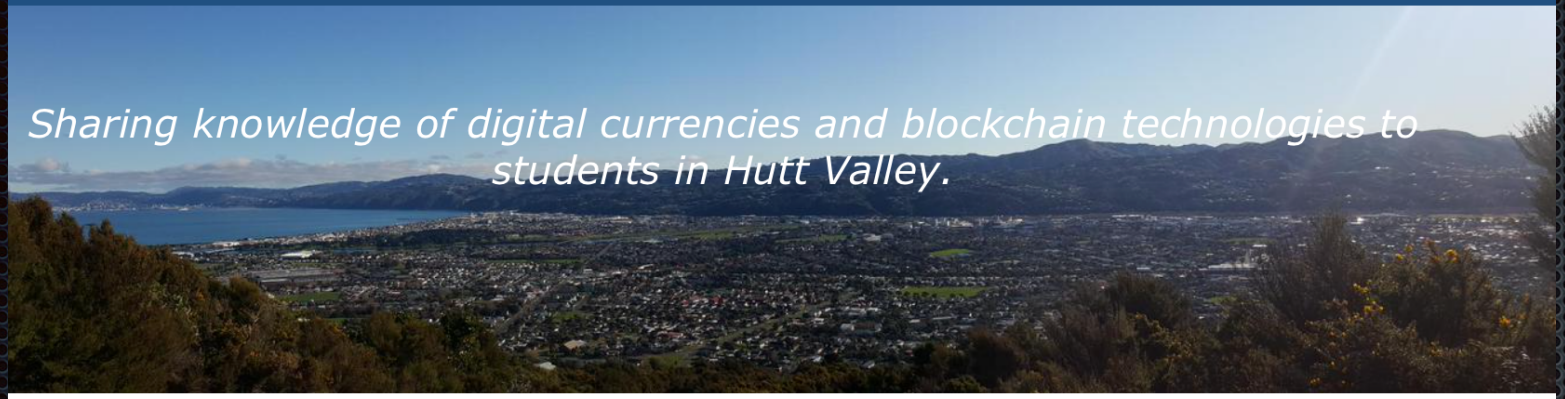
Agenda

- About me
- Understanding a block?
- Securing the blockchain LIVE DEMO

About Me

- Cloud Integration via API
- Founder of talkcrypto.org
- Involved in STEM based initatives

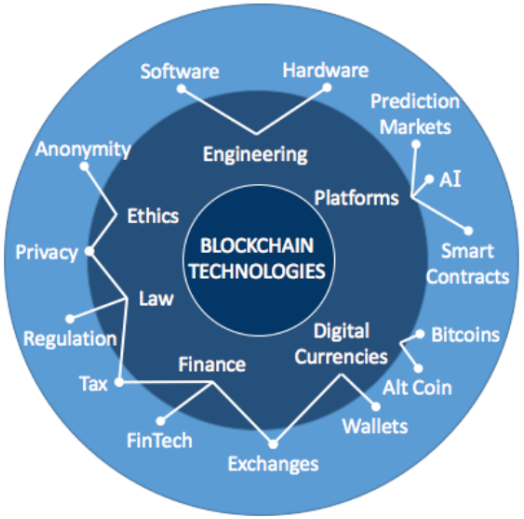
cloudnthings Sean Au



Never before in human history have we seen such a phenomenal amount of innovation as we do today. The invention of bitcoins revealed an underlying technology called the blockchain that has allowed innovation to flurish in a diverse range of industries.

Once limited to "computers geeks", this technology has spanned across new fields forcing governments to rethink policies and laws, academics to explore new areas of research and entrepreneurs to be more creative and innovative than ever.

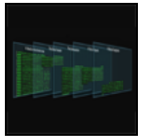
Join us as we look to learn and share our knowledge with everyone around us.



ARTICLES

What is a bitcoin address?

View post

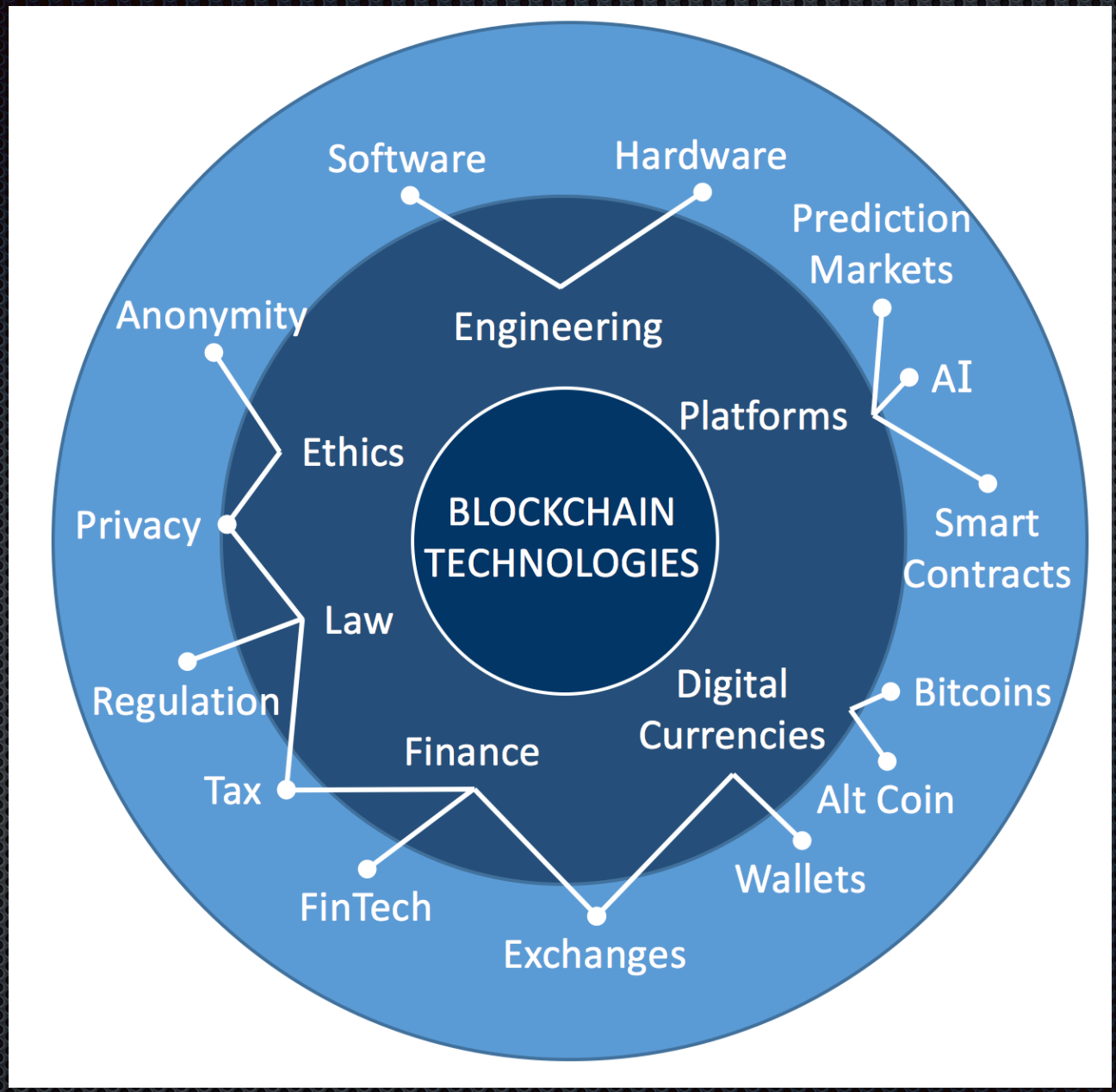


What's in the bitcoin blockchain?

View post

Ethereum and Smart Contracts

View post

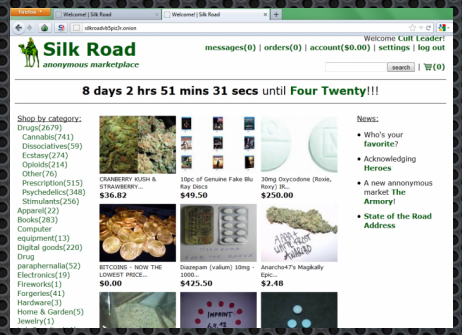

Software
Hardware
Prediction Markets
Anonymity
Engineering
AI
Platforms
Ethics
BLOCKCHAIN TECHNOLOGIES
Privacy
Smart Contracts
Law
Regulation
Digital Currencies
Bitcoins
Finance
Tax
Alt Coin
Wallets
FinTech
Exchanges

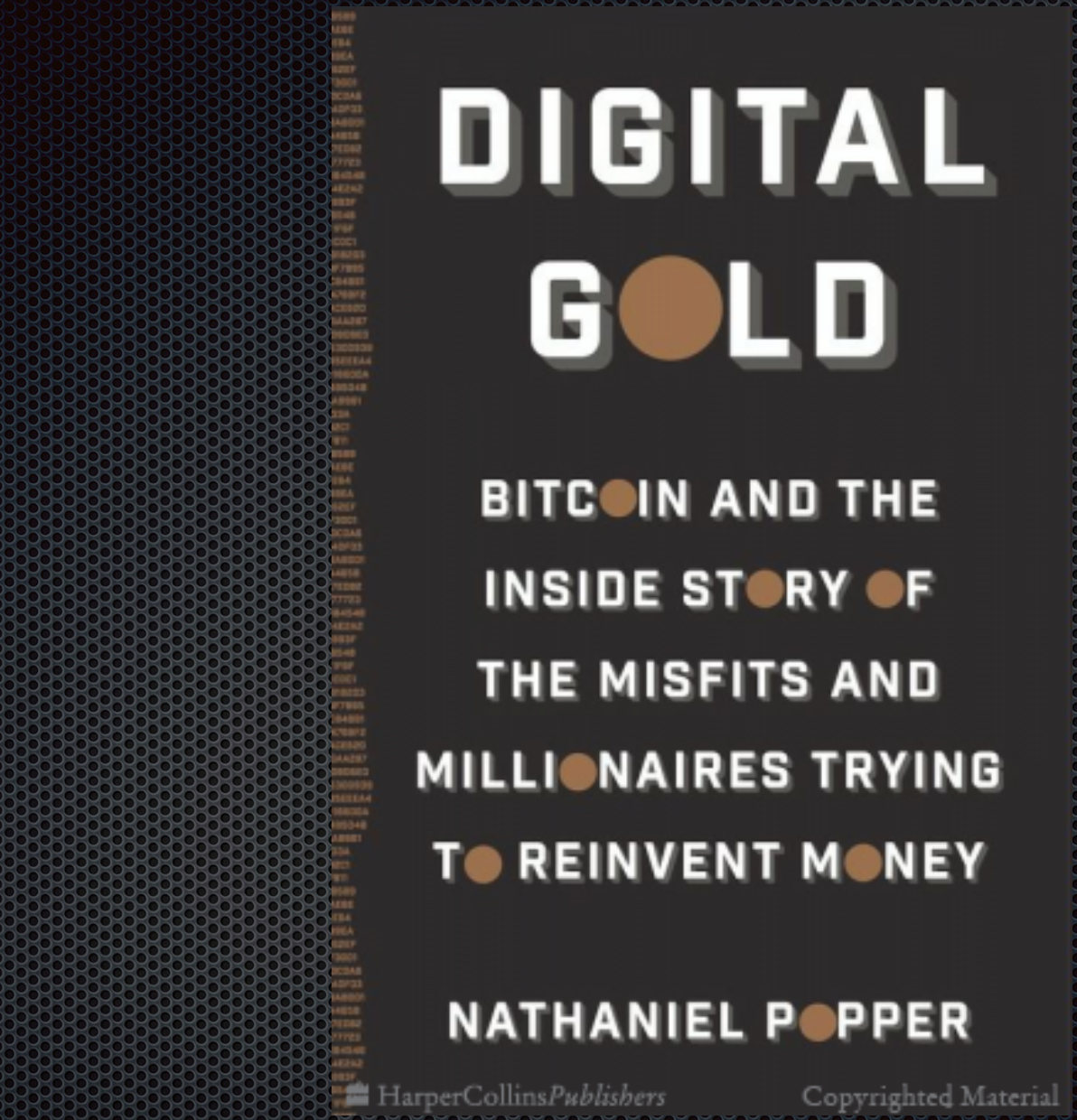
Bitcoin History

- DigiCash - 1990
- CRASH (CRypto cASH) - 1991
- e-gold - 1996
- b-money -1998
- Bitgold - 1998

- https://en.wikipedia.org/wiki/Cryptocurrency
  http://antifraudintl.org/threads/the-history-of-digital-currency.88037/

Bitcoin History cont

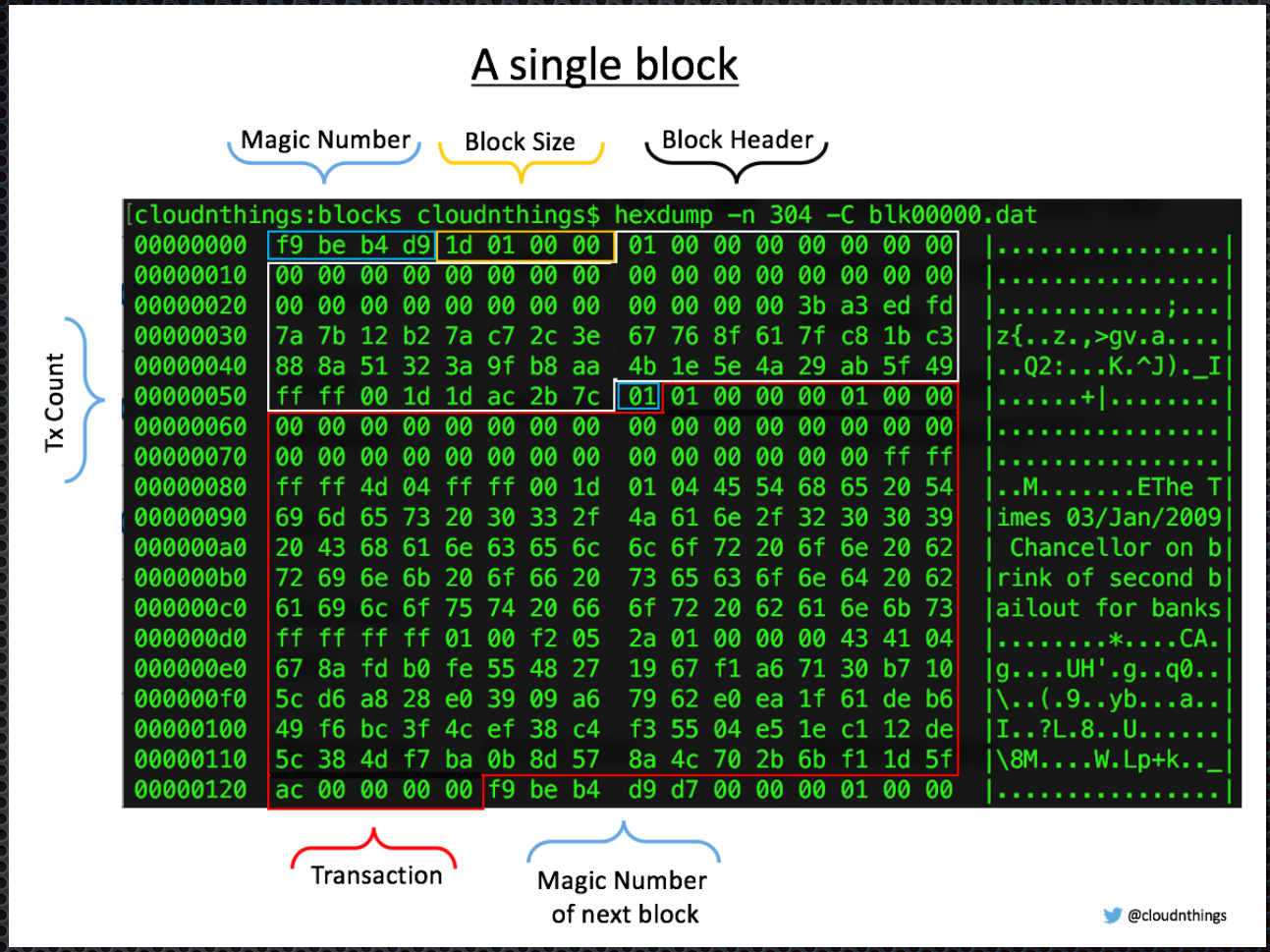



DIGITAL GOLD
BITCOIN AND THE INSIDE STORY OF THE MISFITS AND MILLIONAIRES TRYING TO REINVENT MONEY
NATHANIEL POPPER
HarperCollinsPublishers
Copyrighted Material

What is a Blockchain?

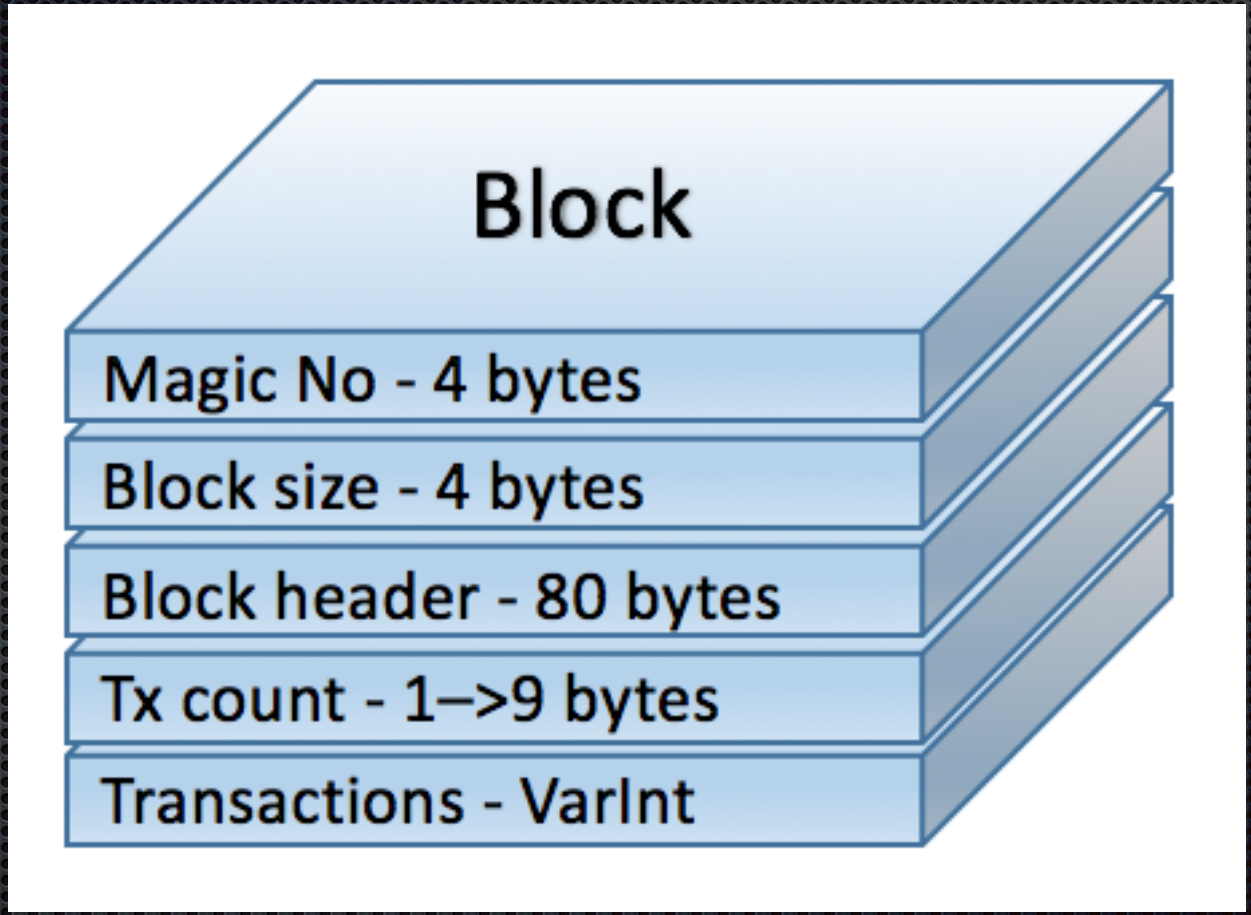
- Distributed
- Peer to peer
- Ledger
- Decentralized

First blockchain txn



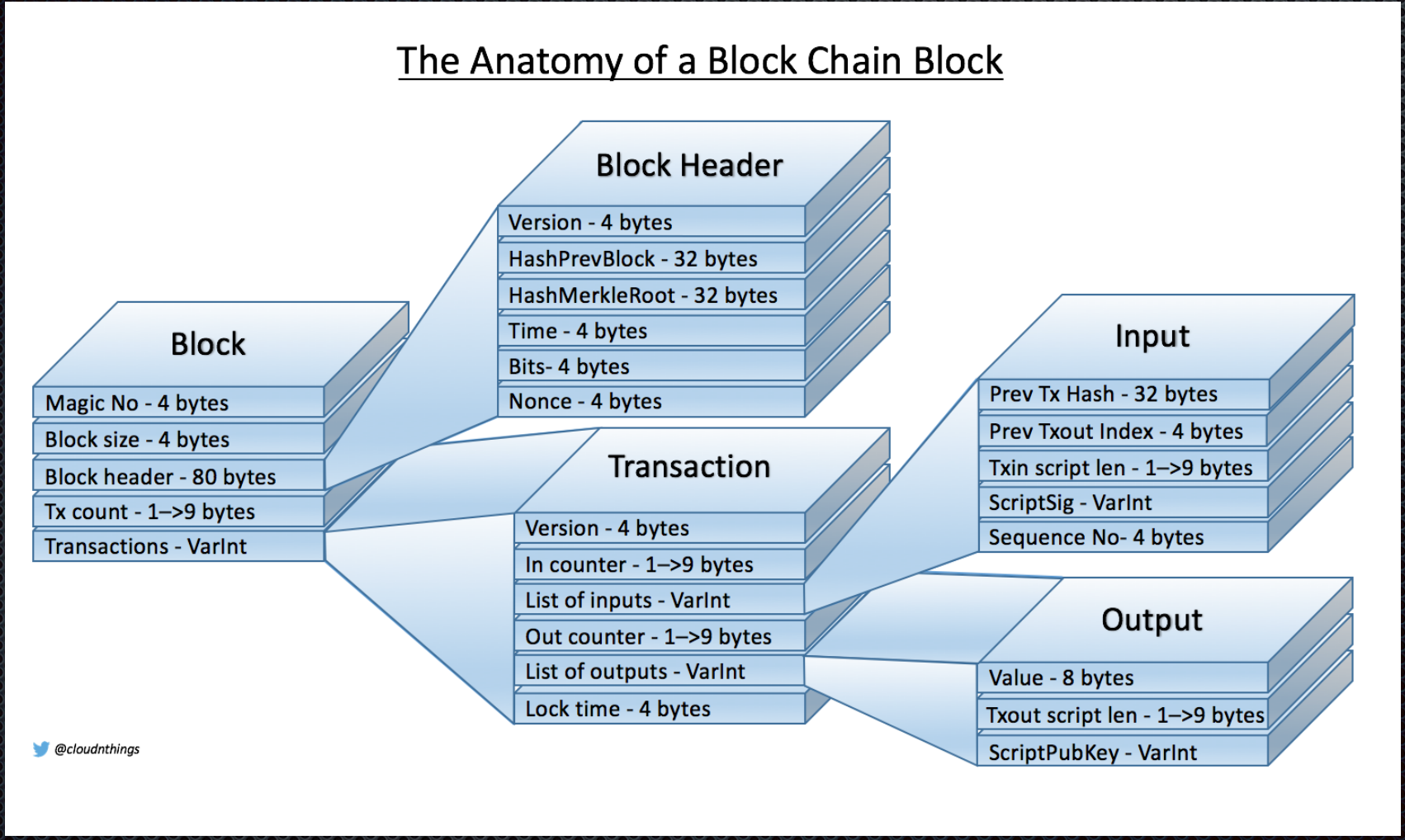
- Source: https://www.anintegratedworld.com/whats-in-a-block/

A block



- https://www.anintegratedworld.com/whats-in-a-block/ (Feb 2016)

Anatomy of a Blockchain



Let’s clarify the meaning of Blockchains

Types of Blockchains

- Public Blockchain
- Private Blockchain
- Permissioned
- Permissionless

Securing the Blockchain

- Distributed nodes around the world
- Racing to solve a puzzle
  - http://www.talkcrypto.org/blog/2016/07/27/going-pow-on-the-blockchain/
- Energy in the form of electricity
- Reward is given in return

Nodes Around The World

GLOBAL BITCOIN NODES DISTRIBUTION

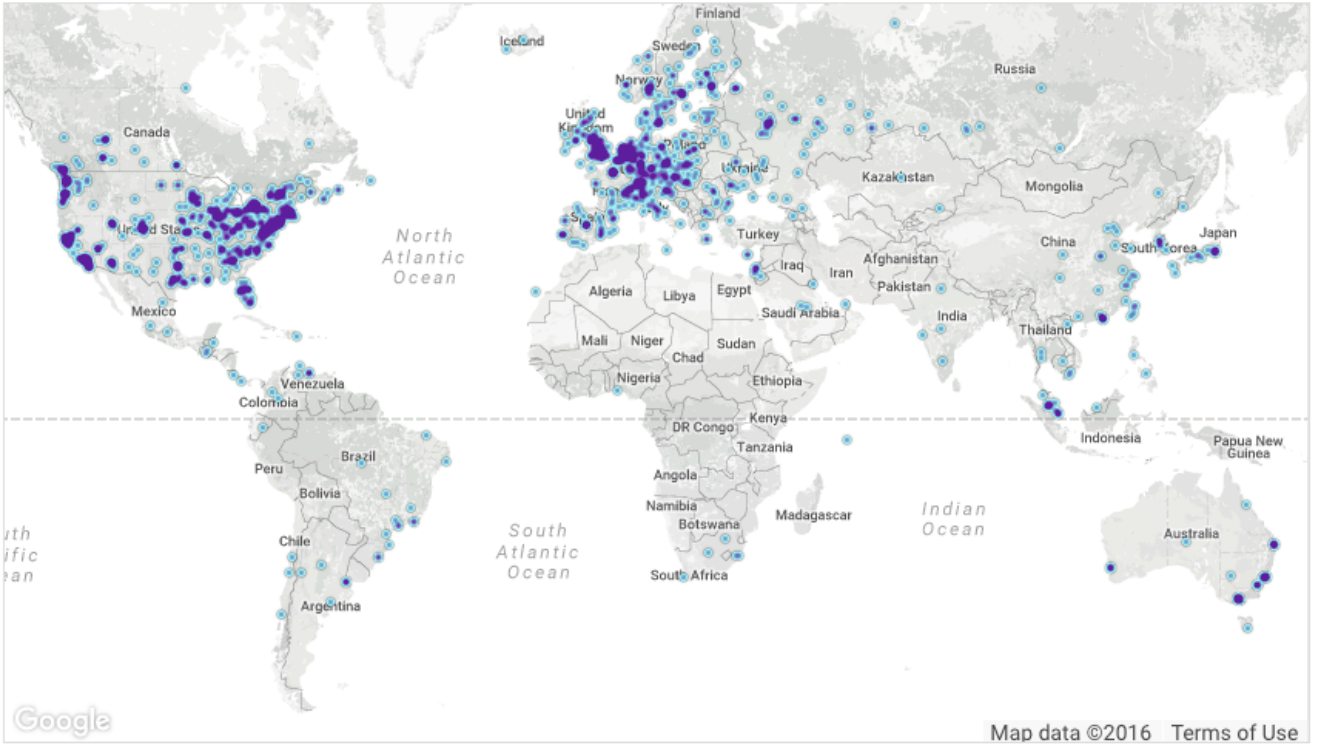
Reachable nodes as of Mon Oct 10 2016 12:54:28 GMT+1300 (NZDT).

5102 NODES

24-hour charts »

Top 10 countries with their respective number of reachable nodes are as follow.

RANK	COUNTRY	NODES
1	United States	1422 (27.87%)
2	Germany	858 (16.82%)
3	France	438 (8.58%)
4	Netherlands	290 (5.68%)
5	Canada	258 (5.06%)
6	United Kingdom	216 (4.23%)
7	China	160 (3.14%)
8	n/a	159 (3.12%)
9	Russian Federation	131 (2.57%)
10	Sweden	83 (1.63%)



Map shows concentration of reachable Bitcoin nodes found in countries around the world.

LIVE MAP

Source: https://bitnodes.21.co

Nodes in NZ

Auckland
Hamilton
Tauranga
Rotorua
Palmerston North
Wellington
Nelson
New Zealand
Christchurch
Queenstown
Dunedin
Invercargill

DEMO

Summary

- Bitcoin history
- How to understand Blockchains
- Types of blockchains
- How transactions are secured on the blockchain