

BITCOIN



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Executive Order 6102

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- April 5th 1933, Franklin D. Roosevelt
- Forcing citizens to sell gold
- \$20.67 per ounce
- Violation punishable by \$10,000, 10 years of prison or both
- \$35 an ounce internationally

Nixon 1971

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- After 1960s other economies recovered from war
- European and Japanese economies were booming
- International countries had dollar as reserve currency
- US held about $\frac{3}{4}$ of all gold reserves
- Ending dollar to gold convertibility

Facts / Monetary Policies

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- Satoshi Nakamoto
- 2008 White Paper about Cryptography
- 3rd of January 2009 – first 50 Bitcoins
- Bitcoin Core
- Smallest possible transaction = 0,00000001 BTC

Current state

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- 1 BTC = 6790€
- 17 million BTC
- Hash-Rate 29 Exahashes/s (10^{18})
- 1 Block = 10 minutes
- Block reward 12.5 BTC
- Limited to 21 million

Bitcoin is...

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- An **open source software protocol** which enables a **blockchain** to be built on a trustless **peer to peer** network via the internet which can be used to host a **public database** which tracks **changes in ownership of assets** and is secured by **cryptography** and **consensus**.

Open source software protocol

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- Source code is open to everyone
- Can be seen, changed and used by anyone
- Software is free
- Support is not free
- Mass collaboration results in constant fixes, updates and expansion
- Closed Source: Windows, Mac OS, Coca Cola
- Open Source: Linux, Open Office, WordPress

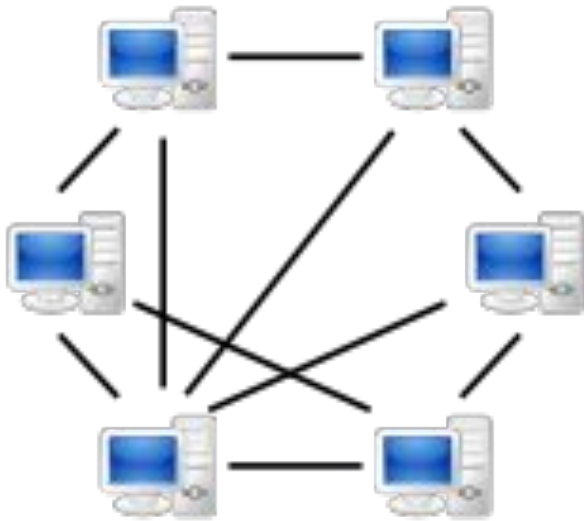
Peer to Peer

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- Network architecture
- Connects equally privileged clients
- Enables the share of resources
 - processing power
 - disk storage
- No centralization
- Clients are consumer and supplier

P2P and Client-Server

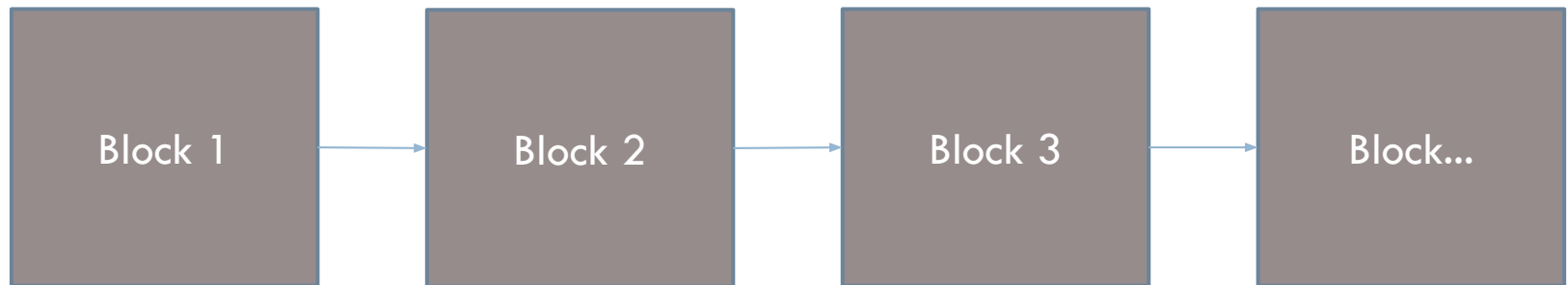
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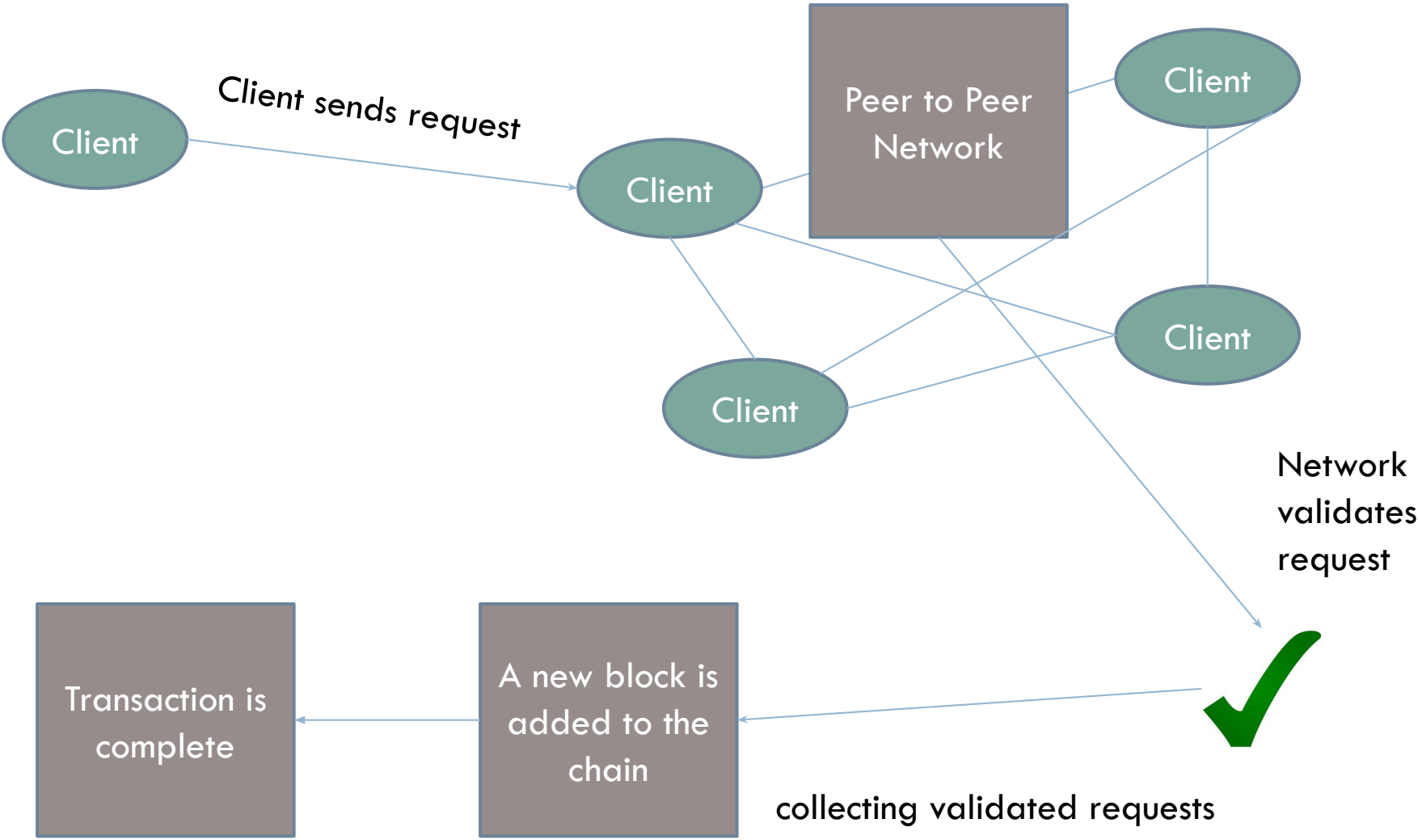
Blockchain

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- Allows digital information to be distributed
- Backbone of Bitcoin
- Transparency
- Cannot be corrupted (!)



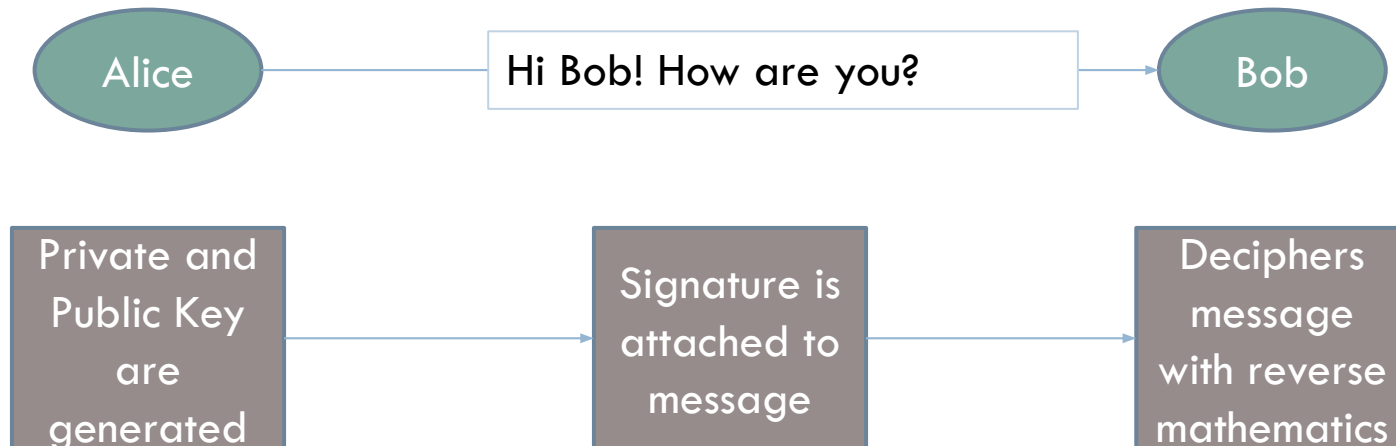
Blockchain



Cryptography – Private and Public Keys

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- Public Keys are 256 bits long
- Public Key is mathematically derived from Private Key (elliptic curves)
- 2^{160} max. addresses (2^{63} grains of sand)



Where do you keep your Bitcoins?

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- **Wallets**
 - **Cold Wallets (never connected to the internet)**
 - External hard drives

 - **Hot Wallets (Web Client, internet connection)**
 - Desktop Wallets
 - Smartphone Wallets

Security and effort rise proportional

Advantages

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- Freedom of payment
- Security
- Transparency
- Low fees (!)
- Less risks for vendors
- No middleman

Disadvantages

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- Lack of understanding
- In development
- Fluctuating
- Possibility of abuse

Thank you very much for your attention

Sources

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