



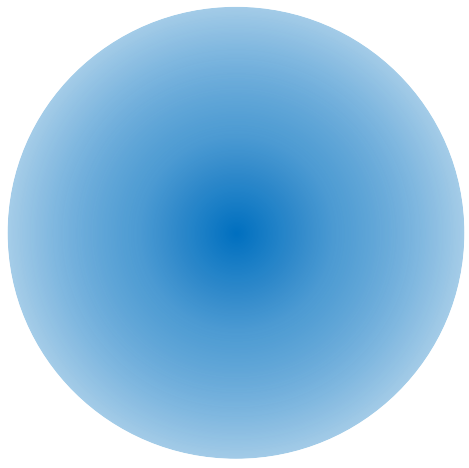


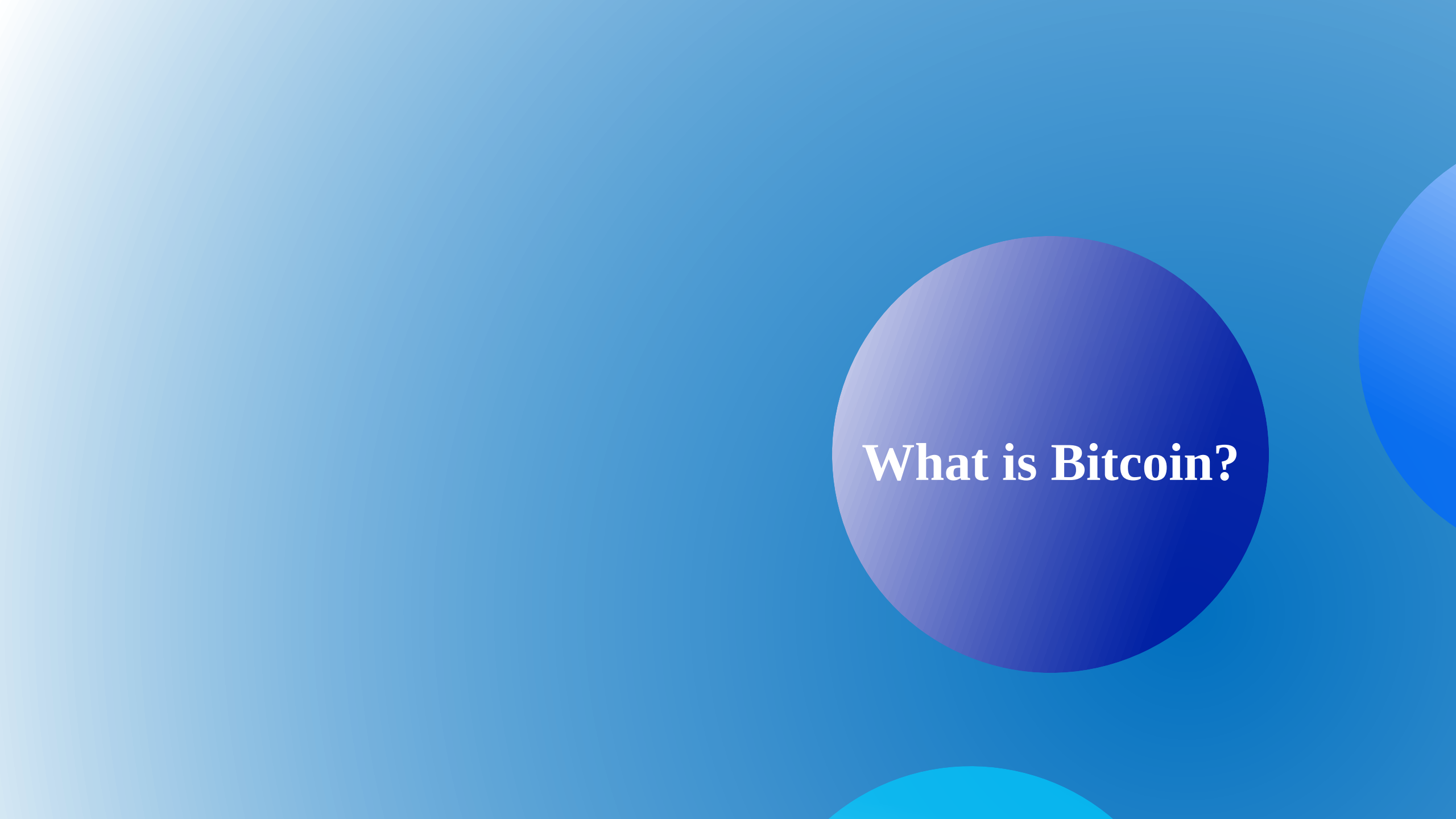
**Introduction
and history**

**How actually
bitcoin works**



Cryptography PRIMER





What is Bitcoin?



Bitcoin is a decentralized digital currency that works without the need for a bank or government





**Four major
features**



- Digital
- Decentralized
- Limited supply
- permissionless



TRUST

Trust?



The Birth of Bitcoin

The background is a solid blue color with a subtle gradient, being lighter on the left and darker on the right. There are several overlapping circles of different shades of blue and cyan scattered across the right side of the image. The text "Genesis Block message" is centered within one of these circles.

**Genesis Block
message**

THE TIMES

☁ Max 5C, min -5C

Saturday January 3 2009 timesonline.co.uk No 69523

£1.50

Chancellor on brink of second bailout for banks

Billions may be needed as lending squeeze tightens

Francis Elliott Deputy Political Editor
Gary Duncan Economics Editor

Alistair Darling has been forced to consider a second bailout for banks as the lending drought worsens.

The Chancellor will decide within weeks whether to pump billions more into the economy as evidence mounts that the £37billion part-nationalisation last year has failed to keep credit flowing. Options include cash injections, offering banks cheaper state guarantees to raise money privately or buying up "toxic assets", The Times has learnt.

The Bank of England revealed yester-

day that, despite intense pressure, the banks curbed lending in the final quarter of last year and plan even tighter restrictions in the coming months. Its findings will alarm the Treasury.

The Bank is expected to take yet more aggressive action this week by cutting the base rate from its current level of 2 per cent. Doing so would reduce the cost of borrowing but have little effect on the availability of loans.

Whitehall sources said that ministers planned to "keep the banks on the boil" but accepted that they need more help to restore lending levels. Formally, the Treasury plans to focus

on state-backed guarantees to encourage private finance, but a number of interventions are on the table, including further injections of taxpayers' cash.

Under one option, a "bad bank" would be created to dispose of bad

debts. The Treasury would take bad loans off the balance sheets of banks, perhaps swapping them for government bonds. The toxic assets, blamed for poisoning the financial system, would be parked in a state vehicle or "bad bank" that would manage them and attempt to dispose of them while "detoxifying" the mainstream banking system.

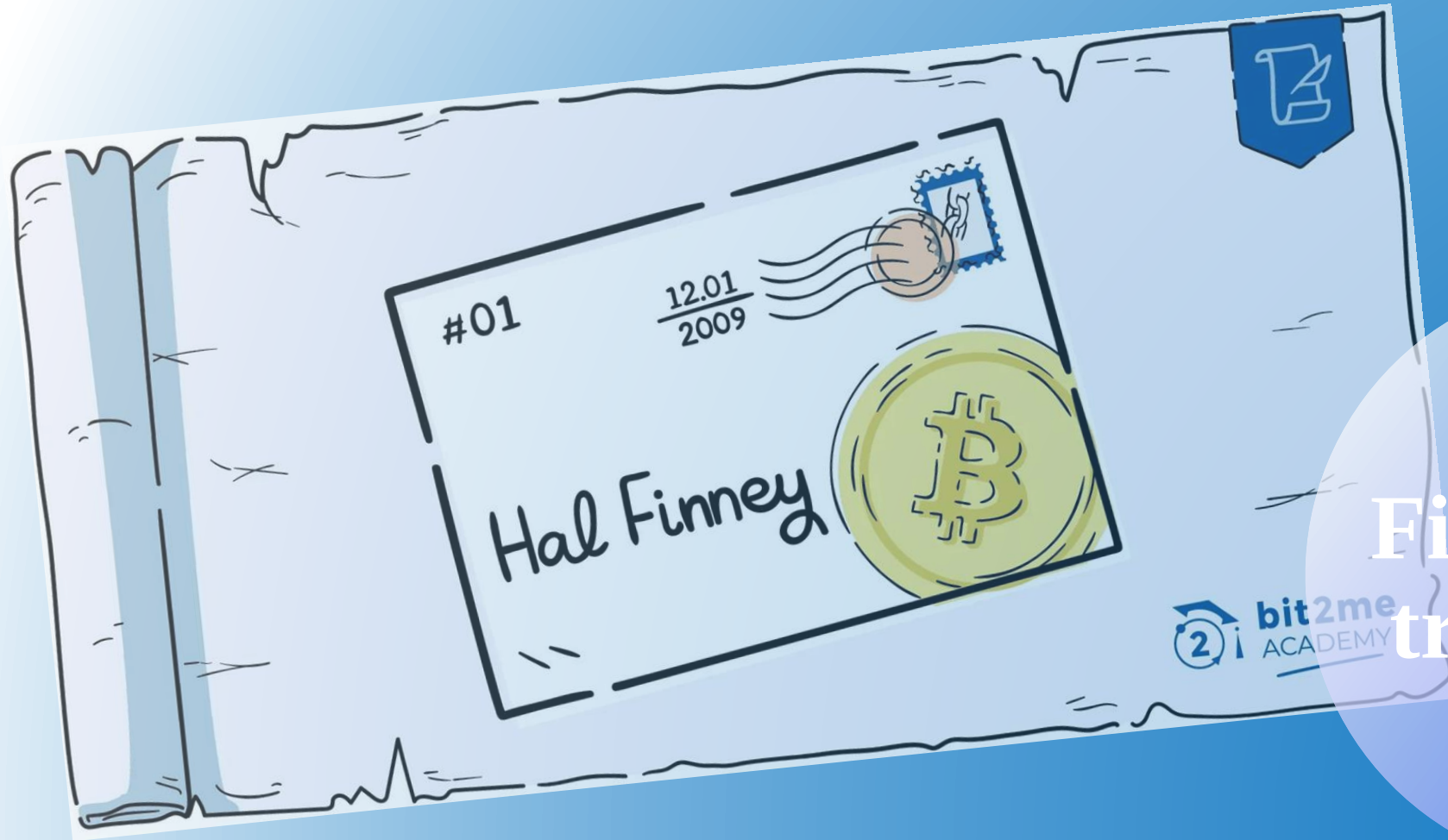
The idea would mirror the initial proposal by Henry Paulson, the US Treasury Secretary, to underpin the American banking system by buy-

Continued on page 6, col 1
Leading article, page 2

99p

Pub chain cuts the price of a pint from £1.69 to 1989 levels
Business, page 47





First bitcoin
transaction

The most expensive pizza in history



laszlo (OP)
Full Member
●●●

Activity: 199
Merit: 2489



Pizza for bitcoins?
May 18, 2010, 12:35:20 AM

I'll pay 10,000 bitcoins for a couple of pizzas.. like maybe 2 large ones so I have some left over for the next day. I like having left over pizza to nibble on later. You can make the pizza yourself and bring it to my house or order it for me from a delivery place, but what I'm aiming for is getting food delivered in exchange for bitcoins where I don't have to order or prepare it myself, kind of like ordering a 'breakfast platter' at a hotel or something, they just bring you something to eat and you're happy!

I like things like onions, peppers, sausage, mushrooms, tomatoes, pepperoni, etc.. just standard stuff no weird fish topping or anything like that. I also like regular cheese pizzas which may be cheaper to prepare or otherwise acquire.

If you're interested please let me know and we can work out a deal.

Thanks,
Laszlo

laszlo (OP)
Full Member
●●●

Activity: 199
Merit: 2489

Re: Pizza for bitcoins?
May 22, 2010, 07:17:26 PM

I just want to report that I successfully traded 10,000 bitcoins for pizza.

Pictures: <http://heliacal.net/~solar/bitcoin/pizza/>

Thanks jercos!

The most expensive pizza in history



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Full Member
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Silk Road

anonymous market

messages 0 | orders 0 | account \$0.00

Search

Go

Shop by Category

Drugs 8,670

Cannabis 2,066

Dissociatives 165

Ecstasy 660

Opioids 591

Other 455

Precursors 50

Prescription 2,146

Psychedelics 981

Stimulants 1,102

Apparel 264

Art 127

Biotic materials 1

Books 861

Collectibles 5

Computer equipment 32

Custom Orders 68



1g MDMA 82%+ High
Quality -Made in Germany-
\$1.30



50 gr. Crystal MDMA Rocks
\$23.33

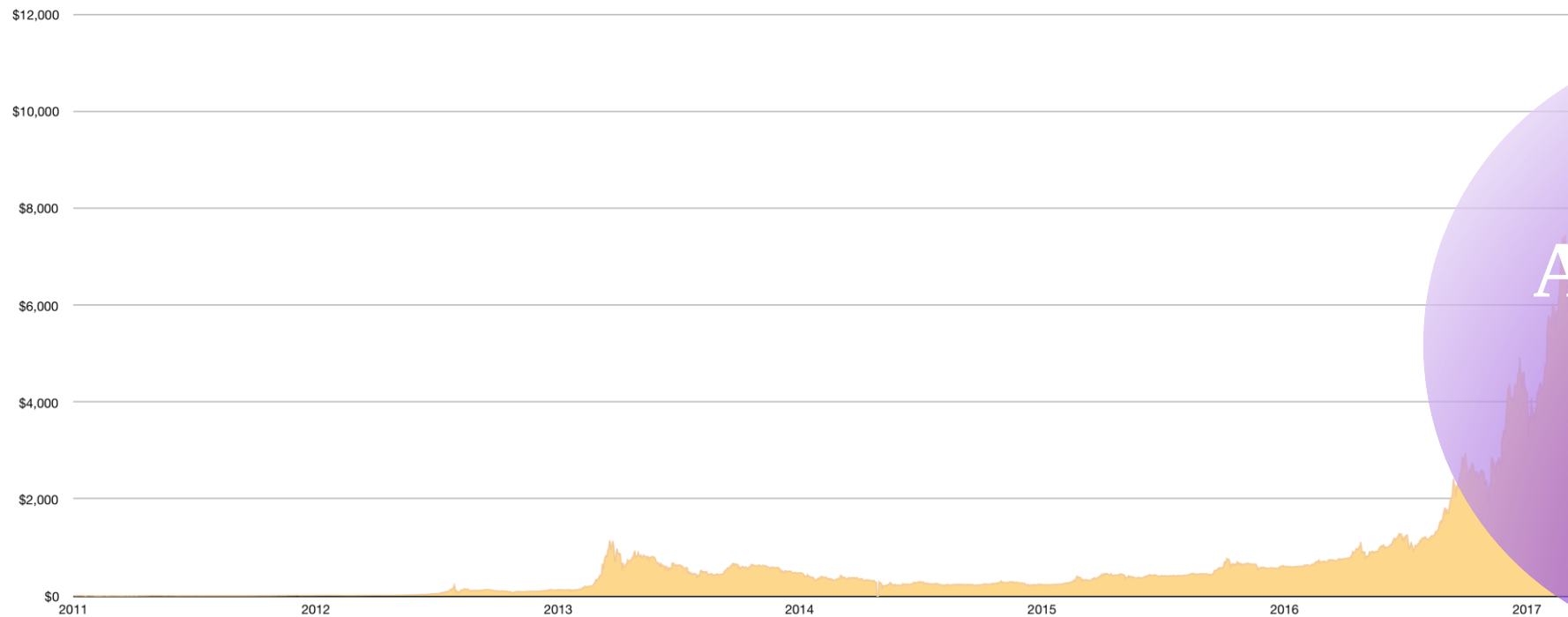


Vallium 10mg/ Diazepam
(100 Pills)
\$2.32



Silk road

Bitcoin Price History



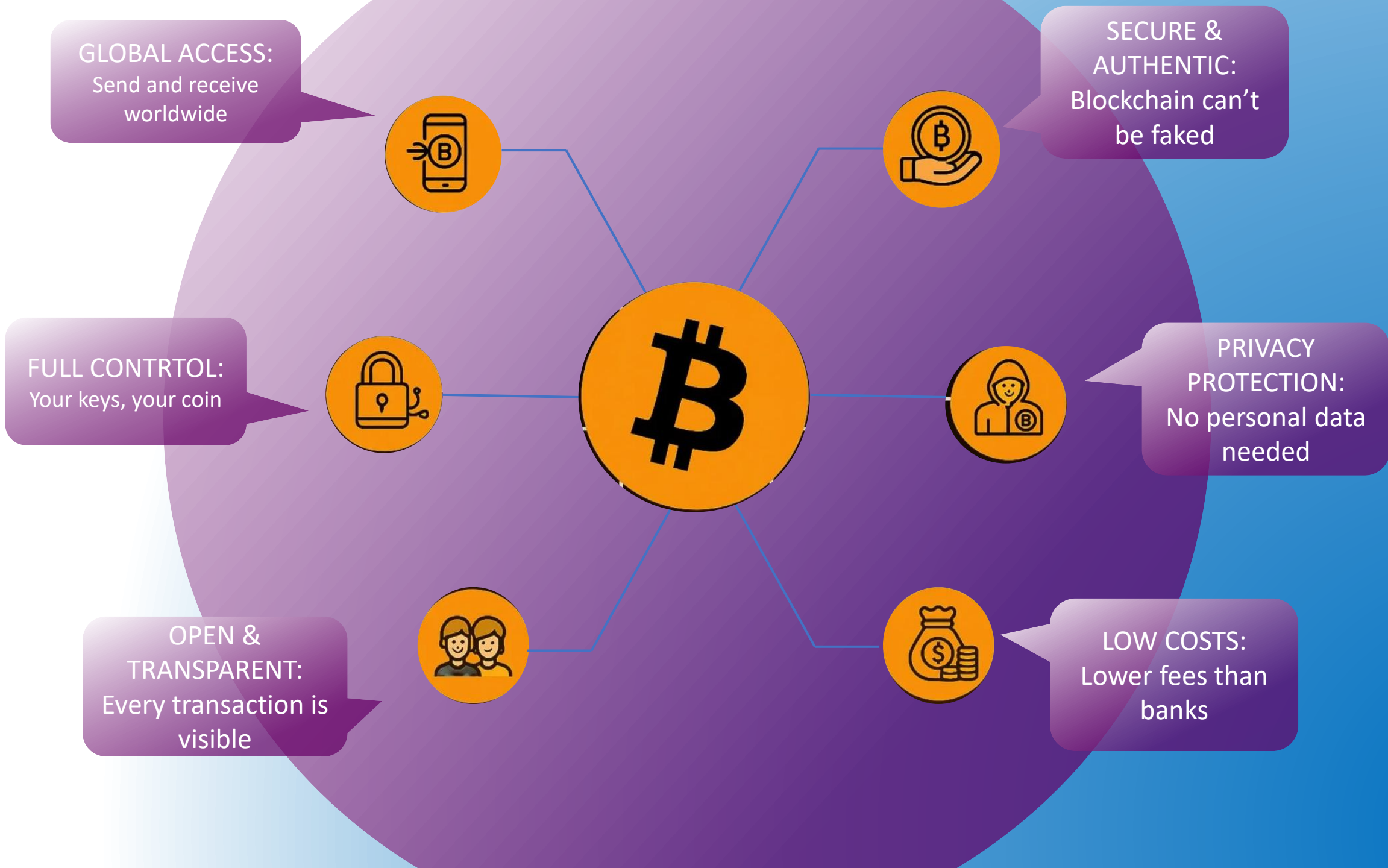
Acceptance
of
bitcoin



**Money
Electric: The
Bitcoin
Mystery**



**Why Bitcoin
Matters**





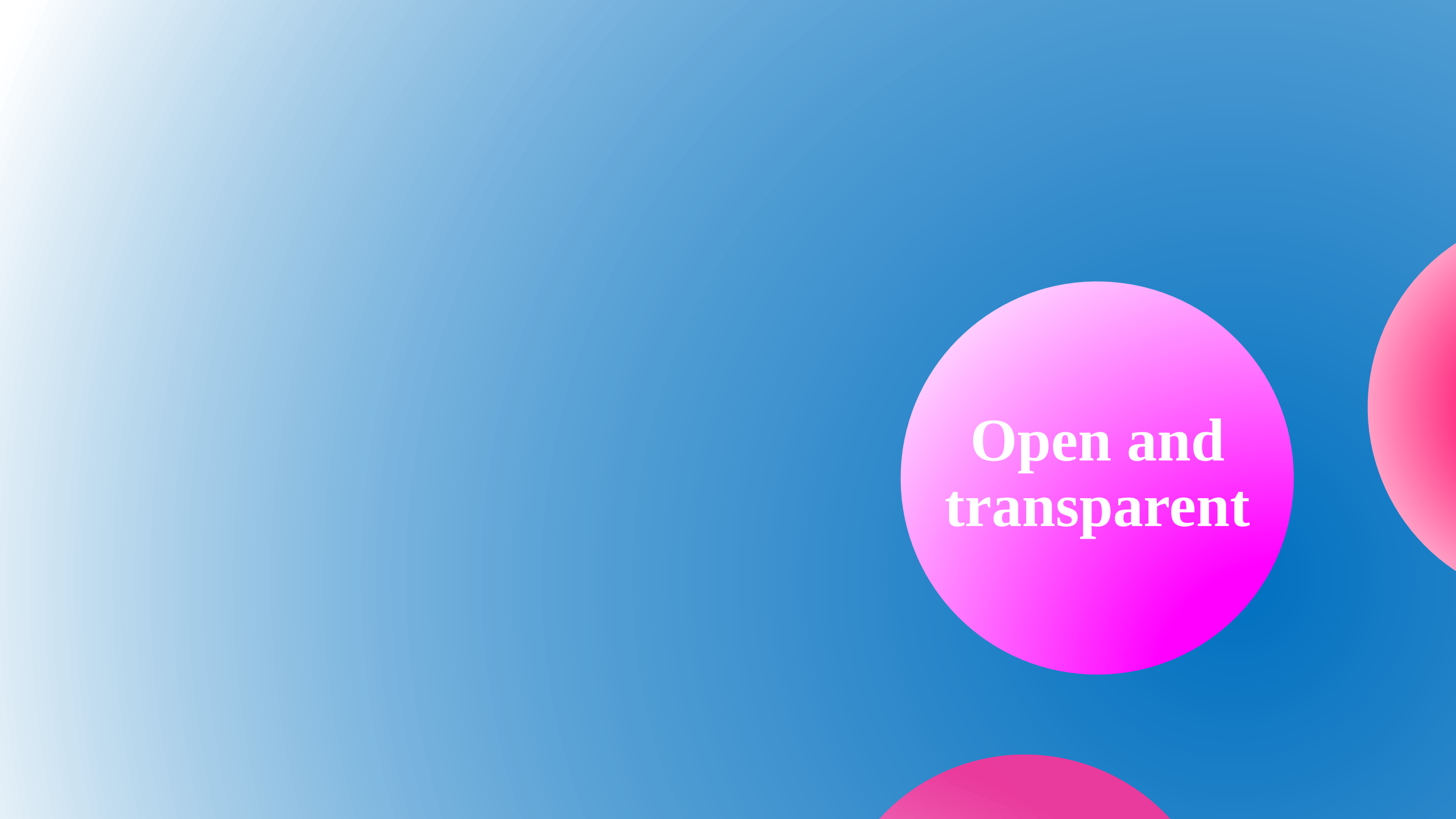
Global Access



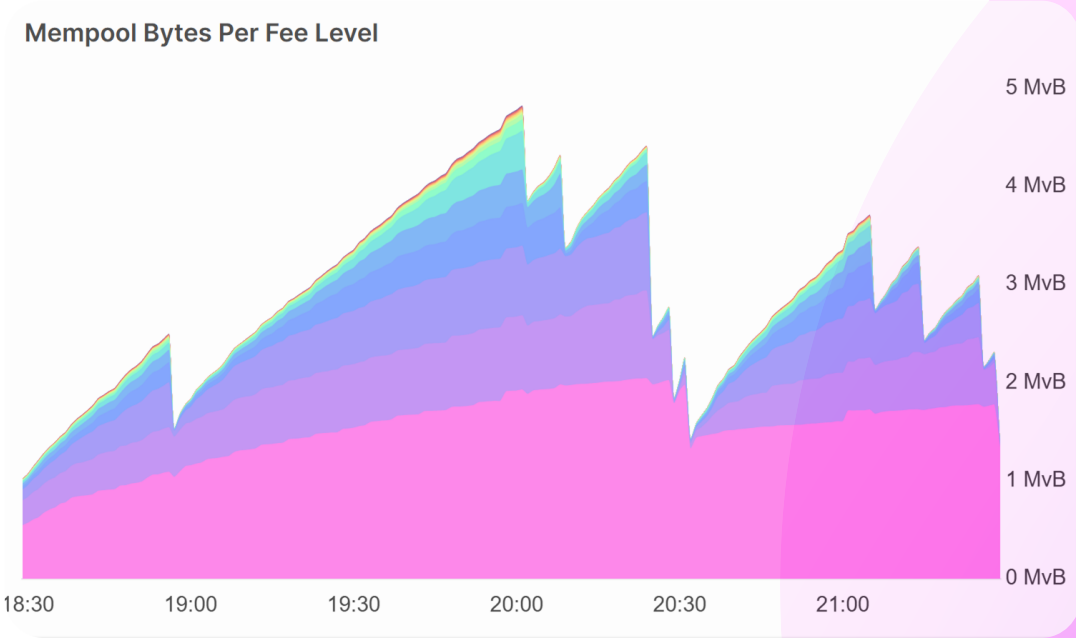
Full control



Privacy
protection



**Open and
transparent**

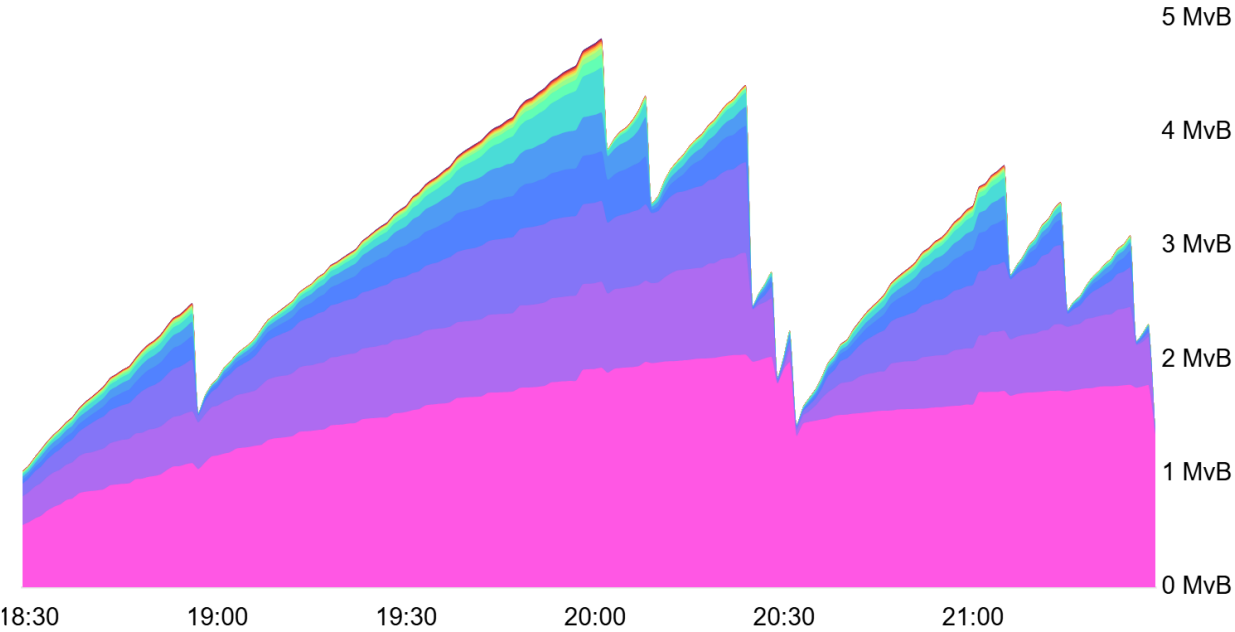


Bitcoin Mempool

Dive into the bitcoin mempool and discover economic trends onchain

Hash 3ba8-7fa1 11/08/2025, 21:35:36	0.00440358 BTC \$448.98
Hash b977-26c9 11/08/2025, 21:35:36	0.00018106 BTC \$18.46
Hash 9ce2-fc3a 11/08/2025, 21:35:35	0.00186826 BTC \$190.48
Hash ce9a-84b0 11/08/2025, 21:35:36	0.01681092 BTC \$1,713.99
Hash b7fd-bcc9 11/08/2025, 21:35:34	0.00222989 BTC \$227.35
Hash bba2-1d15 11/08/2025, 21:35:35	0.00099548 BTC \$101.50

Mempool Bytes Per Fee Level



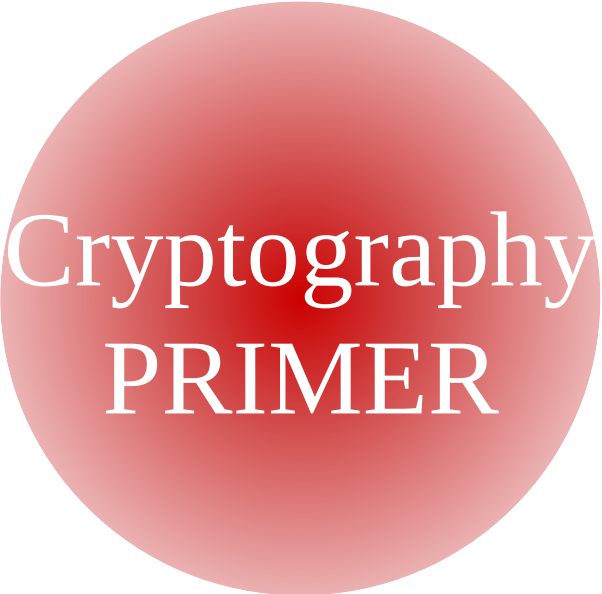
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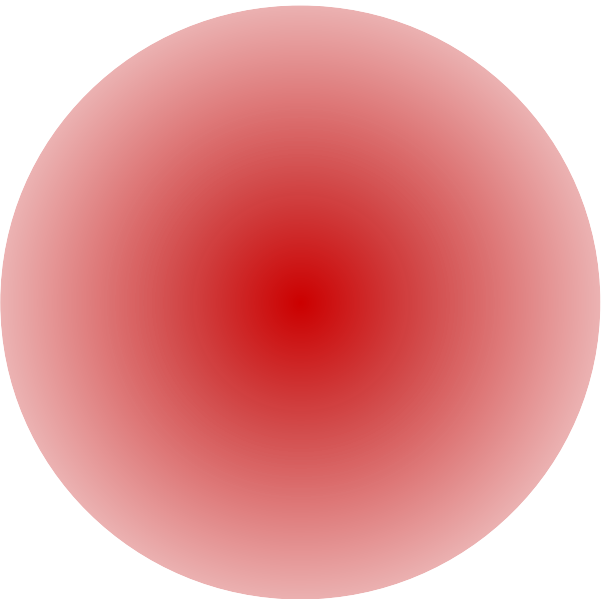


Secure

A solid red circle with a slight gradient, serving as a background for the text.

Cryptography

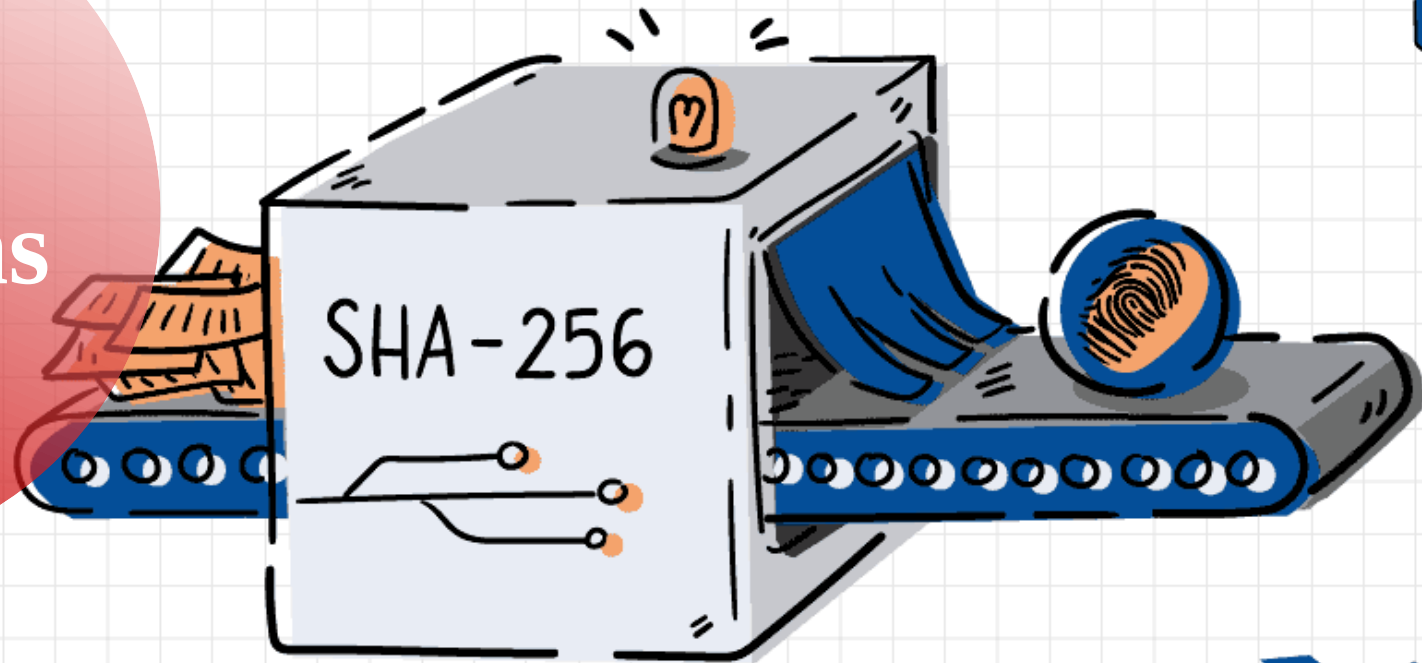
PRIMER



**Why
Crypto?**



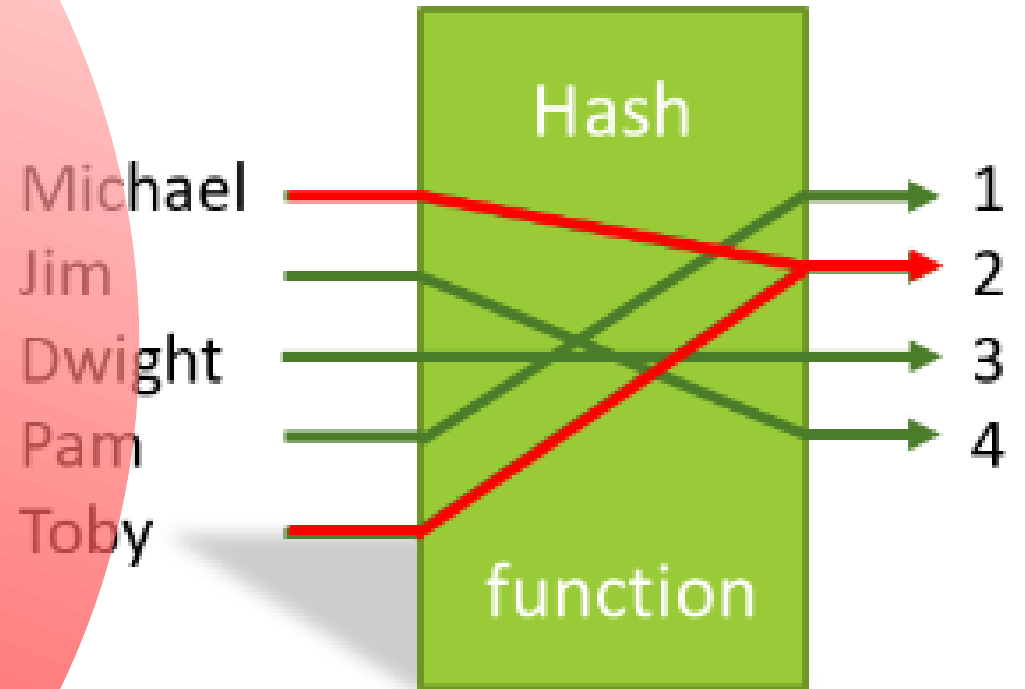
Hash Functions





Properties Of hash functions

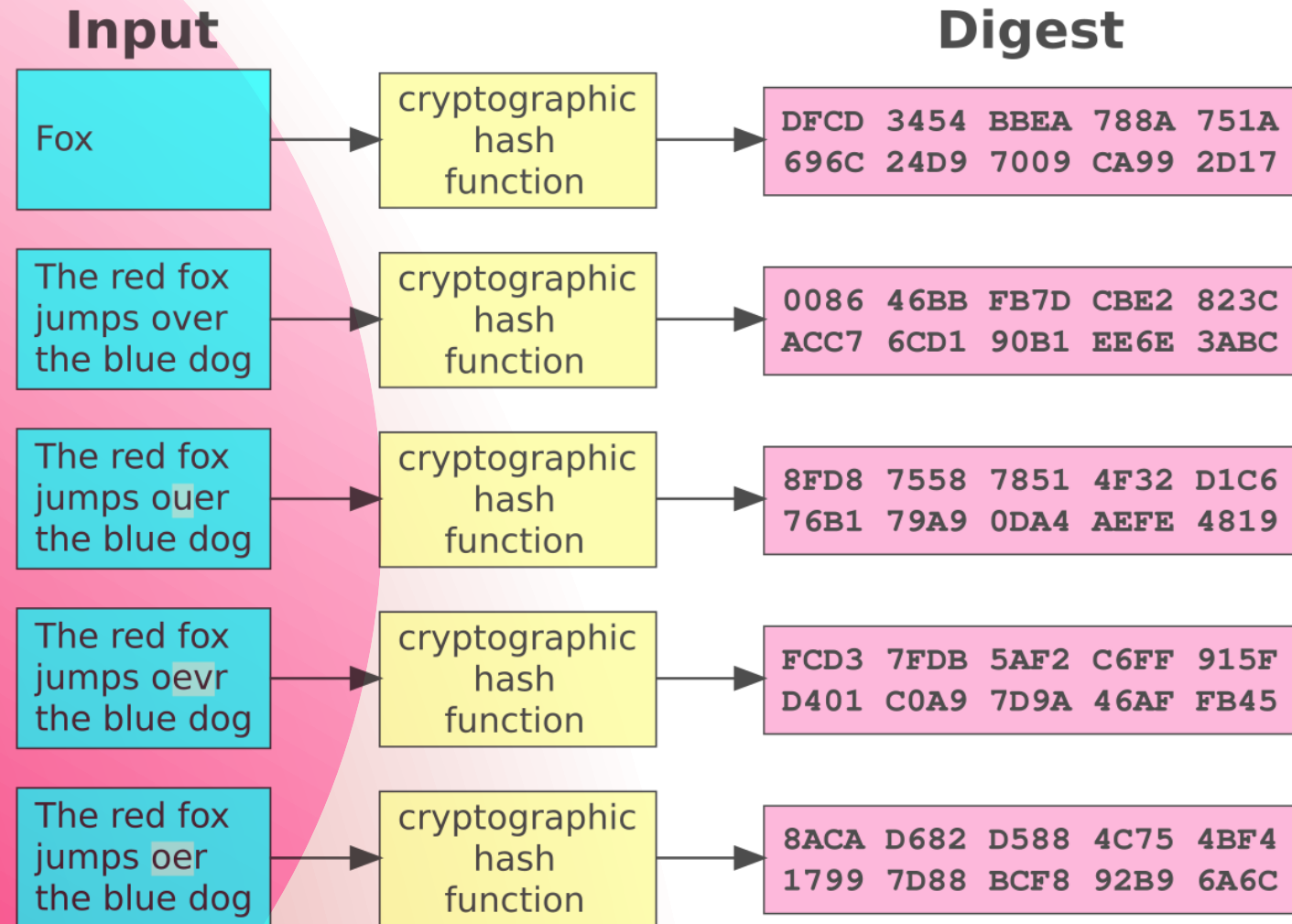
- Can be apply to a message of any size
- Produces fixed length output
- It is easy to compute



The background features a gradient from dark red on the left to light pink on the right. There are three large circles: a red one on the left, a pink one at the top, and a larger pink one in the center-left containing the text.

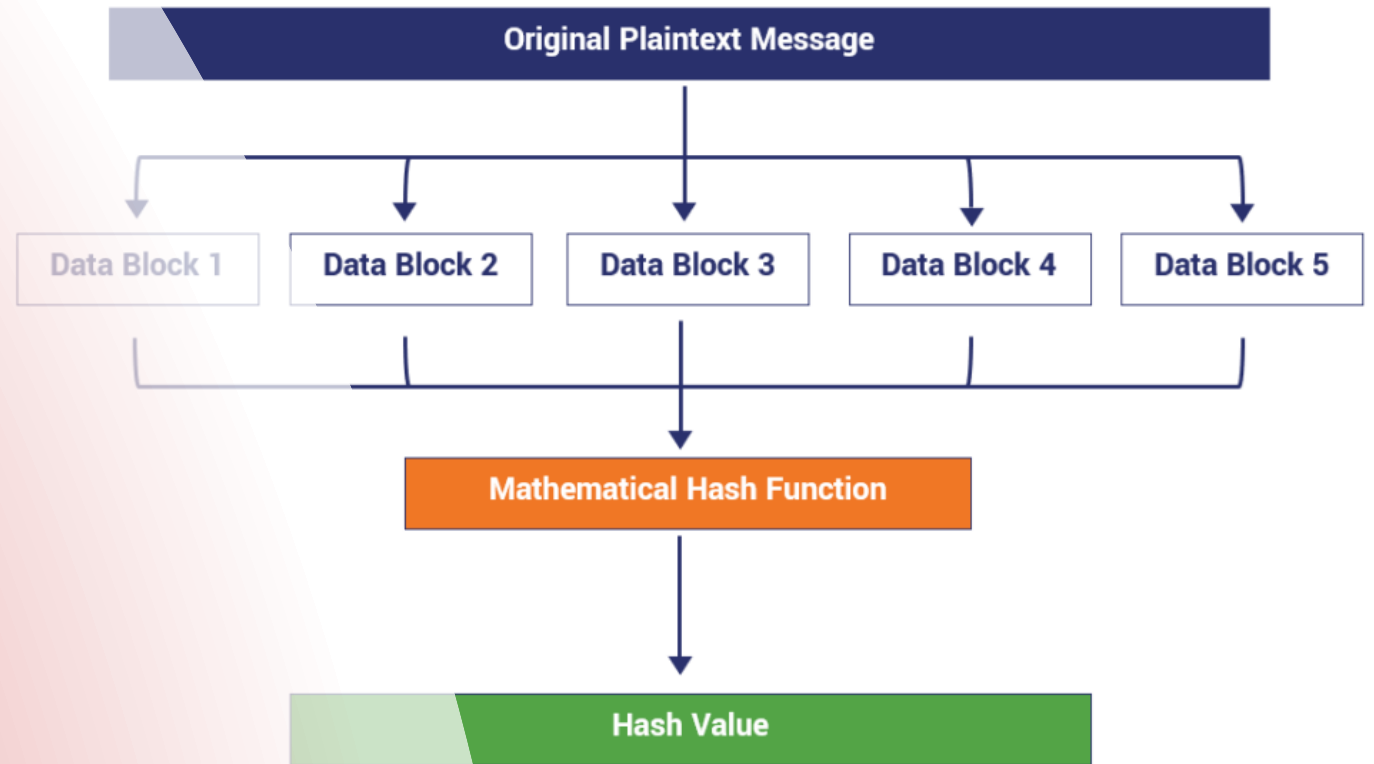
Properties of secure hash functions

- Preimage resistance
- Second image resistance
- Collision resistance
- Avalanche effect



SHA-2

How Hashing Works



Public/Private Keys



Asymmetric cryptography

KEY PAIR

PRIVATE KEY



USED TO SPEND BITCOIN
THAT IS LINKED TO THE
PUBLIC KEY

CAN CREATE



CAN'T CREATE

PUBLIC KEY

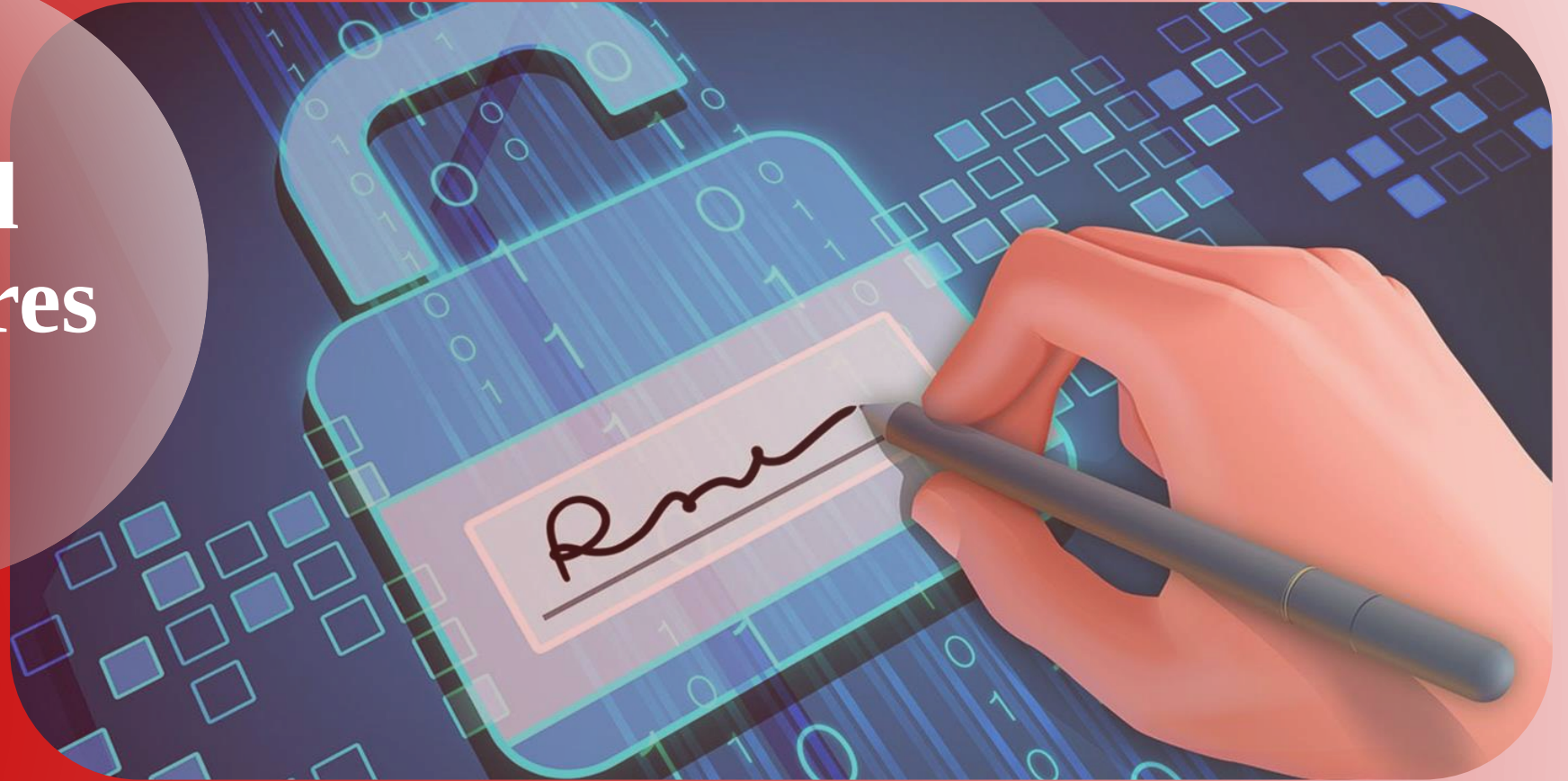


USED TO BUILD ADDRESSES
FOR RECEIVING BITCOIN AND
CHECKING BALANCES

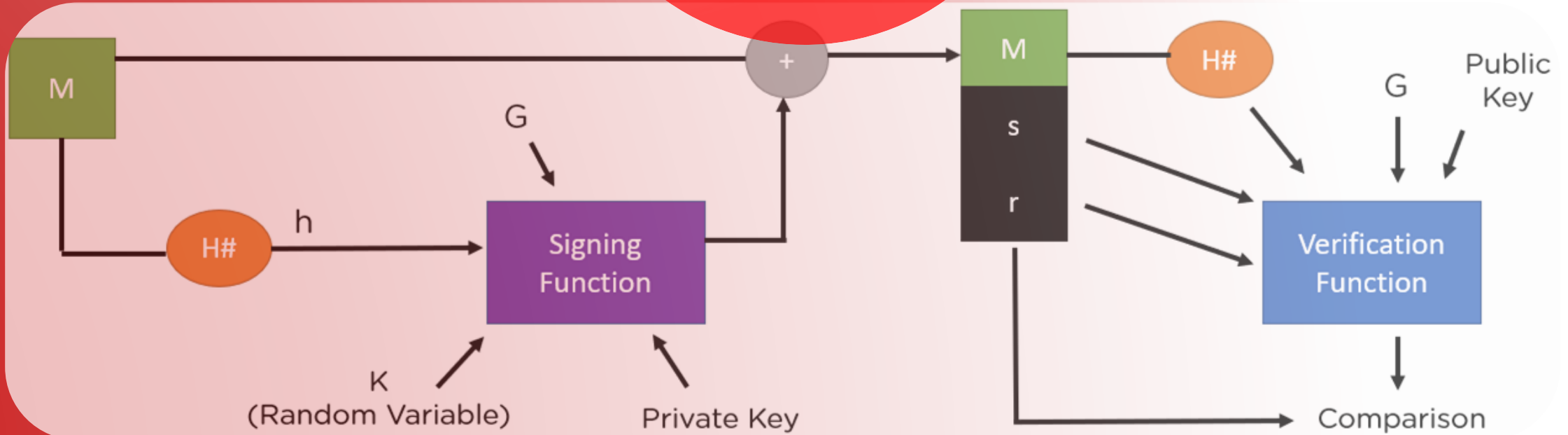
Create bitcoin private key

(4 Billion)	(4 Billion)	(4 Billion)	(4 Billion)	(4 Billion)	(4 Billion)	(4 Billion)
H/s		K G ++			126.8 years	507 B years
	K G ++			GGSC		

Digital Signatures



DSA





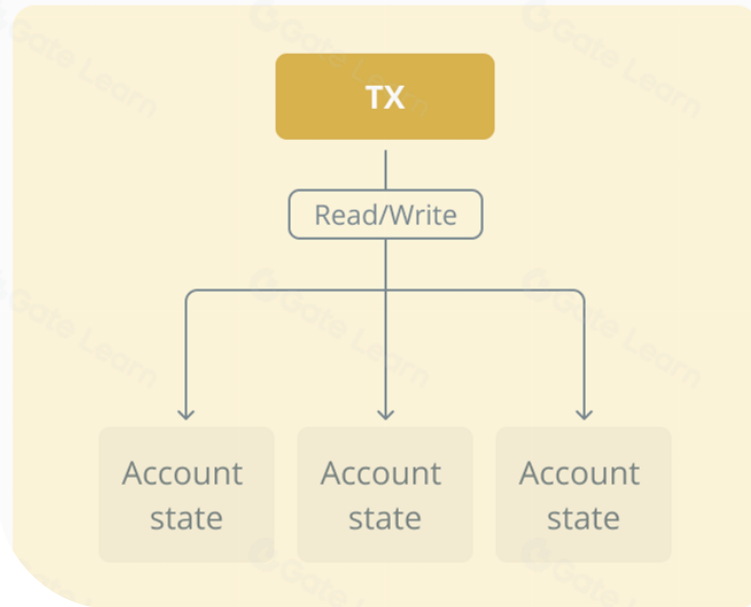
**How actually
bitcoin works**



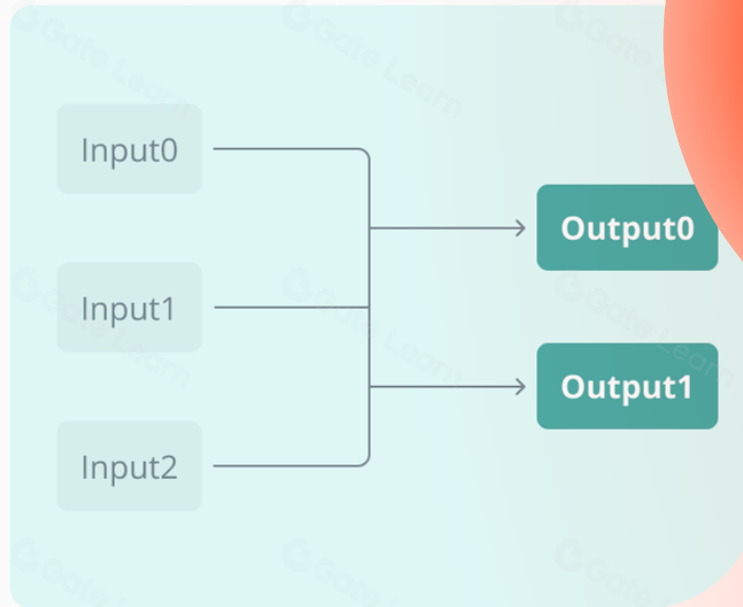
**How actually
bitcoin works**

Account model vs. UTXO model

Account Model



UTXO Model



**Transactions
&
Wallets**



Wallets

answer

pattern

name

stove

basic

narrow

invite

fork

base

approve

island

foil

story

force

patient

barely

narrow

fortune

myth

naive

involve

food

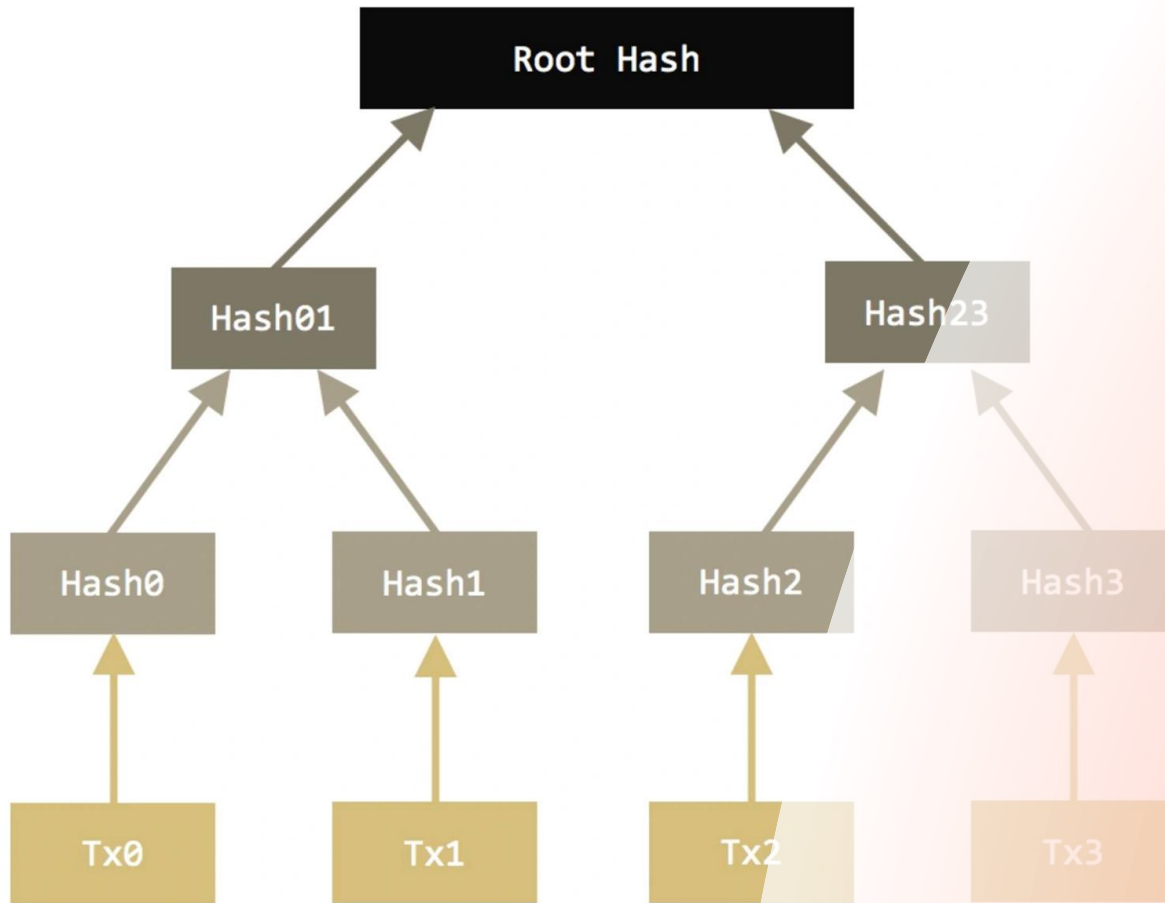
iron

anxiety

Mnemonic
seed phrase

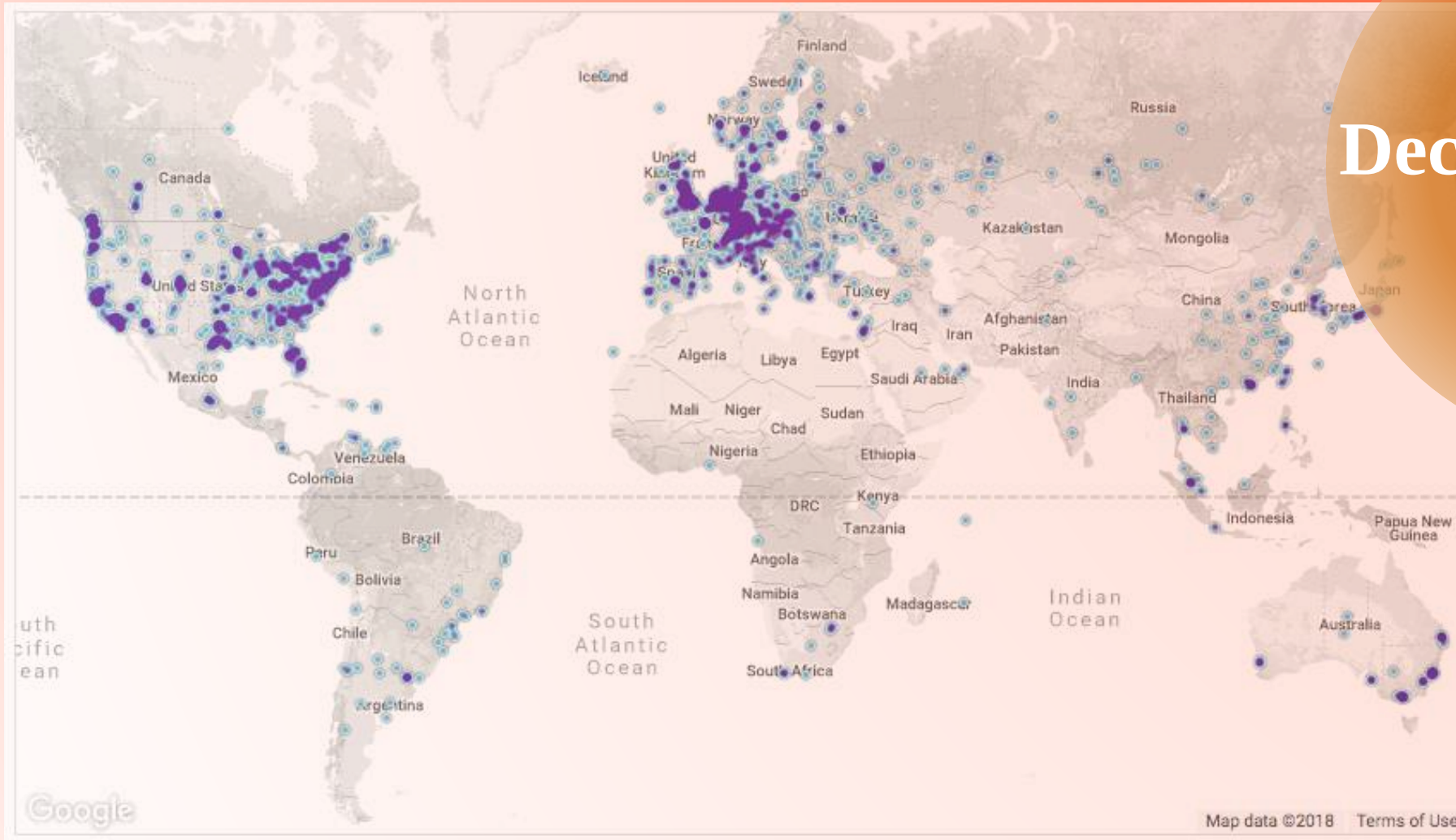
Block chain





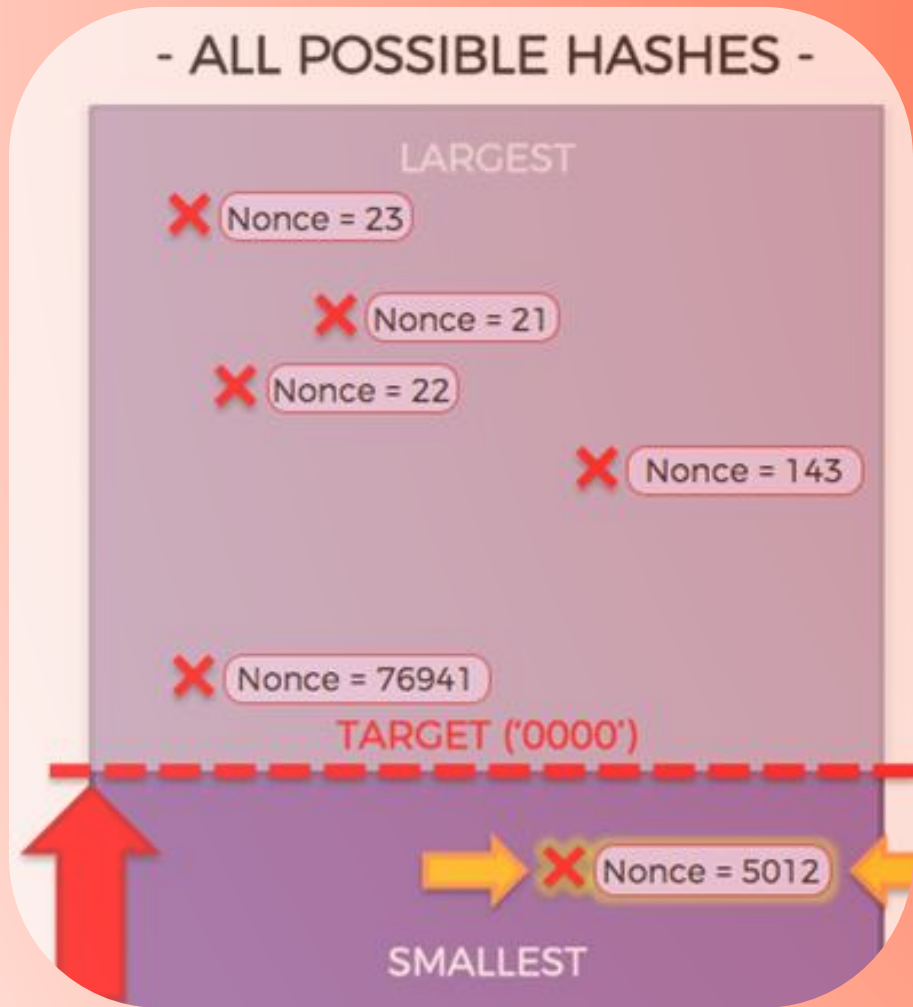
Merkel Tree

Decentralization





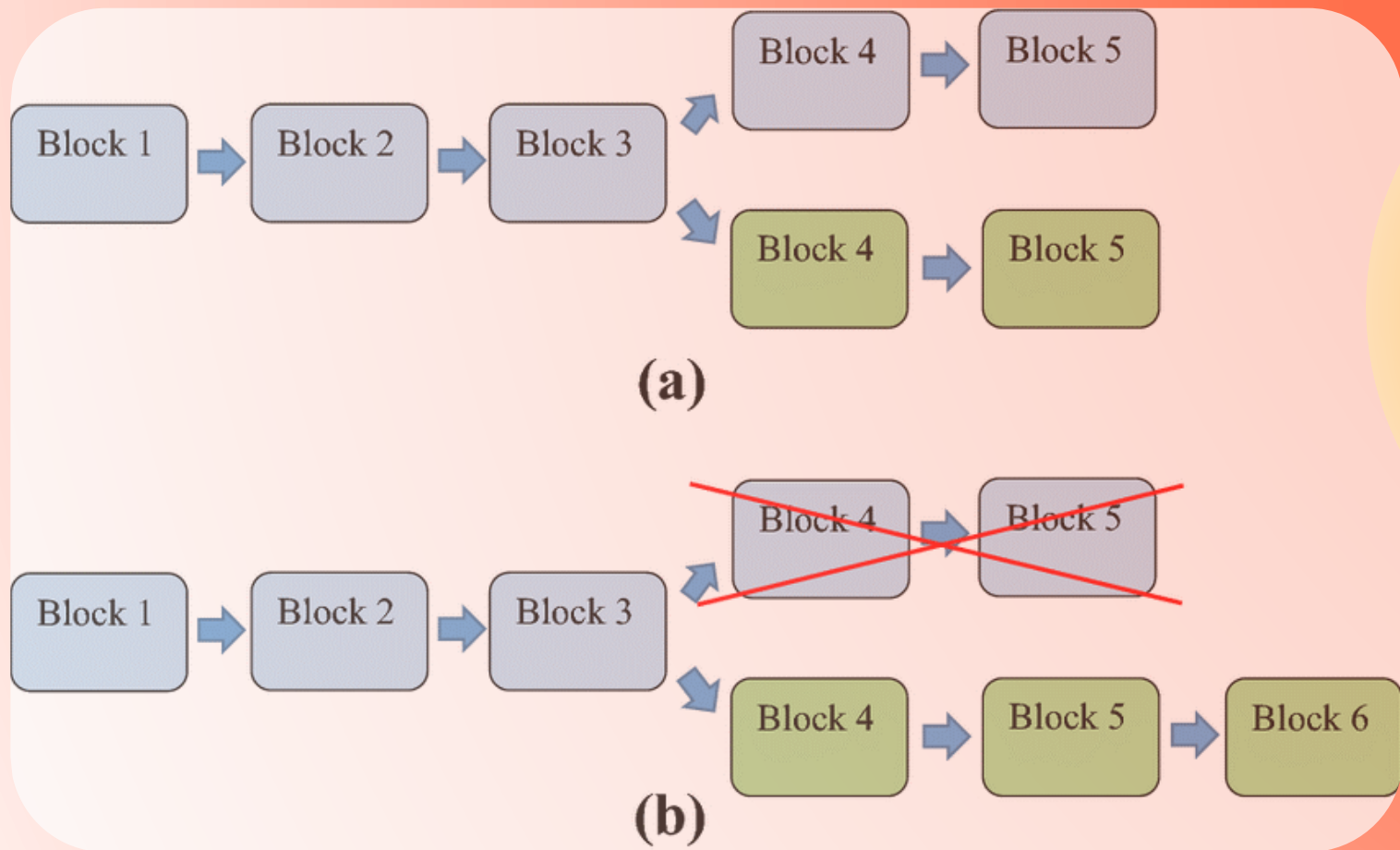
Mining & Proof-of-Work



Target



Reward



Fork



Recap





