Blockchain e a rede Bitcoin

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1. Bitcoin | futuro ou presente?
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7. Riscos e contestações
8. Dicas de como usar

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Problema

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Bitcoin: A Peer-to-Peer Electronic Cash System

Satoshi Nakamoto
satoshin@gmx.com
www.bitcoin.org

Abstract. A purely peer-to-peer version of electronic cash would allow online payments to be sent directly from one party to another without going through a financial institution. Digital signatures provide part of the solution, but the main benefits are lost if a trusted third party is still required to prevent double-spending. **We propose a solution to the double-spending problem using a peer-to-peer network.** The network timestamps transactions by hashing them into an ongoing chain of hash-based proof-of-work, forming a record that cannot be changed without redoing the proof-of-work. The longest chain not only serves as proof of the sequence of events witnessed, but proof that it came from the largest pool of CPU power. As long as a majority of CPU power is controlled by nodes that are not cooperating to attack the network, they'll generate the longest chain and outpace attackers. The network itself requires minimal structure. Messages are broadcast on a best effort basis, and nodes can leave and rejoin the network at will, accepting the longest proof-of-work chain as proof of what happened while they were gone.

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R$ 600 milhões

no Brasil

US$ 28 bilhões

no mundo

Volume negociado mensalmente

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US$ 100 bilhões

em circulação

Mercado global de ouro = US$ 7 trilhões

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1/4

1/2

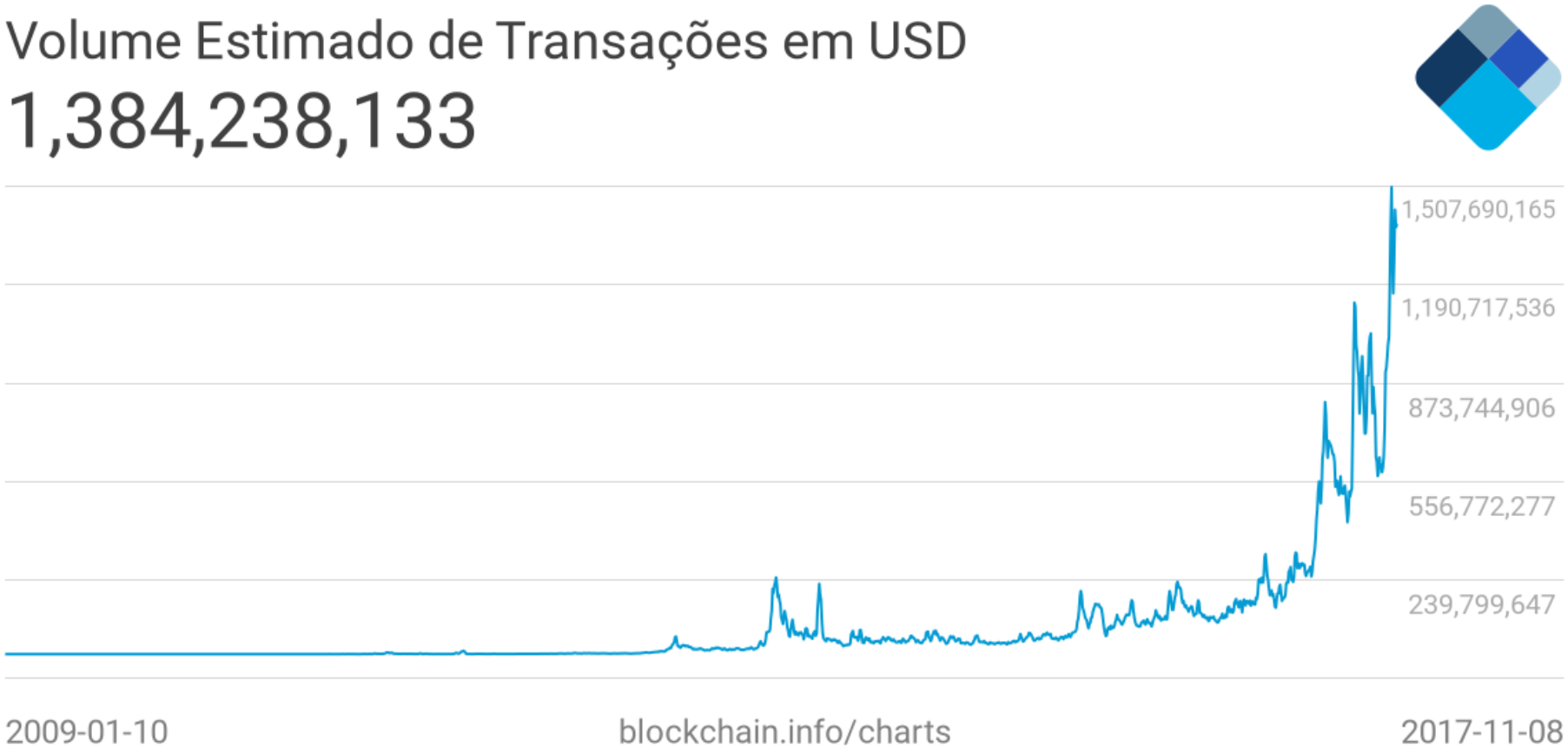
Japão regulamenta o uso do Bitcoin como meio de pagamento.

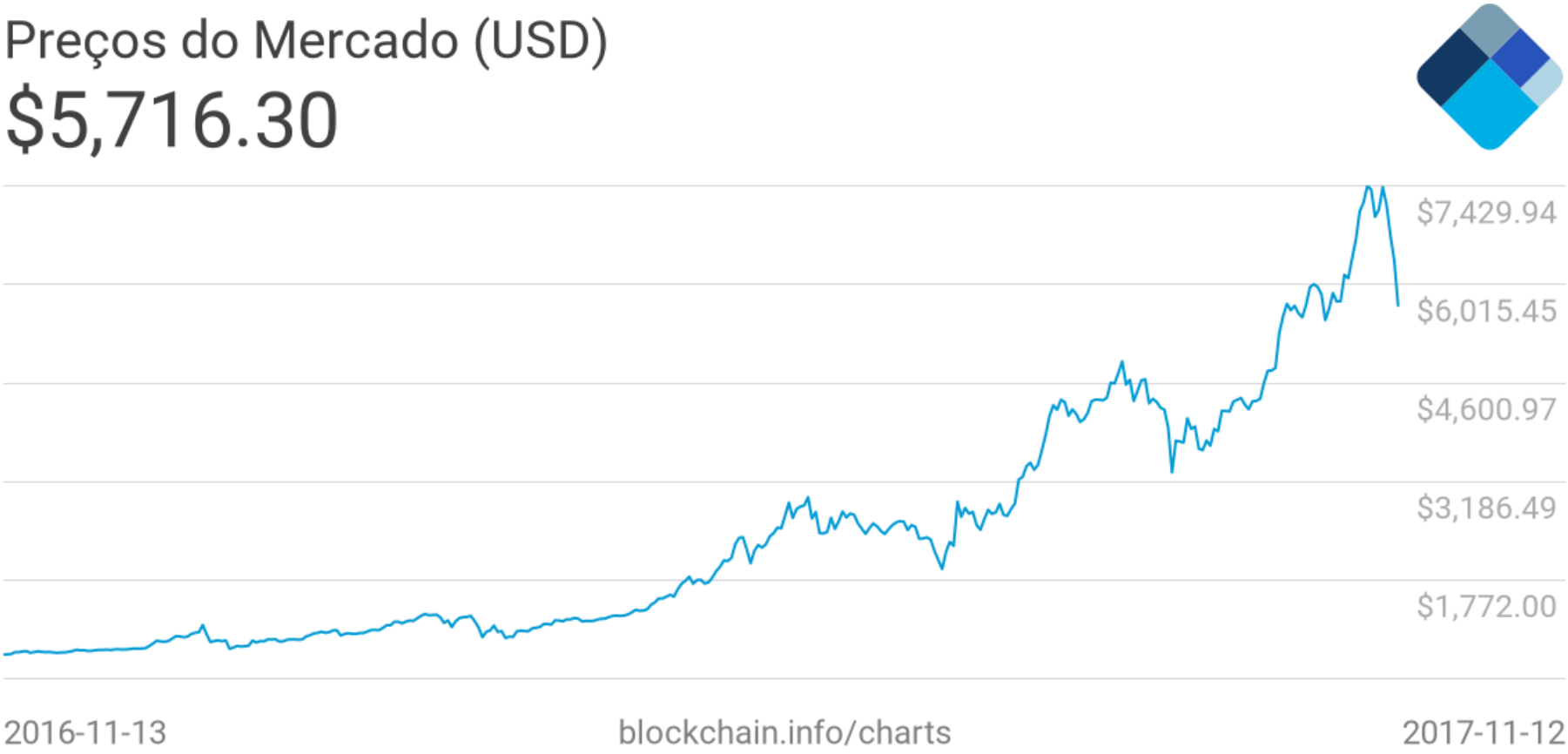
4.500 lojas já aceitam o Bitcoin

Após o fechamento da Mt. Gox em 2014, o Governo Japonês impôs algumas relgulamentações como capital mínimo para as exchanges e contas segragadas para os clientes.

Reputação questionada com toda polêmica acerca do protocolo Segwit2x

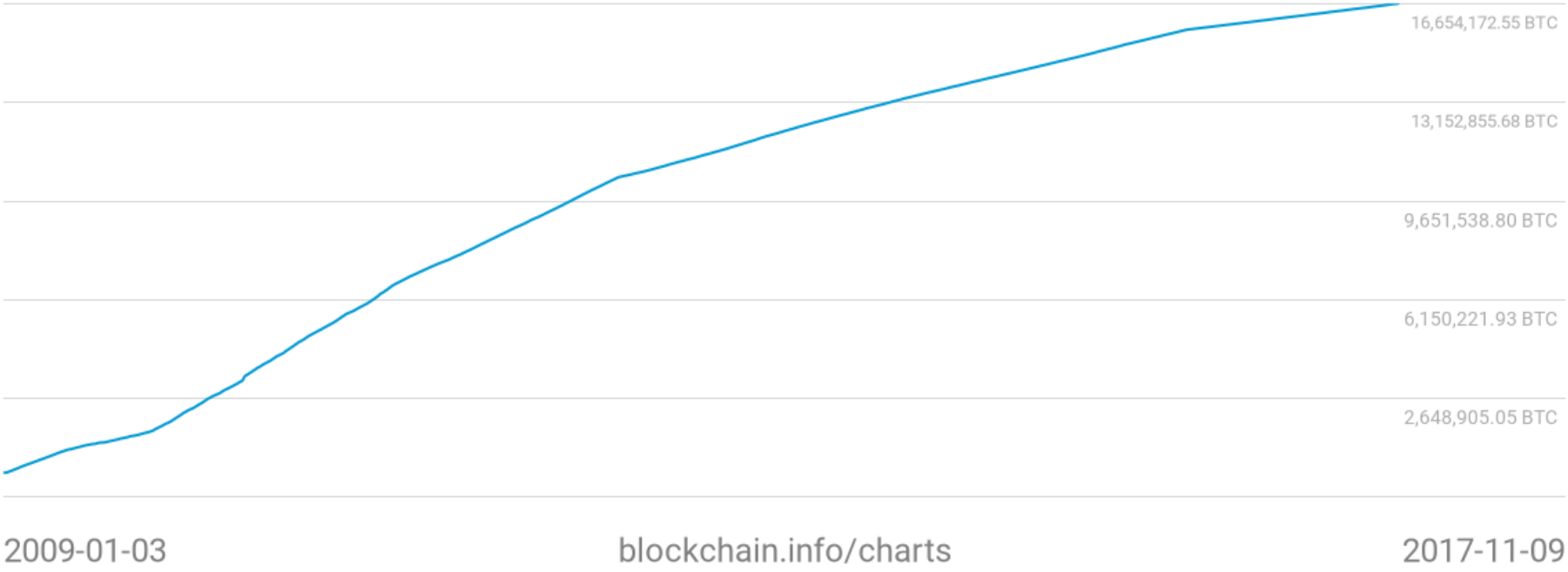
Bitcoin: A Peer-to-Peer Electronic Cash System




Preços do Mercado (USD)
$5,716.30
$7,429.94
$6,015.45
$4,600.97
$3,186.49
$1,772.00
2016-11-13
blockchain.info/charts
2017-11-12

Total de bitcoins em circulação

16,672,987.50 BTC



Conceito

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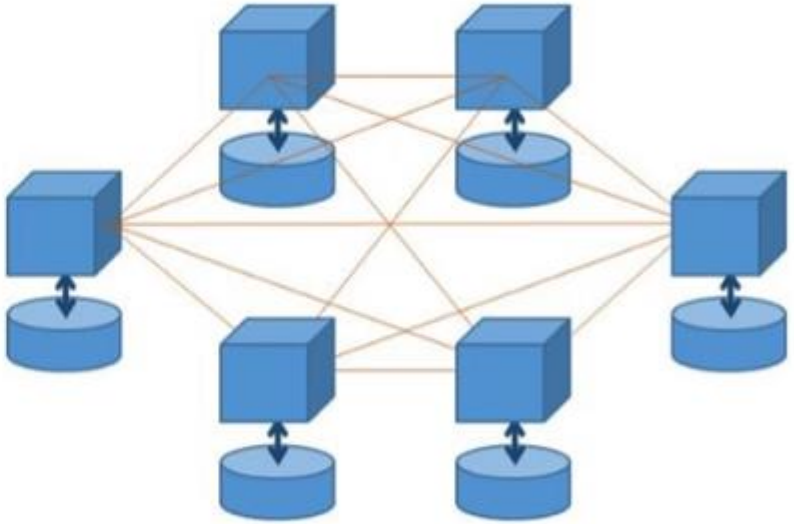
Rede distribuída



O blockchain do bitcoin é um conjunto de algoritmos abertos e de livre acesso que, por meio da internet, estabelece uma rede global, colaborativa e descentralizada de notarização de transações. Esse processo ocorre de forma transparente, contínua e auto auditável, **estabelecendo um consenso de que colaborar é mais lucrativo que trapacear.**

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Características

.: Livre ingresso – qualquer um pode participar, seja na periferia ou minerando

.: Anonimato – não há cadastro de dados pessoais

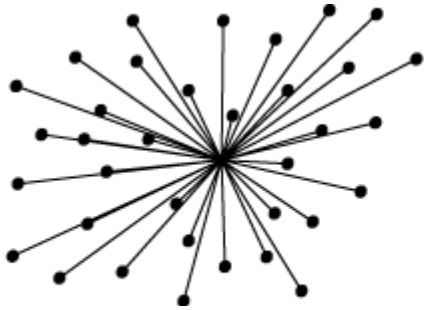
.: Não há um dono, chefe ou coordenador das decisões

.: É uma rede distribuída onde todos garantem a credibilidade das transações

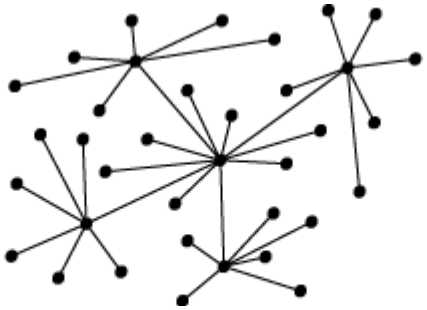
.: Base monetária de 21 milhões de bitcoins | em 2140

divisível até 8 casas decimais

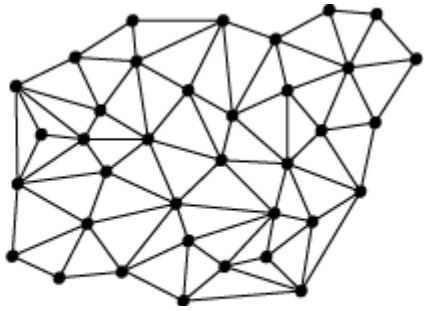
BLOCKCHAIN



Centralizada



Descentralizada



Distribuída

Base monetária brasileira: R$ 260 bilhões

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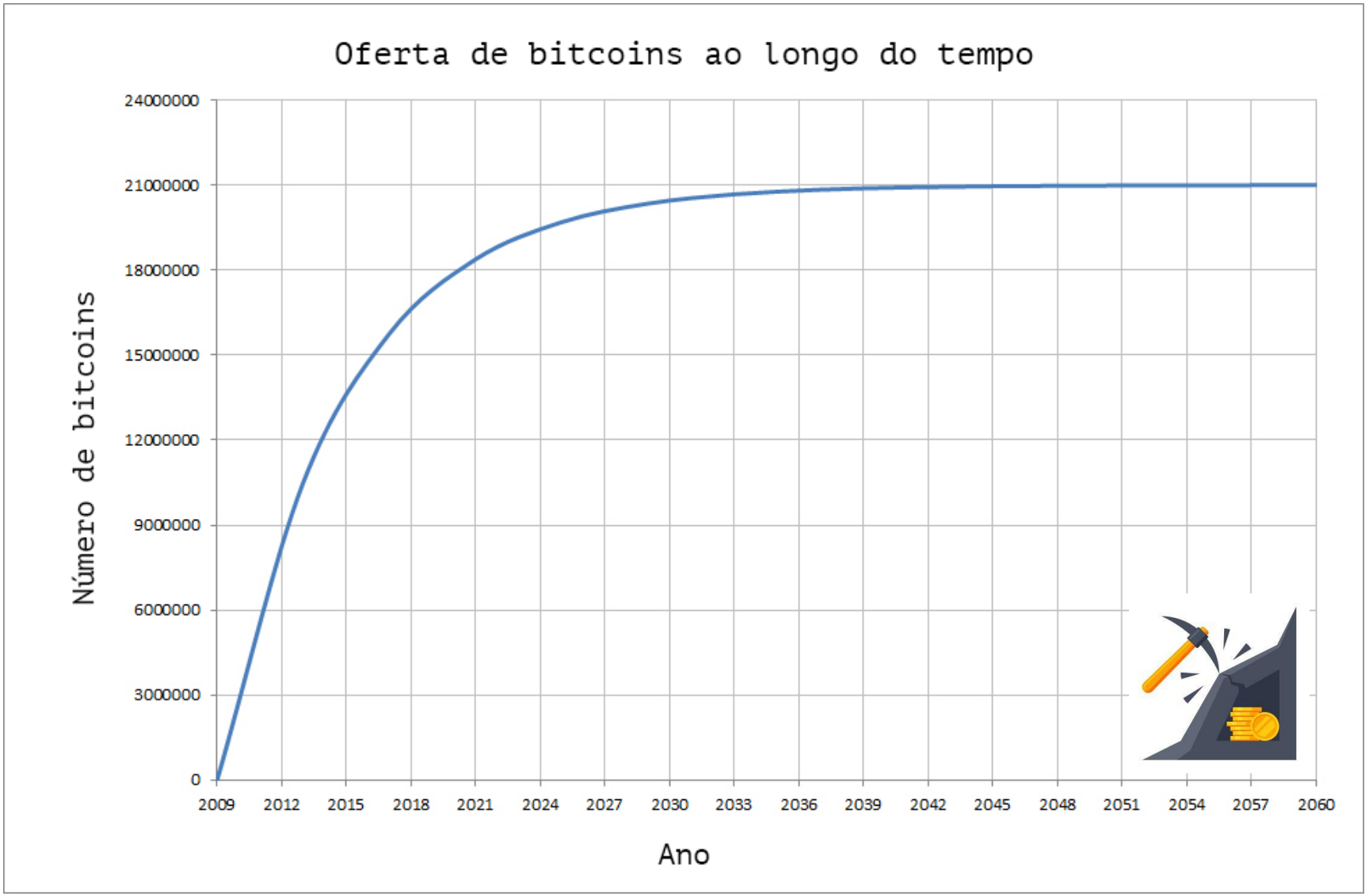
Oferta de bitcoins ao longo do tempo
Número de bitcoins
24000000
21000000
18000000
15000000
12000000
9000000
6000000
3000000
0
2009
2012
2015
2018
2021
2024
2027
2030
2033
2036
2039
2042
2045
2048
2051
2054
2057
2060
Ano

Blockchain

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Uma função **hash** é um algoritmo que mapeia dados de comprimento variável para dados de comprimento fixo. SHA-2 (Secure Hash Algorithm 2 - NSA)

530.752.046-84 ← Código hash

Mensagem

Margem de erro de 1%

Na rede bitcoin adota-se o hash com mais de 60 dígitos de comprimento, o que leva a **margem de erro** (duplicatas) a **praticamente zero**.

```
1.  {"hash":"7c4025...",
2.  "ver":1,
3.  "vin_sz":1,
4.  "vout_sz":1,
5.  "lock_time":0,
6.  "size":224,
7.  "in":[
8.    {"prev_out":
9.      {"hash":"2007ae...",
10.      "n":0},
11.   "scriptSig":"304502... 042b2d..."}],
12. "out":[
13.   {"value":"0.31900000",
14.   "scriptPubKey":"OP_DUP OP_HASH160 a7db6f OP_EQUALVERIFY OP_CHECKSIG"}]}
```

Hash anterior

Versão 1 do protocolo do bitcoin

Indica que a transação tem apenas 1 input

Indica que a transação tem apenas 1 output

Indica o tempo gasto para finalizar a transação

Tamanho em bytes da transação

Informa o hash de entrada e de saída

Informa que é a primeira saída dessa transação

Informa a assinatura de quem está enviando, espaço e depois a sua chave pública

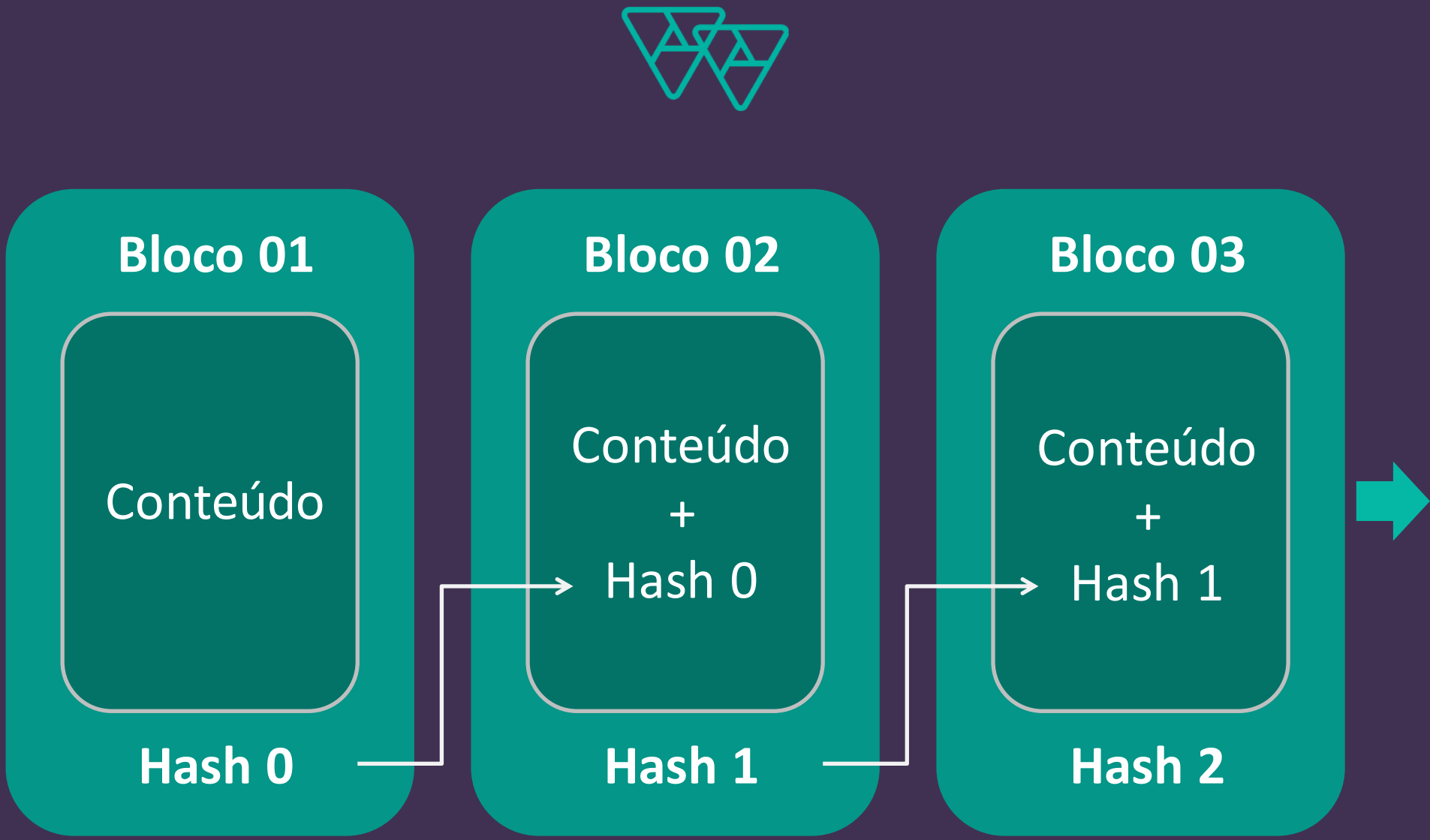
Informa quantos bitcoins estão sendo transferidos

Informa o endereço do receptor

0	De referência a uma transação anterior	Para destinatário	Valor quandidade de BTC
	- Ninguém	1SatoshiNakamoto	50
Teto		189.273.255 ... hexadecimal	
Hash		600.243.584 ... hexadecimal	
Nonce ou contador		0	
Hash anterior		000.000 ... hexadecimal	

.: Transação gênese (sem referência a um bloco anterior)
.: O hash tem que ser inferior ao valor do teto

0	De referência a uma transação anterior	Para destinatário	Valor quandidade de BTC
	- Ninguém	1SatoshiNakamoto	50
Teto		189.273.255 ... hexadecimal	
Hash		175.546.852 ... hexadecimal	
Nonce ou contador		15	
Hash anterior		000.000 ... hexadecimal	



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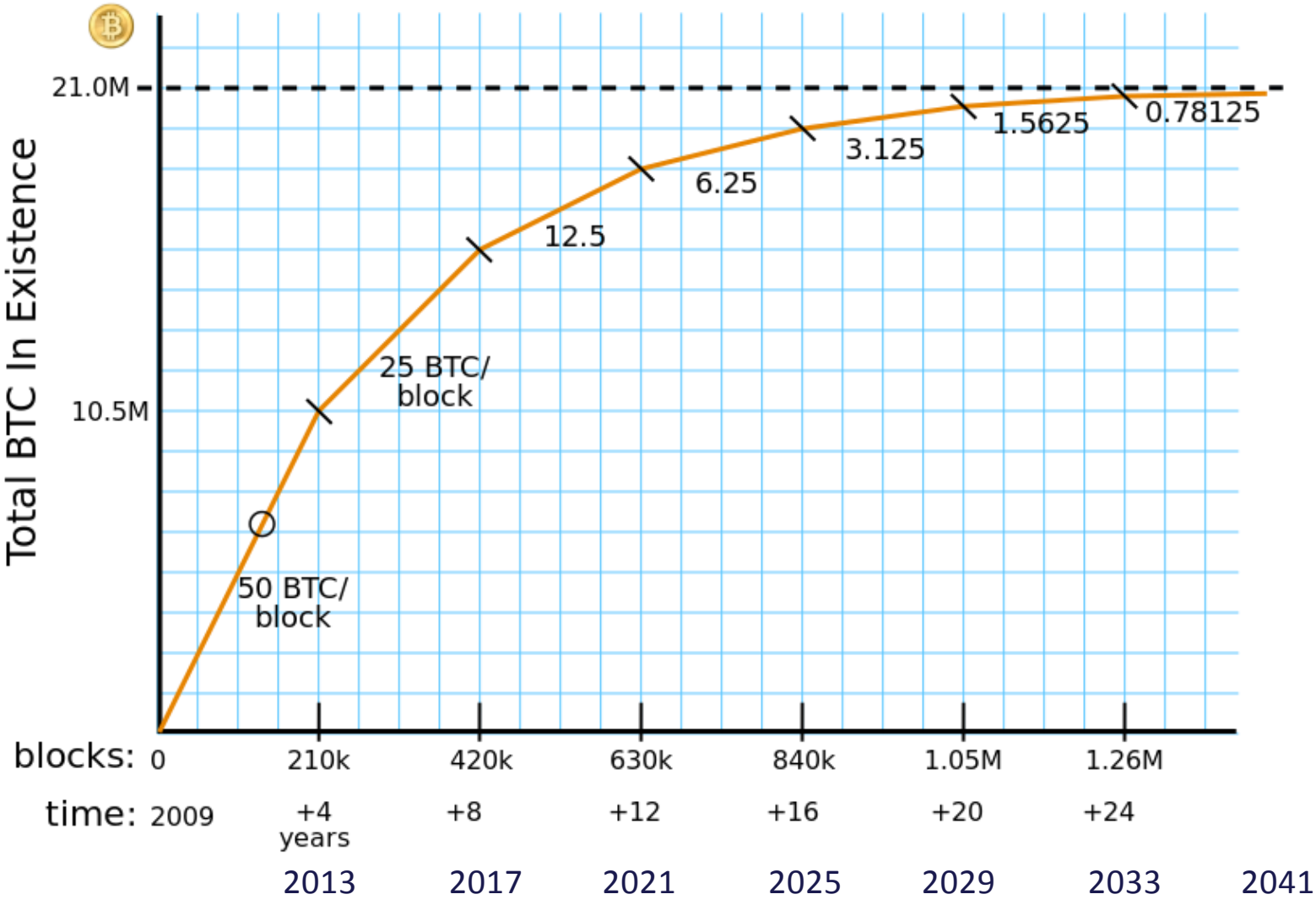
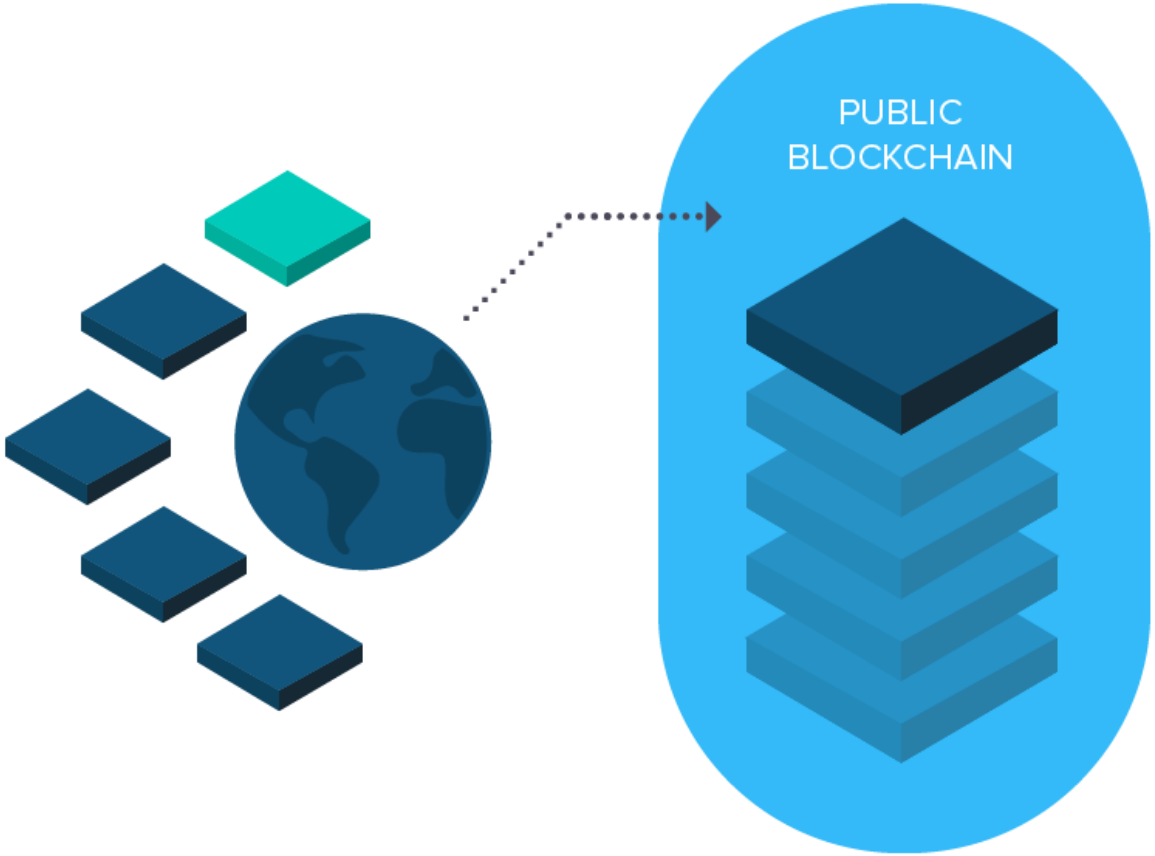
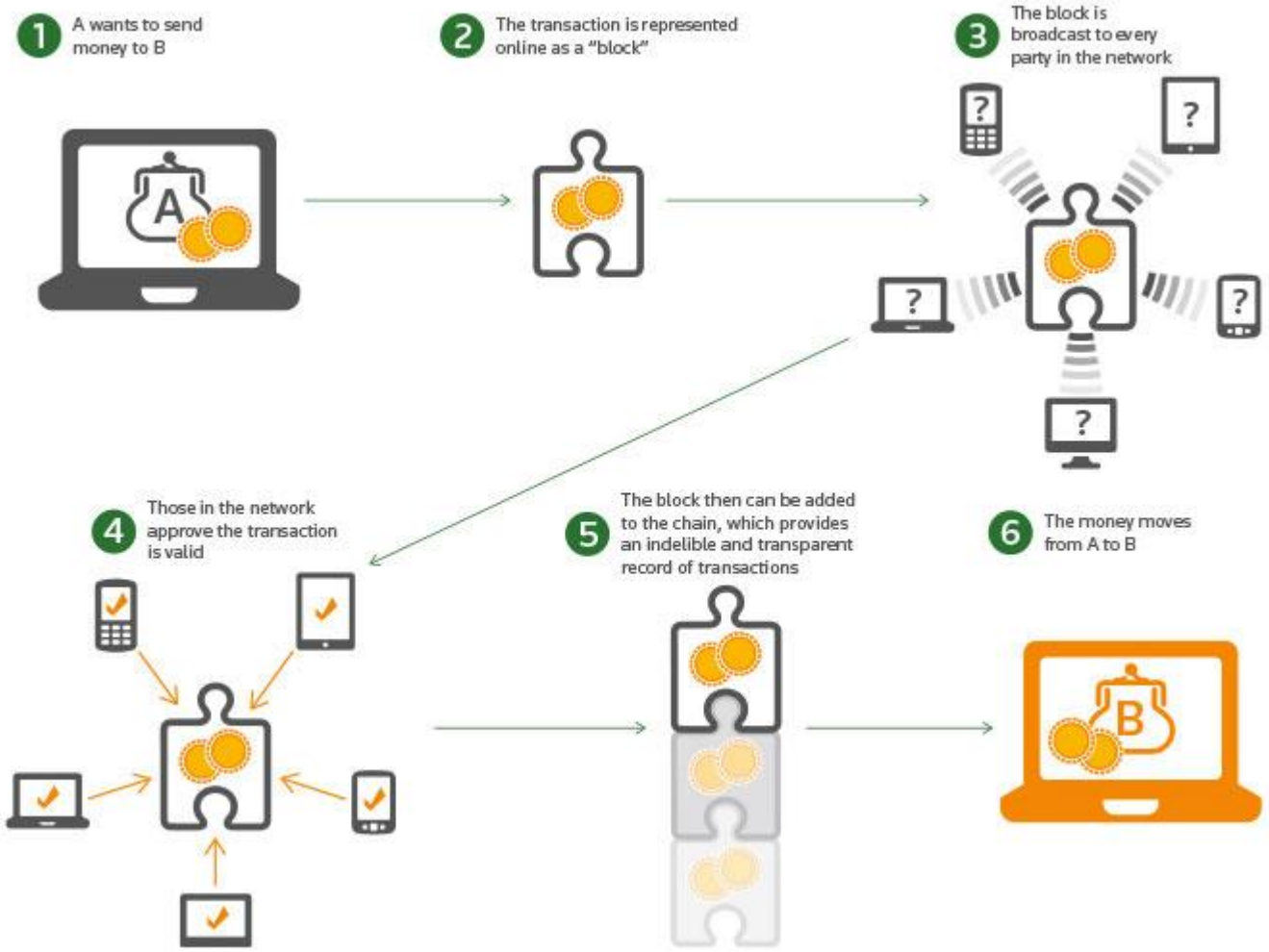

Total BTC In Existence
21.0M
10.5M
50 BTC/ block
25 BTC/ block
12.5
6.25
3.125
1.5625
0.78125
blocks: 0
210k
420k
630k
840k
1.05M
1.26M
time: 2009
+4 years
+8
+12
+16
+20
+24
2013
2017
2021
2025
2029
2033
2041

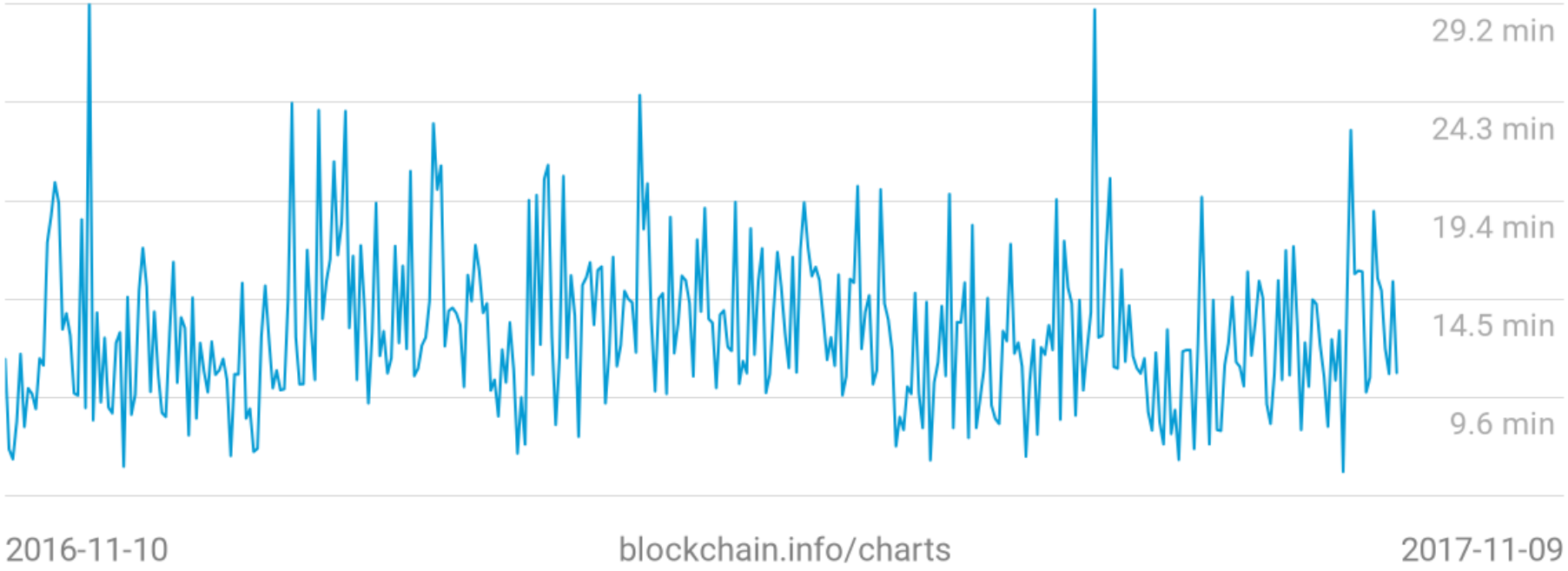

PUBLIC
BLOCKCHAIN



Os nós recebem as transações e blocos, armazenam e repassam somente os válidos e ignoram os inválidos.

Median Confirmation Time

10.8 min



Seguro | https://bitcoinfees.earn.com

Which fee should I use?

The fastest and cheapest transaction fee is currently **845 satoshis/byte**, shown in green at the top.
For the median transaction size of **226 bytes**, this results in a fee of **190,970 satoshis**.

Please note that many wallets use satoshis-per-kilobyte or bitcoins-per-kilobyte, so you may need to convert units. See our instructions for more details.

What are the fees shown here?

The fees displayed here are Satoshis (0.00000001 BTC) per byte of transaction data. Miners usually include transactions with the highest fee/byte first.
Wallets should base their fee calculations on this number, depending on how fast the user needs confirmations.

What does the delay mean?

The delay shown here is the predicted number of blocks the transactions will take to confirm. If a transactions are predicted to have a delay between 1-3 blocks, there is a 90% chance that they will be confirmed within that range (around 10 to 30 minutes).
Transactions with higher fees will often have 0 delay, which means they will likely be confirmed with the next block (usually around 5-15 minutes).

How is the delay predicted?

The predictions are based on blockchain data of the last 3 hours, as well as the current pool of unconfirmed transactions (mempool).
First, a likely future mempool and miner behavior is predicted using Monte Carlo simulation. From the simulations, it can be seen how fast transactions with different fees are likely to be included in the upcoming blocks.
The predicted delay shown here is chosen to represent a 90% confidence interval.

I still have questions. Where can I learn more?

More information about transaction fees may be found on our support site.

Is there an API for developers?

Yes. See the API documentation here.

I have some feedback for you!

Sure, drop us a line any time at support@earn.com!

bitcoinsfees.earn.com

Apresenta as taxas que os mineradores cobram para validar as transações

História e legitimidade

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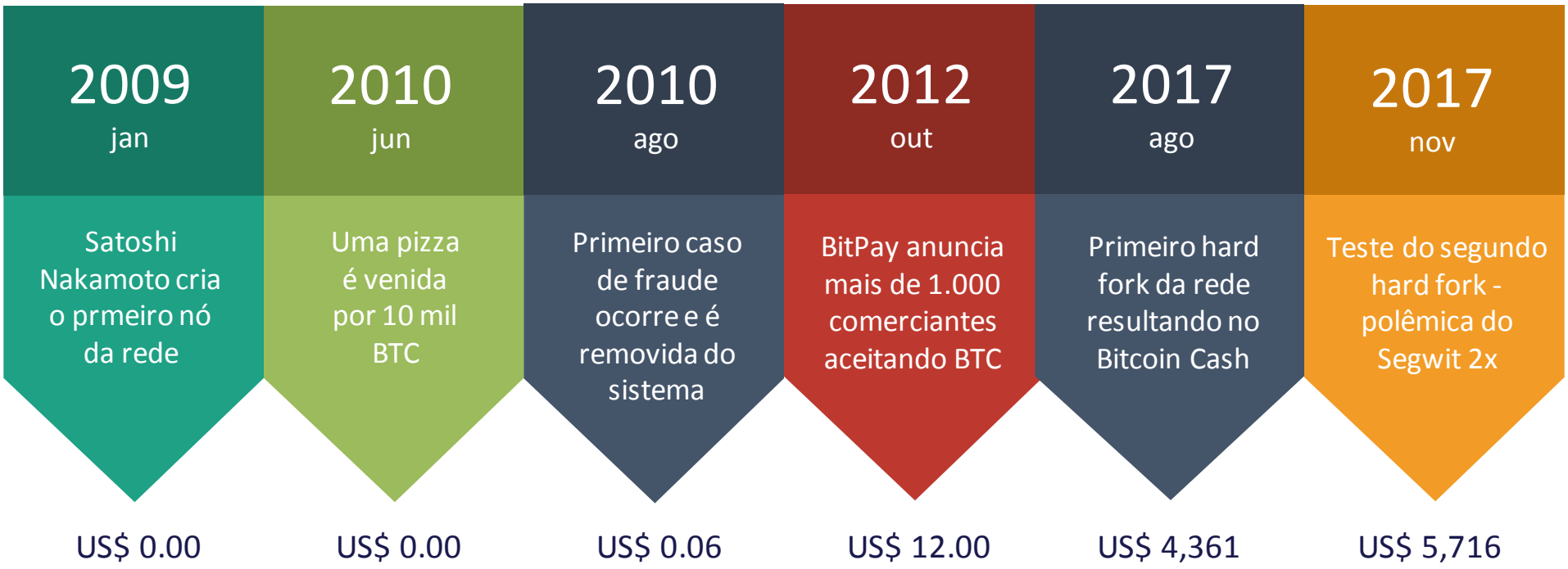
Breve histórico



Outras tentativas (Digi Cash e e-Gold) já haviam ocorrido na década de 90 antes da publicação do paper do Satoshi Nakamoto em outubro de 1.998

www.cmegroup.com/media-room/press-releases/2017/10/31/cme_group_announceslaunchofbitcoinfutures.html/

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2.7K 852

News Release

CME Group Announces Launch of Bitcoin Futures

Tue Oct 31 2017

CHICAGO, Oct. 31, 2017 /PRNewswire/ -- CME Group, the world's leading and most diverse derivatives marketplace, today announced it intends to launch bitcoin futures in the fourth quarter of 2017, pending all relevant regulatory review periods.

The new contract will be cash-settled, based on the CME CF Bitcoin Reference Rate (BRR) which serves as a once-a-day reference rate of the U.S. dollar price of bitcoin. Bitcoin futures will be listed on and subject to the rules of CME.

"Given increasing client interest in the evolving cryptocurrency markets, we have decided to introduce a bitcoin futures contract," said Terry Duffy, CME Group Chairman and Chief Executive Officer. "As the world's largest regulated FX marketplace, CME Group is the natural home for this new vehicle that will provide investors with transparency, price discovery and risk transfer capabilities."

Since November 2016, CME Group and Crypto Facilities Ltd. have calculated and published the BRR, which aggregates the trade flow of major bitcoin spot exchanges during a calculation window into the U.S. Dollar price of one bitcoin as of 4:00 p.m. London time. The BRR is designed around the IOSCO Principles for Financial Benchmarks. Bitstamp, GDAX, itBit and Kraken are the constituent exchanges that currently contribute the pricing data for calculating the BRR.

"We are excited to work with CME Group on this product and see the BRR used as the settlement mechanism of this important product," said Dr.Timo Schlaefer, CEO of Crypto Facilities. "The BRR has proven to reliably and transparently reflect global bitcoin-dollar trading and has become the price reference of choice for financial institutions, trading firms and data providers worldwide."

CME Group and Crypto Facilities Ltd. also publish the CME CF Bitcoin Real Time Index (BRTI) to provide price transparency to the spot bitcoin market. The BRTI combines global demand to buy and sell bitcoin into a consolidated order book and reflects the fair, instantaneous U.S. dollar price of bitcoin in a spot price. The BRTI is published in real time and is suitable for marking portfolios, executing intra-day bitcoin transactions and risk management.

Cryptocurrency market capitalization has grown in recent years to $172 billion, with bitcoin representing more than 54 percent of that total, or $94 billion. The bitcoin spot market has also grown to trade roughly $1.5 billion in notional value each day

Corporate Communications

+1 312 930 3434

Email

Cmegroup.com

CME | Chicago Mercantile Exchange anuncia que vai operar contratos furuturos de bitcoin até dezembro de 2017,

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Blockchain

Outras aplicações

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É possível calcular o hash de uma foto, de uma música,
de um documento ou de um imóvel...
A tecnologia do blockchain pode ter infinitas aplicações.

HYPERLEDGER

IBREA
INTERNATIONAL BLOCKCHAIN REAL ESTATE ASSN.

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IBREA

INTERNATIONAL BLOCKCHAIN REAL ESTATE ASSN.

The **International Blockchain Real Estate Association** (IBREA) is a member-focused advocacy, educational, and trade organization dedicated to implementing blockchain in real estate. Blockchain offers an open source, universal protocol for property buying, conveyancing, recording, escrow, crowdfunding, and more. It can reduce costs, stamp out fraud, speed up transactions, increase financial privacy, internationalize markets, **and make real estate a liquid asset.**

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Articles

Real estate project in Dubai to be the 'first major development where you can purchase in bitcoin'

British entrepreneurs Michelle Mone and Doug Barrowman have launched a bitcoin-priced real estate development in Dubai. The project spans more than 2.4 million square feet. An initial tranche of 150 apartments will be sold in bitcoin in a world-first. Studio apartments will be sold initially at a starting price of 30 BTC — worth $133,918.

Read More →

London developer to allow rental tenants to pay deposits in bitcoin

Co-living pioneer The Collective has announced that prospective tenants can pay deposits from Monday in bitcoin. By the end of this year it will also accept rent payments in the cryptocurrency. This is the first time in the UK a major property developer has enabled bitcoin payments. The Collective said it was in response to demand predominantly from international customers.

Read More →

Podcast - Blockchain for Real Estate 101

Answers the simple and the more complex questions about what blockchain really means for real estate, how it can be utilized, what you should look out for when choosing whom to work with, why bitcoin is better than Ethereum and much, much more. Listen: Estates Gazette TechTalk.

Read More →

Will Blockchain Ignite Fractional Ownership Market For Homes?

The real estate industry has always been slow to adopt new technologies, however, it is becoming more open to the idea that blockchain has the potential to transform the way we buy and sell real estate by lowering hidden costs, expedite the process, reduce frauds and increase transparency.

Read More →


GRANT DEED

Permissionless Real Estate Title Transfers on the Bitcoin Blockchain in the USA!

Can you legally transfer ownership of real estate on the bitcoin blockchain? Can a blockchain real estate title transfer be recorded in the government public records? Can you do both without needing special permission or partnership with the county government?

The answers are yes, yes, and yes.

Read More →

Best Principals and Practices for Using Blockchain for Real Estate Title

Using blockchain for real estate title is an exciting focus for many companies, entrepreneurs, investors, and even governments. Because I see mistakes being made in these efforts, I will share my best principles and practices for blockchain title applications.

Read More →

Will blockchain and smart contracts revolutionise the real estate industry?

But the situation may be about to change as a new wave of fintech start-ups around the world begin disrupting the sector with blockchain (or distributed ledger) technology.

It has the potential to bring together the vast amount of property information currently stored in many private and government databases, including all legal and transaction history, via a single digital address stored on an immutable, public distributed ledger.

Read More →

Lend Academy - Potential Applications of Blockchain For Real Estate

Last week I spent the week at MIPIM, the largest conference in world dedicated to real estate. What's most interesting to me is how companies are applying technology to real estate and one of the big opportunities is bringing blockchain technology to real estate.

Read More →

The Blockchain Will Do to the Financial System What the Internet Did to Media

Instead of writing rules and appointing a regulator to monitor for breaches, which is how the current financial system works, Bitcoin's code sets the rules and the network checks for compliance. If a transaction breaks the rules (for example, if the digital signatures don't tally), it is rejected by the network.

Read More →

Real Estate Buyer Makes $1.3 Million Buying Home With Bitcoin

A real estate buyer in California profited nearly $1.3 mln after purchasing $4 mln worth of Bitcoin with an intent to purchase a house in California.

Earlier this month, BitPay chief commercial officer (CCO) Sonny Singh was approached by a real estate buyer based in California who wished to purchase a $4 mln house solely using Bitcoin.

Read More →

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Seguro | https://www.daimler.com/investors/refinancing/blockchain.html

Provider/Privacy

DAIMLER

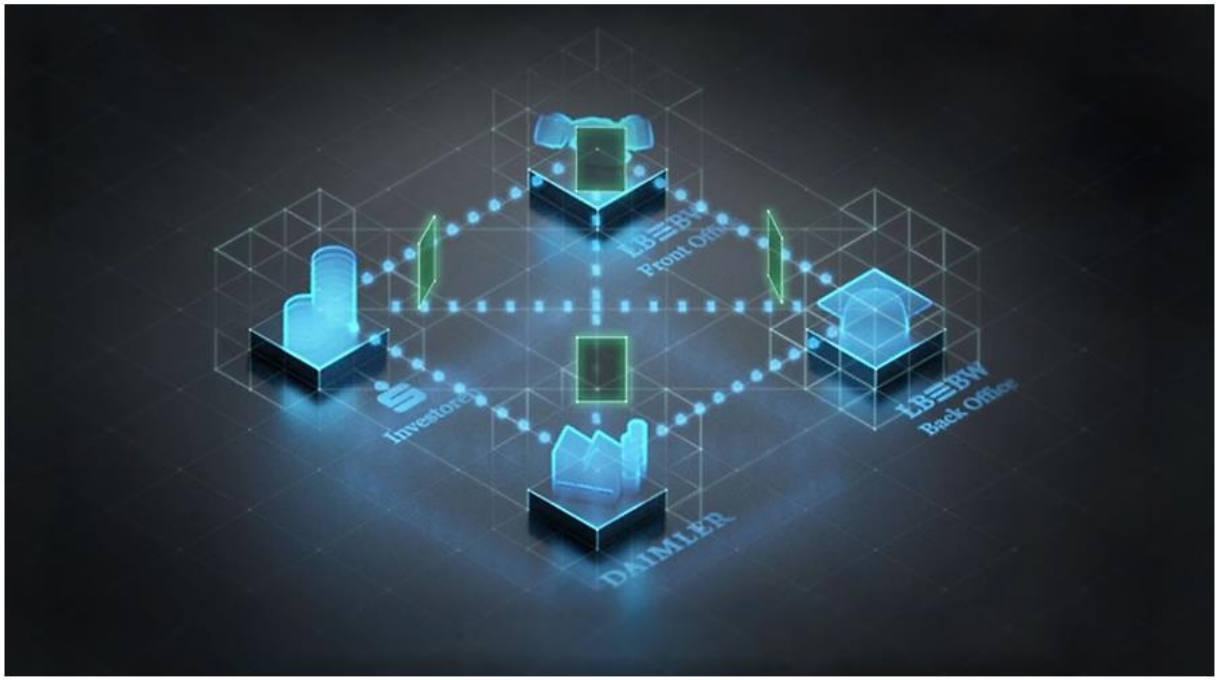
INVESTORS

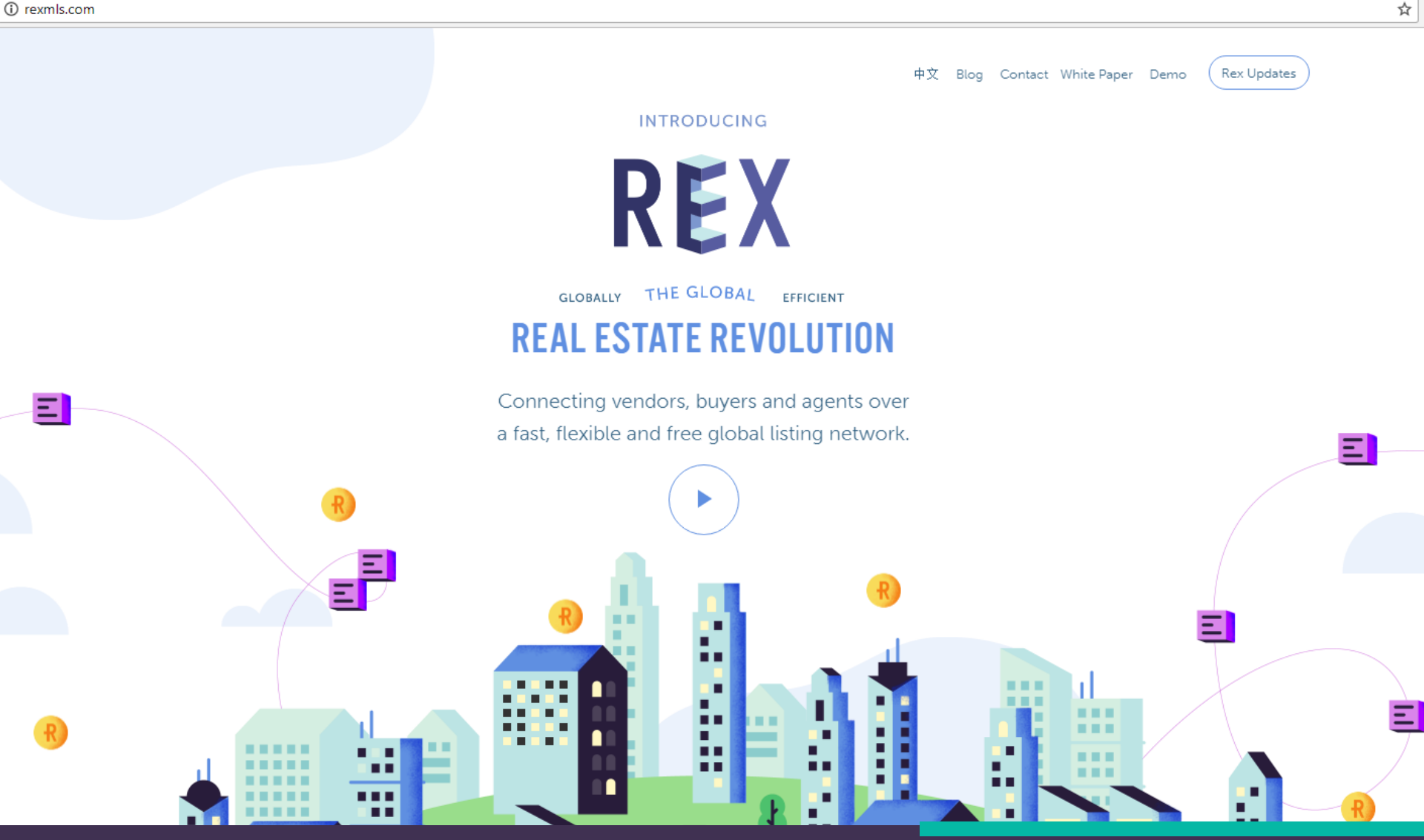
NEWS / SHARE / **REFINANCING** / KEY FIGURES / REPORTS / EVENTS / ABOUT US

Financial Management Rating Bonds Asset-Backed Securities CP Programs

Successful utilization of blockchain

Joint pilot project of Daimler and LBBW





Rexmls.com

Proposta de desintermediação do mercado conectando proprietários e compradores diretamente, “premiando” com tokens quem incrementar a lista de imóveis. Usa plataforma do Ethereun

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Administradoras de condomínios

Convenção de condomínio, regulamento, contabilidade, cobrança e etc

Administradoras de imóveis

Contratos inteligentes de locação, seguros, garantias

Incorporadoras e loteadoras

Blockchain para captação de recursos, obras por administração, fornecedores

Corretoras de imóveis

Contratos inteligentes, sistemas de vendas integradas, BrokerChain.

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Riscos e contestações

ao Bitcoin

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A lista de contestações ao bitcoin é interminável. Desde a descrença na segurança da rede e da imutabilidade dos protocolos à legitimidade do sistema. Acatando que o futuro será o único senhor dessa razão, resta-nos respeitar a inequívoca aplicabilidade que os blockchains terão em nossas vidas. Ademais, cabe considerar outros questionamentos igualmente relevantes:

- Risco de surgimento de cópias das moedas existentes | altcoins
- Risco de desinteresse da rede após o fim das minerações
- Uso da moeda para lavagem de dinheiro, terrorismo e outros crimes
- Risco da guarda da moeda (senha)
- Imaturidade do sistema e realidade da descentralização da governança
- Assédio dos governos na tentativa de regulamentar esses mercados
- Incertezas sobre o futuro do Segwit 2X

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The red flag act of 1865 | Reino Unido

Todo veículo tinha que circular com um engenheiro, um motorista e um homem com uma bandeira sinalizando a sua circulação limitando a sua velocidade a 3.2 km por hora.

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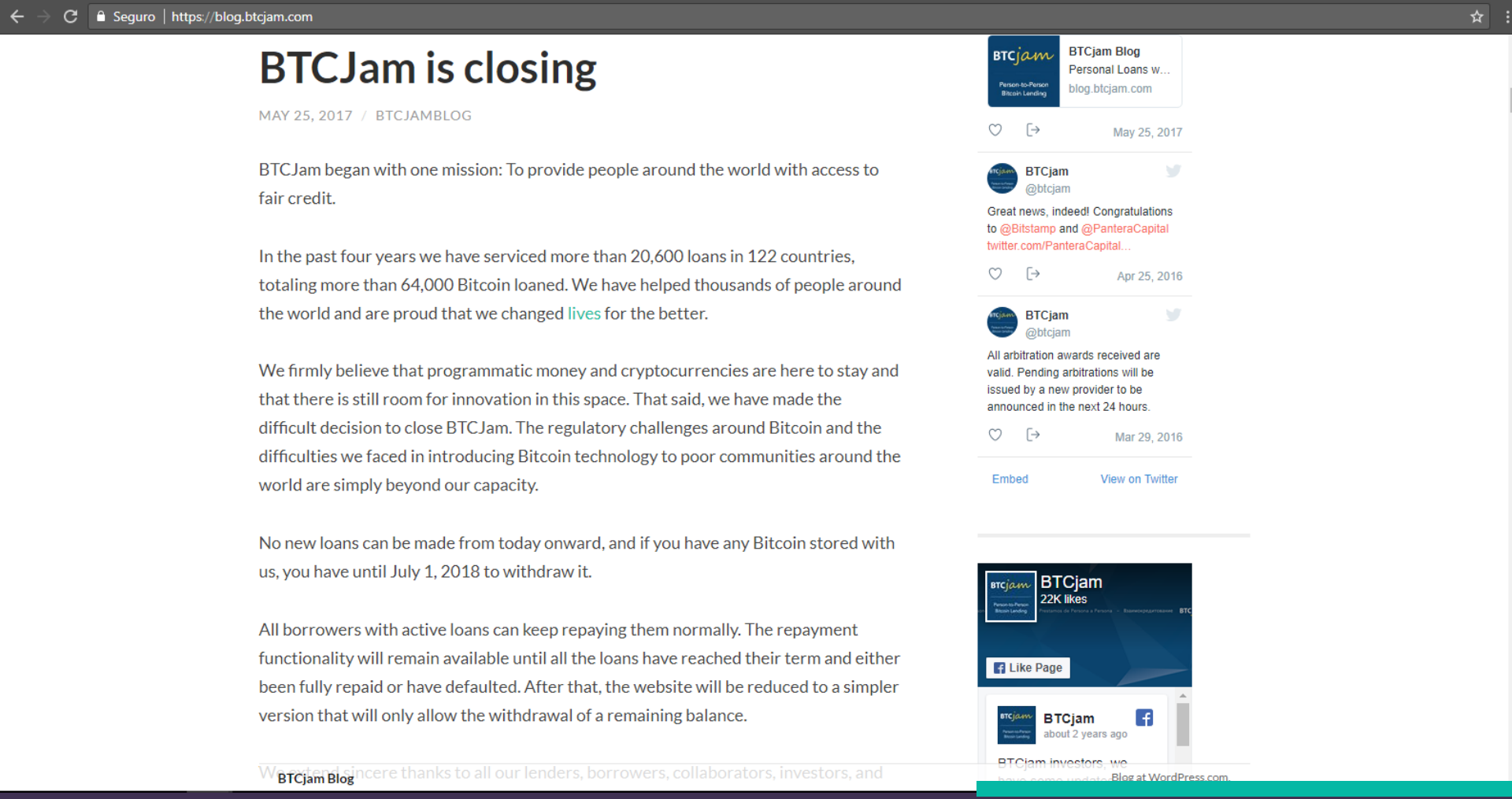

Btgjam.com

Conforme anunciado, já fechou. Era muito divulgado como uma opção revolucionária oferecendo operações de credito em BTC. Trocava-se bitcoins por crédito em dólar com cartão físico ou virtual e anunciava que não havia incidência de IOF por ainda não ser considerada uma transação financeira. A CoinBr, corretora e mineradora de bitcoins exibe no seu site que estão “temporariamente em manutenção”

Dicas

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foxbit.com.br

Exchange ou corretora que opera no Brasil para compra e venda de bitcoins

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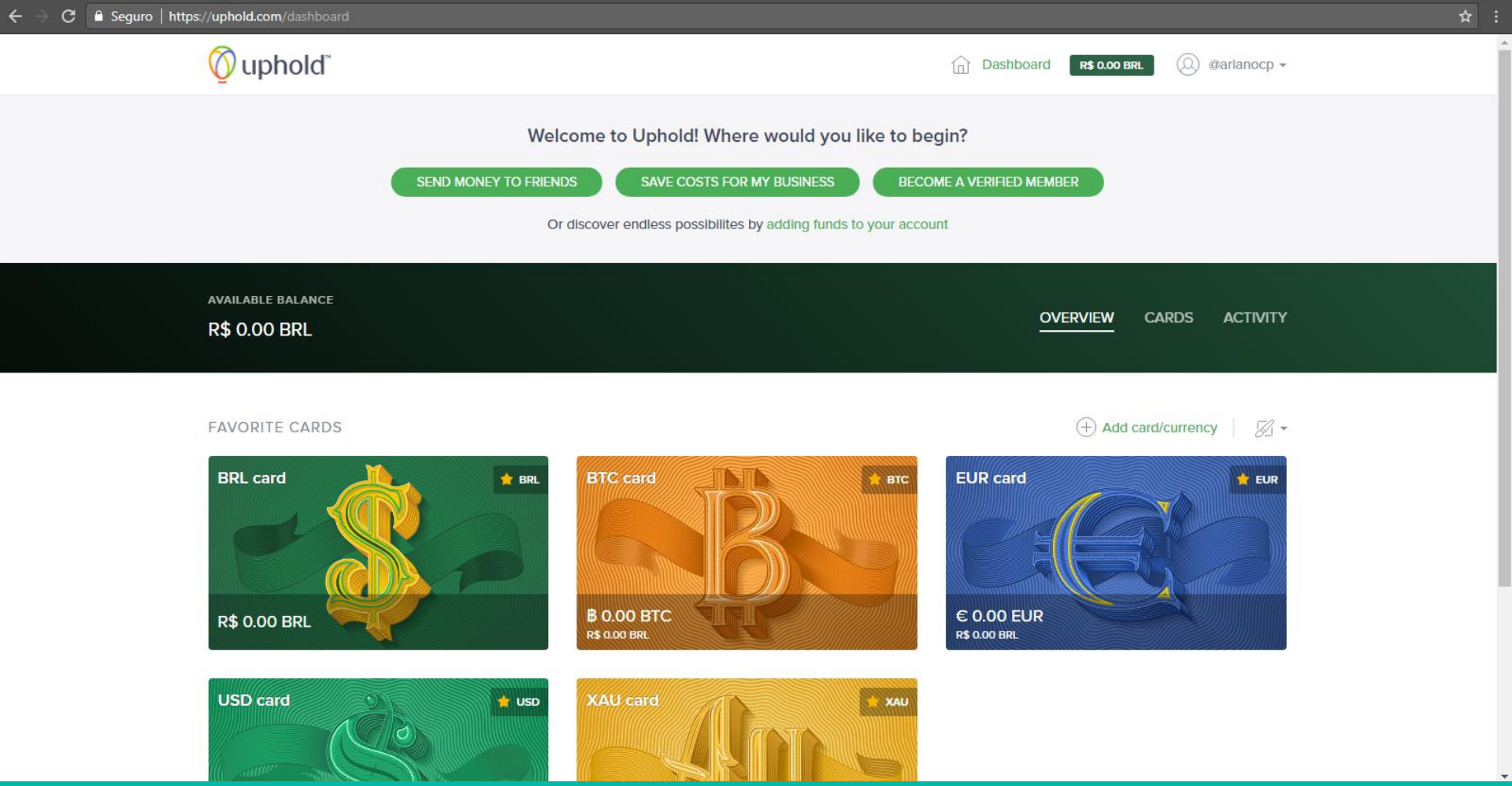

uphold.com

Oferece diversos tipos de cartões físicos e virtuais, pré-pagos em diversas moedas, dólar, euro e o próprio BTC..

Advcash.com

Troca-se bitcoins por crédito em dólar com cartão físico ou virtual e não há incidência de IOF por “ainda não ser considerada uma transação financeira”.

Só é possivel calcular uma média, depois de conhecer os extremos.

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The blockchain and us
https://youtu.be/2iF73cybTBs

"Banco ou Bitcoin" na Netflix
https://www.netflix.com/title/80154500?s=i&trkid=13752289

Sicoob | Capitalismo consciente
https://www.youtube.com/watch?v=sgZ_9LYZJlQ

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Ariano Cavalcanti de Paula
www.ariano.com.br