

Bitcoin: What and Why

Dani Brunstein

Intel Israel

November 2014

Agenda

Mutual Introduction, Target and Disclaimer

Quick intro on cryptocurrencies and Bitcoin

Rate of global acceptance

Understanding the Why

Disruptive Market

The technology behind

Bitcoin in Israel and the Academy

Friendly directives

- This is a non technical, mostly an informative presentation
- Lots to cover – feel free to ask, but we will take discussions offline



*On purpose:
First overview
then technicalities*

Quick Intro

Dani Brunstein, MSc in Comp. Science, Technion

Software Engineer at Microprocessor Design Automation in Intel Israel

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Special thanks to

- Kosta Zertsekul - organizer of the Haifa Meetup Group (actual hands-on experience with bitcoin code)
- Shaul Kfir – Bits of Gold
- Dr. Orna Agmon Ben-Yehuda - Haifux organizer
- Prof. Eli Ben-Sasson – Technion CryptoCurrency research

How many of you “know anything on Bitcoins” ?

How many of you own Bitcoins ?

Target and Disclaimer

Target

1. Educate you
2. Getting you excited and involved

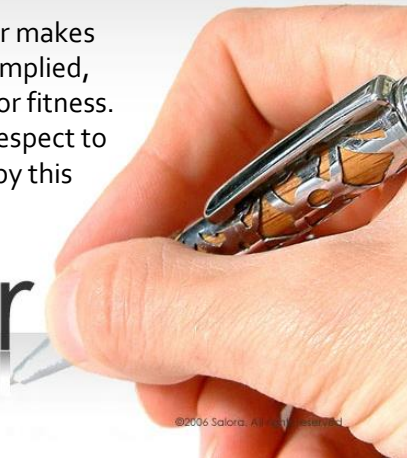
Disclaimer

I am NOT advising you ANYTHING!

I am NOT representing any company or group

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Disclaimer



What are Crypto Currencies ?

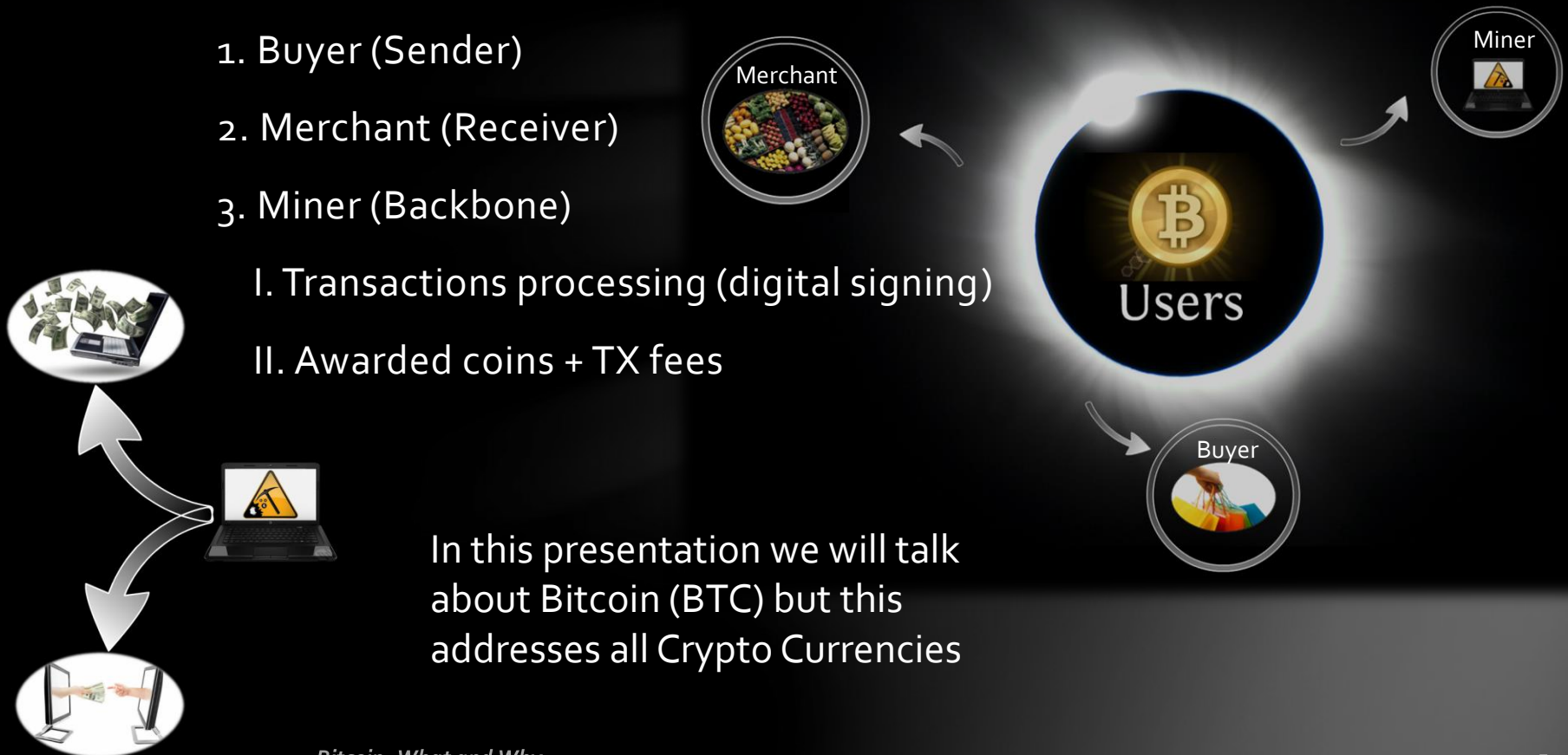
Bitcoin is the first practical solution for peer-to-peer ownership transfer with no trusted third party involved

3 Participants

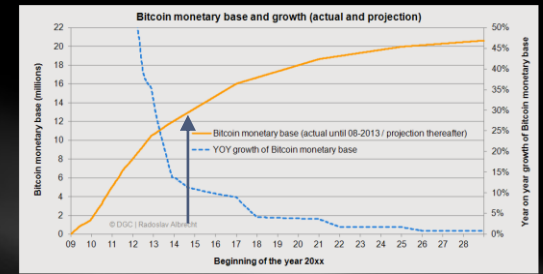
1. Buyer (Sender)
2. Merchant (Receiver)
3. Miner (Backbone)

- I. Transactions processing (digital signing)
- II. Awarded coins + TX fees

In this presentation we will talk about Bitcoin (BTC) but this addresses all Crypto Currencies



Essential Bitcoin Basics



Max of **21M bitcoins** will be ever created, Currently **~13.2M** bitcoins exists

A Bitcoin has no ID/Serial Number, its just a **quantity** assigned to an address

Each bitcoin is divisible to **8** decimal places (1.00000000 Bitcoin)

0.001 BTC = 1 mBTC

0.000001 BTC = 1 μ BTC = 1 "Bit"

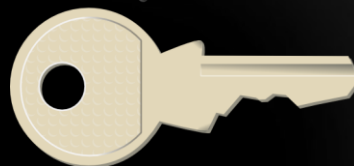
0.00000001 BTC = 1 Satoshi = 0.01 "Bit Cent"

Transactions are **instantaneous** and **irreversible**

Every 10 min confidence of transaction increases

Every address has a **Public Key (address)** and **Private Key ("password")**

1B35Mh.....8i4QkgFJzYXUn



(5K1SpL9JfsNuNn.....iraq3AJ5hTrPJR)

(Random 2^{256} key)

~5300 Bits



Other Crypto Currencies

Since Bitcoin is Open Source, various AltCoins (Alternate Coins) constantly appear

Mined (Bitcoin based):
Litecoin, Peercoin, ...

Auroracoin (Iceland), Aphroditecoin (Cyprus),
SpainCoin airdrops:
Free distribution to all population

Pre-Mined:

Ripple



















completely different

Internet Protocol for financial TX

MasterCoin

Layer on top of Bitcoin

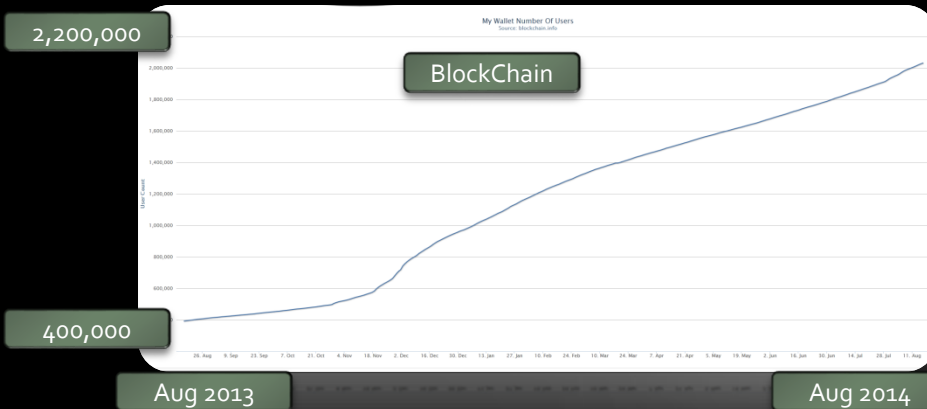
Currently all follow Bitcoin
by far the most invested
AltCoin value is diminishing

#	Name	Market Cap	Price	Available Supply	Volume (24h)	% Change (24h)	Market Cap Graph (7d)
1	 Bitcoin	\$ 6,670,204,381	\$ 507.32	13,147,975 BTC	\$ 28,910,700	-0.16 %	
2	 Litecoin	\$ 155,958,012	\$ 5.00	31,186,051 LTC	\$ 1,891,700	-1.41 %	
3	 Ripple	\$ 45,026,189	\$ 0.005456	8,252,600,677 XRP *	\$ 174,676	0.69 %	
4	 Nxt	\$ 33,549,603	\$ 0.033550	999,997,096 NXT *	\$ 77,193	-1.33 %	
5	 BitSharesX	\$ 20,028,548	\$ 0.010015	1,999,775,140 BTSX *	\$ 164,920	13.69 %	
6	 Peercoin	\$ 17,182,617	\$ 0.793855	21,644,528 PPC	\$ 58,348	2.34 %	
7	 Darkcoin	\$ 14,649,352	\$ 3.21	4,564,116 DRK	\$ 194,157	-11.05 %	
8	 Dogecoin	\$ 11,640,577	\$ 0.000130	89,878,216,277 DOGE	\$ 222,865	2.06 %	
9	 Namecoin	\$ 10,551,174	\$ 1.10	9,604,200 NMC	\$ 47,384	2.57 %	

<http://coinmarketcap.com/> 16th Aug

Rate of Global Acceptance

Cloud Wallets >4 M in one year



Coinbase Talks 1 Million Wallet Milestone, Mt. Gox and What's Next

Pete Rizzo (@pete_rizzo_) | Published on February 27, 2014 at 22:42 GMT | Coinbase, Companies, News, Wallets

Tweet 77 | Share 32 | +1 14 | submit | Share 3

San Francisco-based bitcoin wallet provider **Coinbase** has revealed that it officially passed 1 million wallet downloads on 27th February, a major milestone in the lifecycle of the less than two-year-old company.

Founded in June 2012, Coinbase is the second most downloaded consumer bitcoin wallet behind rival Blockchain, which passed its 1 million wallet mark in January.

Client Wallets >7 M in total

MultiBit Bitcoin Wallet Leapfrogs Coinbase to Reach 1.5 Million Downloads

Nermin Hajtarbegovic | Published on March 11, 2014 at 15:21 GMT | Companies, News, Wallets

Tweet 73 | Share 19 | +1 9 | 16 points | Share 1

Bitcoin wallet provider MultiBit has passed an important milestone – its one millionth download.

In fact, since nobody was actually keeping track, their one-million milestone came and went without anyone noticing and the current figure is much higher.

When the MultiBit team was recently asked how many downloads had occurred since launch, they crunched a few numbers to reveal that the wallet had in fact been downloaded a total of 1,517,000 times since April 2011. The team pointed out:

March 2014

Paper Wallet



~1-2M Bitcoin users

Market Capacity and Daily Transactions



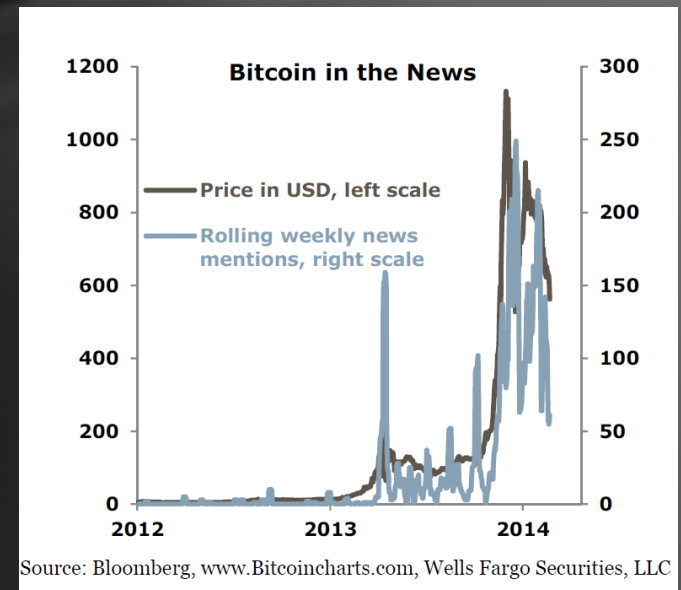
Current Market Cap. \$5.2B (13M BTC * \$400)

Average of 70K BTC (\$55M) daily transactions

BTC price used to correlate to media coverage and is currently very speculative

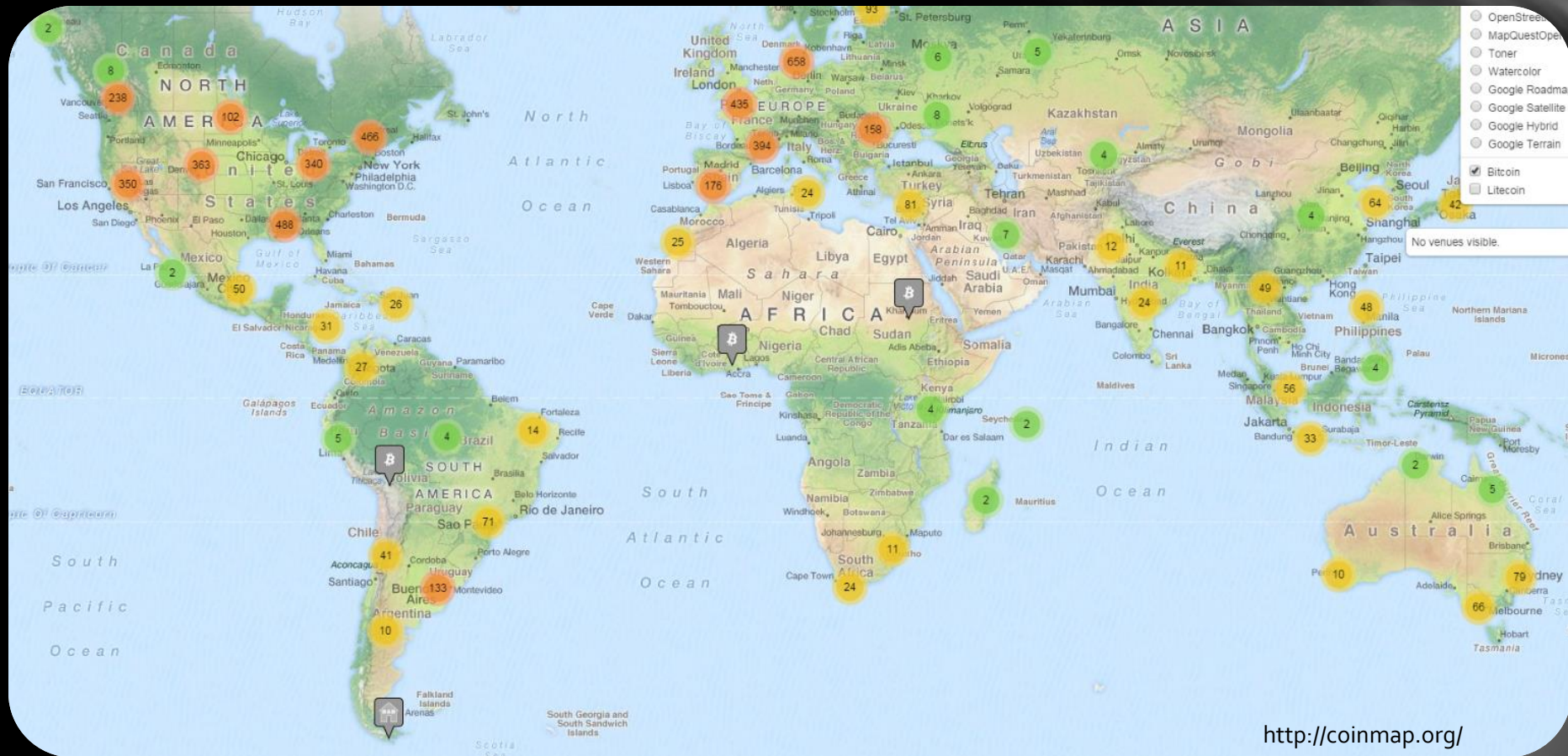
Constant sell pressure due to Miners and Merchant QuickSale

$$3600 \text{ coin/day} * \$400 = \$1.4\text{M}$$



World adoption (*far from official list)

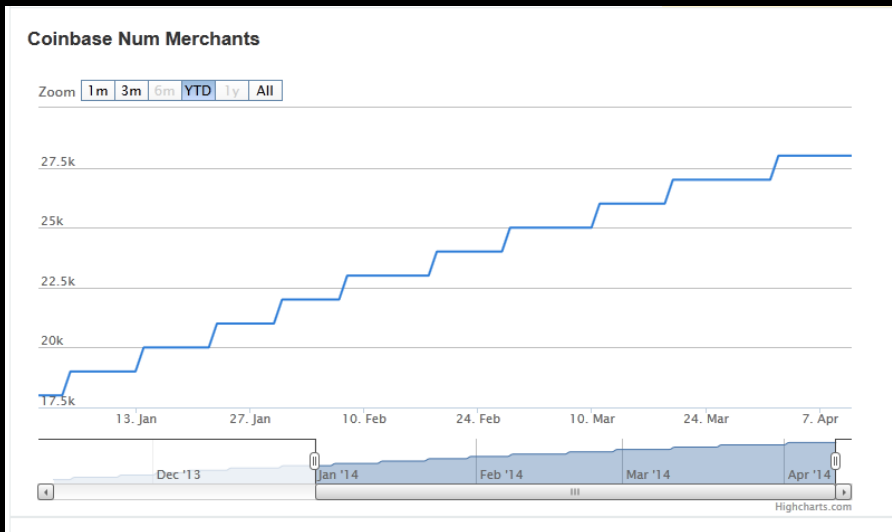
5454 physical location in Sep 24th 2014, 2x every 4 months



<http://coinmap.org/>

USA market

Coinbase 35,000 merchants



Auto-convert BTC to USD at 1%

High merchant adoption rate:

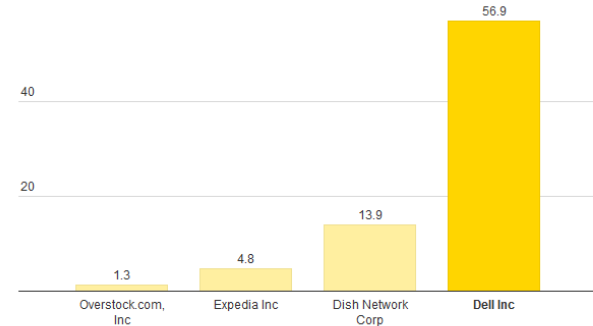
Lower fees vs. 2-3% of

Visa/MC/Paypal

No chargebacks

Biggest Companies Accepting Bitcoin By Revenue

Based on FY2013 revenues in US\$ billions.



Created with [Datawrapper](#)

Source: [Company financial statements](#), [Get the data](#)

<http://www.coindesk.com/computer-giant-dell-now-accepts-bitcoin/>

Overstock.com Exceeds \$1M In Bitcoin Transactions In Two Months

...expects bitcoin sales to reach \$10 million or \$15 million this year

Bitpay processes \$1 Million in Bitcoin payments every day

28 May 2014

bitpay

Over 30,000 businesses and charities accept bitcoin with BitPay.

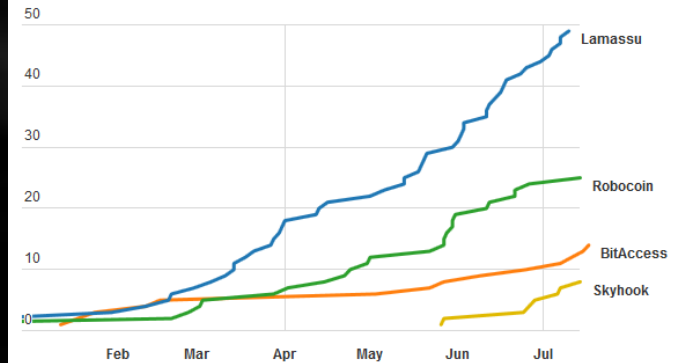
Worldwide ATMs

Physical Exchanges, Fiat ↔ Bitcoin

<http://coinatmradar.com/charts/#speed>

ATM Deployments By Maker

Installs from start of records at Nov 2013 to present



Created with [Datawrapper](#)

Source: [CoinDesk Bitcoin ATM Map](#), [Get the data](#)

<http://www.coindesk.com/7-charts-show-year-growth-bitcoin-atms/>

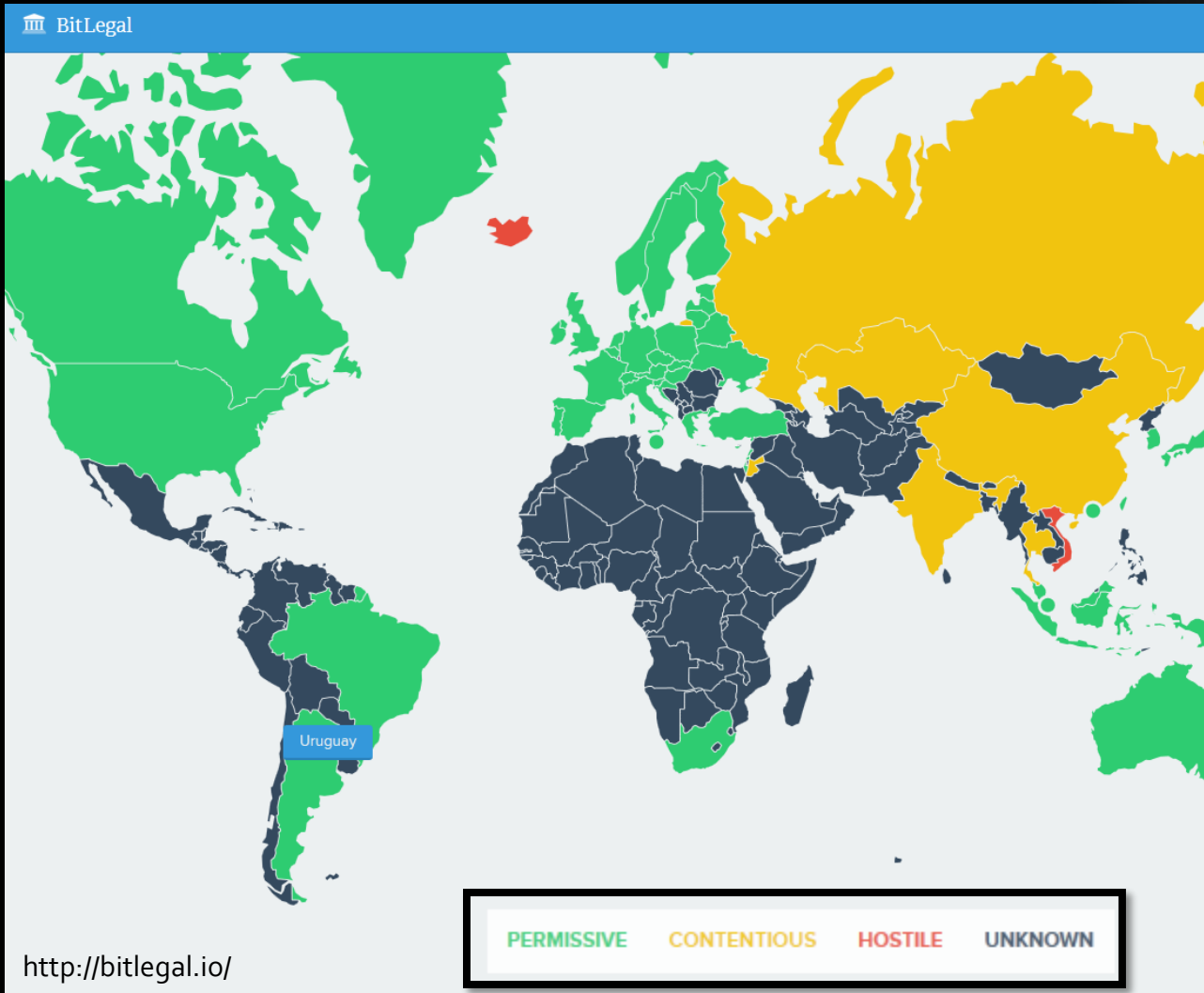


Coinsafe

Turn Your Phone Into a Bitcoin ATM

<https://www.coinsafe.com/>

Regulatory Landscape



New York Now Accepting Applications for Digital Currency Exchanges

Pete Rizzo (@pete_rizzo_) | Published on March 11, 2014 at 18:26 GMT | Regulation, US & Canada

Tweet (118) | Share (105) | +1 (31) | 30 points | Share (17)

New York's Superintendent of Financial Services, Benjamin M. Lawsky, has issued a public order that confirms the state is now accepting applications for digital currency exchanges.



Perhaps most notably, however, was that Lawsky indicated that these businesses will be regulated under new New York regulation, which he committed to having in place by the end of the second quarter of 2014.

French Finance Minister Calls for EU Action on Bitcoin Regulation

Pete Rizzo (@pete_rizzo_) | Published on March 10, 2014 at 20:34 GMT | Europe, Law, Regulation

Tweet (93) | Share (33) | +1 (9) | submit | Share (5)

France's Minister of Economy and Finance, Pierre Moscovici, issued a call on 4th March for European regulators to collaborate on digital currency regulation as part of an effort to ease the concerns of financial institutions and policymakers.



China contentious

China has a mixed and confusing history with Bitcoin, but Bitcoin is not banned in China even if financial businesses operating in the medium must walk a careful and uncertain regulatory line.

Warming Regulatory Climate

<http://www.coindesk.com/5-bitcoin-trends-emerged-2014-far/>

Switzerland's FINMA grants first Bitcoin Trader license to SBEX, deems Bitcoin a means of payment

By Andrew Saks-McLeod on Monday, 06.23.14

Switzerland accepts Bitcoin with open arms as Swiss Bitcoin Exchange launched, nationwide ATMs to follow, and virtual currency set to become a mainstay of the coveted Swiss financial sector.

Spanish government recognizes Bitcoin as an electronic payment system

Sep 22, 2014 at 01:00PM - By Nuno Menezes
Reading Time: 2 minutes

www.coinfinance.com/news/spanish-government-recognizes-bitcoin-as-an-electronic-payment-system

Senator Doug Black (Canada) asks: "How do we assist this disruptive technology (Bitcoin)? Let's cut right to the chase now: tell us what you need from us".



California Gov. Jerry Brown Signs Bill Legalizing Alternative Currencies Like Bitcoin Into Law

🕒 21:02, 28.Jun 2014

Permissive

5 US States
Canada
Spain
Isle of Man (Pay Taxes)
Dominica (BTC Drop)

Hostile

Russia
Bangladesh
Bolivia
Ecuador

<http://www.tubechop.com/watch/3695386>

<http://newsbtc.com/2014/06/28/california-gov-jerry-brown-signs-bill-legalizing-alternative-currencies-like-bitcoin-law/>

Why is this happening ???

Current monetary systems are outdated

There has not been any change in the monetary system in the past 50 years

It is **not inline** with the **Internet, Digitalization, Social Media**

These systems impose **high transaction costs**, invite large amounts of **fraud and theft**, and limit functionality for both consumers and merchants



Disruptive Markets

EVERY BULLET HERE IS A MAJOR MARKET ON ITS OWN !

- No need for 3rd party player, eCommerce
 - MC/Visa/PayPal (2-6% charges), Banks
- Remittance market
 - Western Union (10% charges), \$500B per year business
- Tourism
 - Pay with one currency – no \$US to Euro to Koruna and back
- Micro-payments
 - 3rd world transactions, new marketing models, Donations
 - Reddit/Facebook/Youtube tips
- Insurance policy against unstable government
 - Argentina (25% inflation), Ukraine, Greece (withdraw limits)
- Internet of Things
 - Machine to Machine communications and payments

"capital freedom"

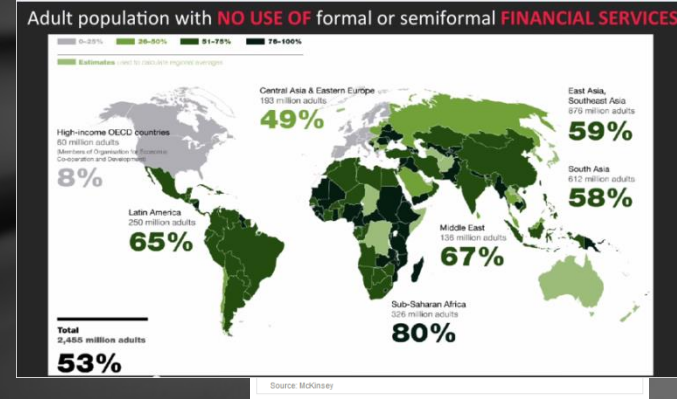
Bitcoin Micropayments Get Big Moment as Chicago Sun-Times Paywall Experiment Goes Live

Pete Rizzo (@pete_rizzo_) | Published on February 1, 2014 at 10:17 GMT | Companies, News

Tweet 340 | Share 157 | +1 27 | 3 points | Share 15

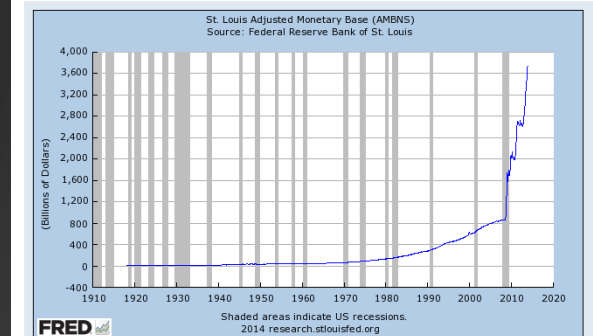
Readers who visit the Chicago Sun-Times today will notice something they aren't likely to have seen before: a bitcoin paywall separating them from their content.

The Chicago Sun-Times is the ninth-largest newspaper in the United States, and the first major US publication to trial a bitcoin paywall.



St. Louis Adjusted Monetary Base (AMBNS)

2013-12: 3,736.788 Billions of Dollars Last 5 Observations
Monthly, Not Seasonally Adjusted, Updated: 2014-01-24 10:26 AM CST



Bitcoin aiming to disrupt an industry with \$314bn+ in total market cap

Processors	Market Cap	Money Transfer/ATMs	Market Cap
Visa Inc	112,253	Western Union Co	9,421
MasterCard Inc	97,690	Euronet Worldwide Inc	2,325
Alliance Data Systems Corp	12,615	Cardtronics Inc	1,936
Total System Services Inc	6,213	MoneyGram International Inc	1,061
Global Payments Inc	4,822	TOTAL	69,682
Euronet Worldwide Inc	2,325		
Heartland Payment Systems Inc	1,814		
Netspend Holdings Inc	1,158		
Green Dot Corp	912		
TOTAL	239,803		
Bank Software	Market Cap	Payment Hardware	Market Cap
Fidelity National Information Services Inc	15,436	NCR Corp	5,837
Fiserv Inc	15,118	MICROS Systems Inc	4,391
Jack Henry & Associates Inc	5,115	VeriFone Systems Inc	2,898
ACI Worldwide Inc	2,433	Diebold Inc	2,119
S1 Corp	577	Outerwall Inc	1,904
Online Resources Corp	146	INGENICO	1,454
TOTAL	38,824	WINCOR-NIXDORF	1,006
		RETALIX LTD	732
		Agilysys Inc	333
		ON TRACK INNOVATIONS LTD	116
		TOTAL	20,789

Source: CoinDesk, Wedbush Securities. Market caps (\$m) as of 10 Jan 2014

It is impossible to predict the MSS of the traditional markets
It is impossible to predict the **timeline** in which acceptance explodes

What is Money?

Money (medium of exchange) characteristics

- Universally Scarce
- Durable (decays, corrodes...)
- Divisible
- Transportable
- Fungible (individual units are capable of mutual substitution)

For 5000 years, Gold was the international monetary base

In 1971, US (and the world) disconnected from Gold, all world money became **fiat**

- Printed by central bank, part of economic and political process
- No limit on the amount

Hidden Secrets Of Money - **Mike Maloney**

<http://www.youtube.com/watch?v=EdSq5H7awi8>

	Gold	Fiat Currency	Bitcoin
Worker Deaths	Over 50,000 historically recorded & Over 100 per year	0	0
Corruption	USD\$600m	USD\$1.60 trillion	Negligible
Money Laundering		USD\$2.65 trillion	
Black Markets		USD\$1.80 trillion	
Institutional Fraud / Theft	USD\$21 billion across two single events & several billion historically recorded	USD\$3800 billion/year & several trillion historically recorded	< USD\$0.5 billion ever recorded
Transactional Fraud	N/A	\$190 billion	\$0
Inflation	Deflationary (Long-term)	3.9% per year (<i>time to loss of 50% loss of value: 17.5 years</i>)	Deflationary (Long-term)

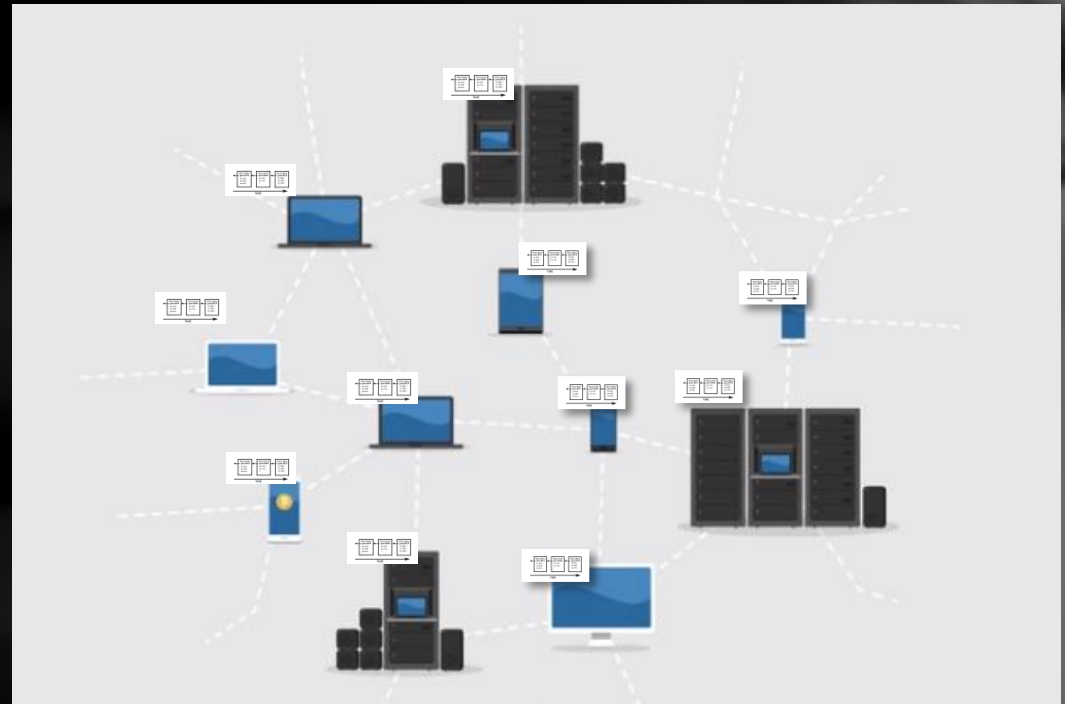
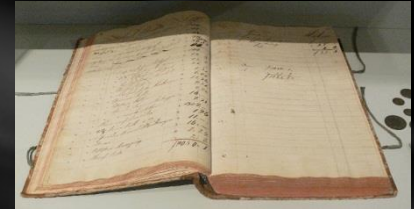
How Bitcoin works – in 1 slide

Network of connected p2p nodes

Each node holds a copy of the **Public Ledger**

- Its a **Chain of Blocks**
- Each block has a set of **Transactions**

Like Torrent
bitcoin_qt software
~7000 nodes



How Bitcoin works – in 1 slide

Network of connected p2p nodes

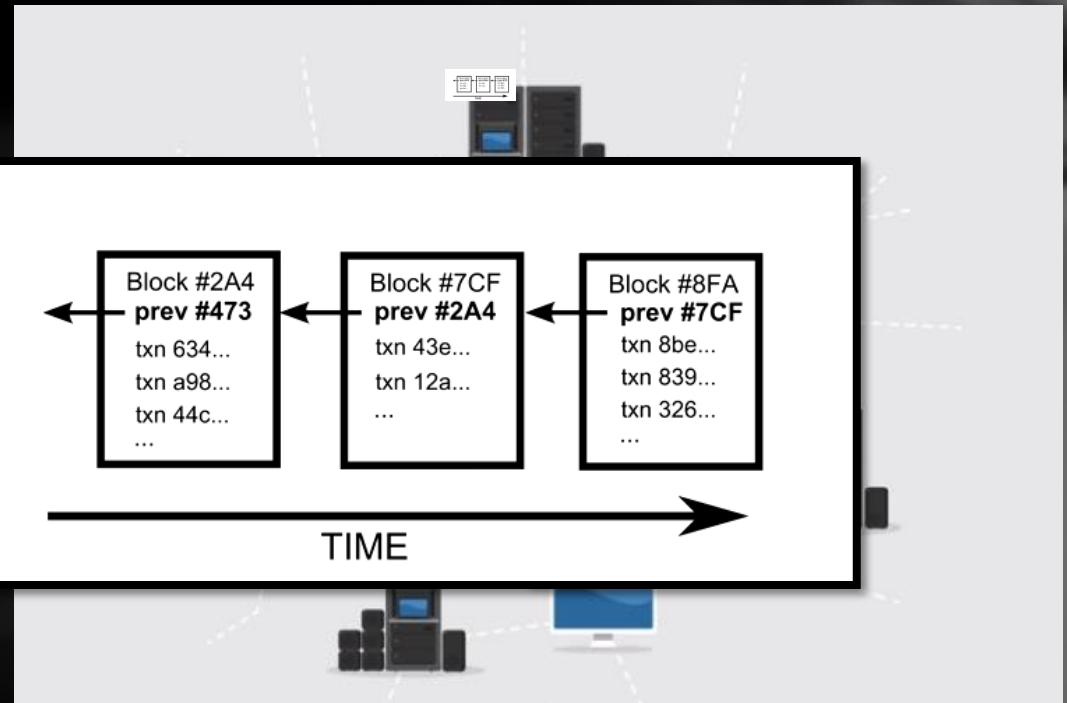
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Bitcoin Wallet

Alice send 2.05 BTC to Bob address

- An **unconfirmed Txn** is created, digitally signed (ECDSA), and passed to the network



How Bitcoin works – in 1 slide

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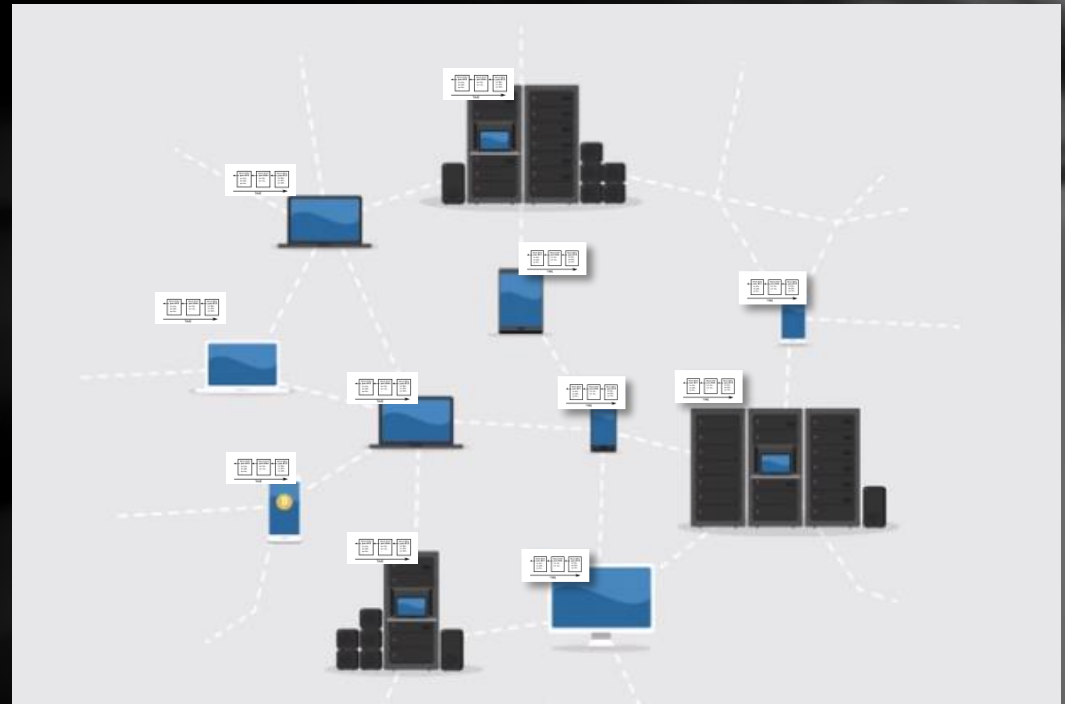
- An **unconfirmed Txn** is created, digitally signed (ECDSA), and passed to the network

Miners

Alice → Bob 2.05 BTC

On average  needs in solving the current math problem

- The miner **collects unconfirmed Txn**
- Verifies all (Alice has the money, valid signature ...) and return as a **Block**
- The node adds the new block to the Ledger and propagates it



It's a Roulette ☺
Decentralized ordering and consensus

Clients DO NOT need to know this

Cryptocurrencies Characteristics

- Your bitcoins are truly yours. Cannot get confiscated.
- Very low transaction fee (BTC to BTC)
- Irreversibility (No chargebacks for business)
 - ~5% of USA online deals are charge backs
- Worldwide Instantaneous*
 - Don't wait 30 days for your money
- Bitcoin is pseudonymous (no need for name/address and other personal details)
 - Avoid identity theft
 - Money cannot be "pulled" from your account
- Potential for very low conversion fees (Fiat \leftrightarrow BTC)

No owner:
governments
and financial
institutes
cannot Sue or
Shutdown

Is bitcoin used for illicit activities?

Yes, but effectively much less than \$US cash

Actually, cash is untraceable, while bitcoins transactions are publicly visible

The Senate Committee on Homeland Security and Governmental Affairs
(Nov 2013)

- Financial Crimes Enforcement Network (FinCEN)
- “U.S. Agencies to Say Bitcoins Offer Legitimate Benefits”
<http://www.bloomberg.com/news/2013-11-18/u-s-agencies-to-say-bitcoins-offer-legitimate-benefits.html>
<http://www.businessinsider.com/senate-bitcoin-hearing-2013-11>

Digital Laundry – An analysis of online currencies, and their use in
cybercrime

Raj Samani - McAfee



The technology behind

bitcoin – the digital currency, 21M in total coins etc...

Bitcoin – the peer-to-peer decentralized cryptographic protocol

“... a breakthrough in computer science – one that builds on 20 years of research into cryptographic currency, and 40 years of research in cryptography, by thousands of researchers around the world”

Marc Andreessen - Why Bitcoin Matters

“Double Spending” problem is fixed:

Digital assets cannot be duplicated

The implications of the technology cannot be predicted

“This is not the money of the Internet, it’s the Internet of money”

Ethereum

Bitcoin 2.0

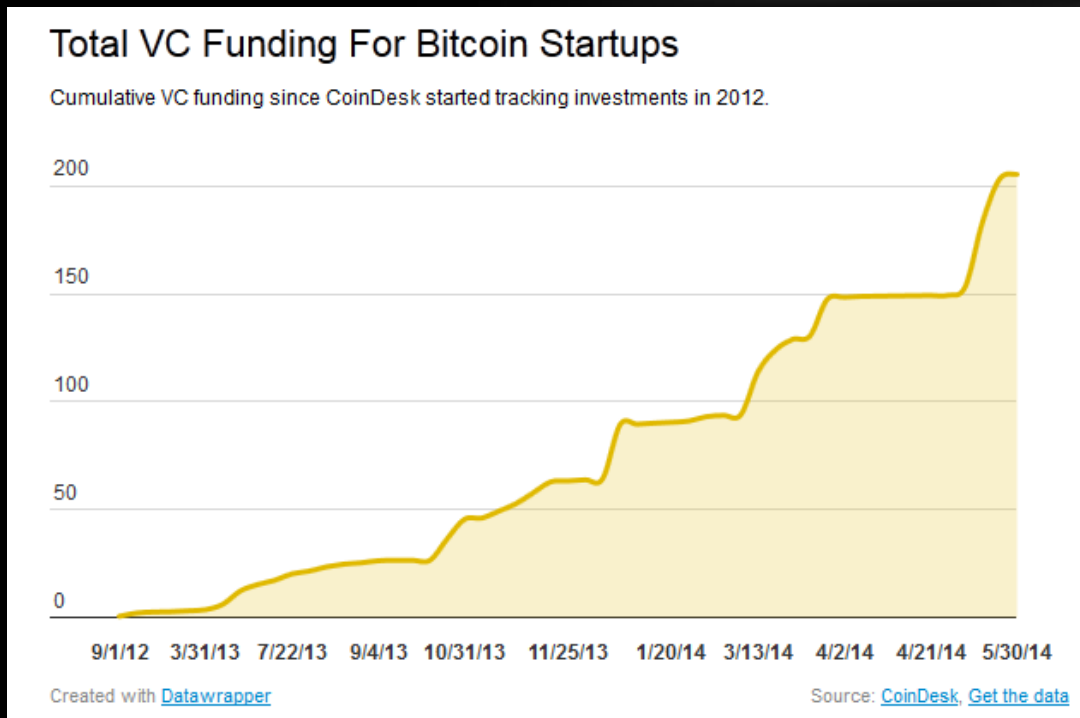
A platform and a programming language that makes it possible for any developer to build and publish next-generation distributed applications

Venture Capital investment

Investment increased dramatically in the past year

Several large deals, including follow-on funding rounds: Highlights:

- Wallet vendor Coinbase, \$31.7m (2012/2013)
- Payment tools maker Circle Internet Financial, \$26m (2013/2014)
- Secure storage developer Xapo, \$20m (2014)



Bitcoin investment funds are just now appearing

<http://www.coindesk.com/bitcoin-venture-capital/>

CoinDesk (<http://www.slideshare.net/CoinDesk/coindesk-state-of-bitcoin-2014>), verified through Crunchbase and CB Insights. CB Insights published an article on Bitcoin VC (<http://www.cbinsights.com/blog/trends/bitcoin-venture-capital-2013>) that on further analysis proved incomplete.

The Big Picture

Cryptocurrencies are inevitable

- The idea cannot be undone. We can discuss about the *When* and *How Big*
- Bitcoin specifically might not necessarily win

It is a fast-emerging area and the eco-system is moving in a **very fast** pace



Apple re-approves apps

Google's Director of Ideas: Cryptocurrencies Like Bitcoin Are Inevitable

Eric Calouro | March 8, 2014 | 2 Comments

What does the Director of Ideas at a company at the forefront of technology think about cryptocurrencies like bitcoin? Their inevitability, of course.

"I think it's very obvious to all of us that [cryptocurrencies] are inevitable," Jared Cohen of Google was quoted as saying in a conversation with company chairman (and former CEO) Eric Schmidt at SXSW to promote their jointly-authored book *The New Digital Age*, according to *TechCrunch*.



Bill Gates: Bitcoin is exciting because it shows how cheap it can be. Bitcoin is better than currency in that you don't have to be physically in the same place and of course for large transactions currency can get pretty inconvenient. ...

eBay CEO John Donahoe: PayPal "Building a Digital Wallet That Can Take Multiple Types of Currency"

Eric Calouro | February 18, 2014 | 2 Comments

In a conversation on *Bloomberg* program "Street Smart" surrounding activist investor Carl Icahn's proposal to make PayPal it's own company, eBay (who owns PayPal) CEO John Donahoe released an interesting tidbit of information surrounding digital

IBM Executive Highlights Block Chain's Utility for Internet of Things

Oct 4, 2014 at 14:09 | Stan Higgins

IBM internet of things guru Paul Brody discusses how the block chain could revolutionize large-scale device networks.

Bitcoin from the user perspective

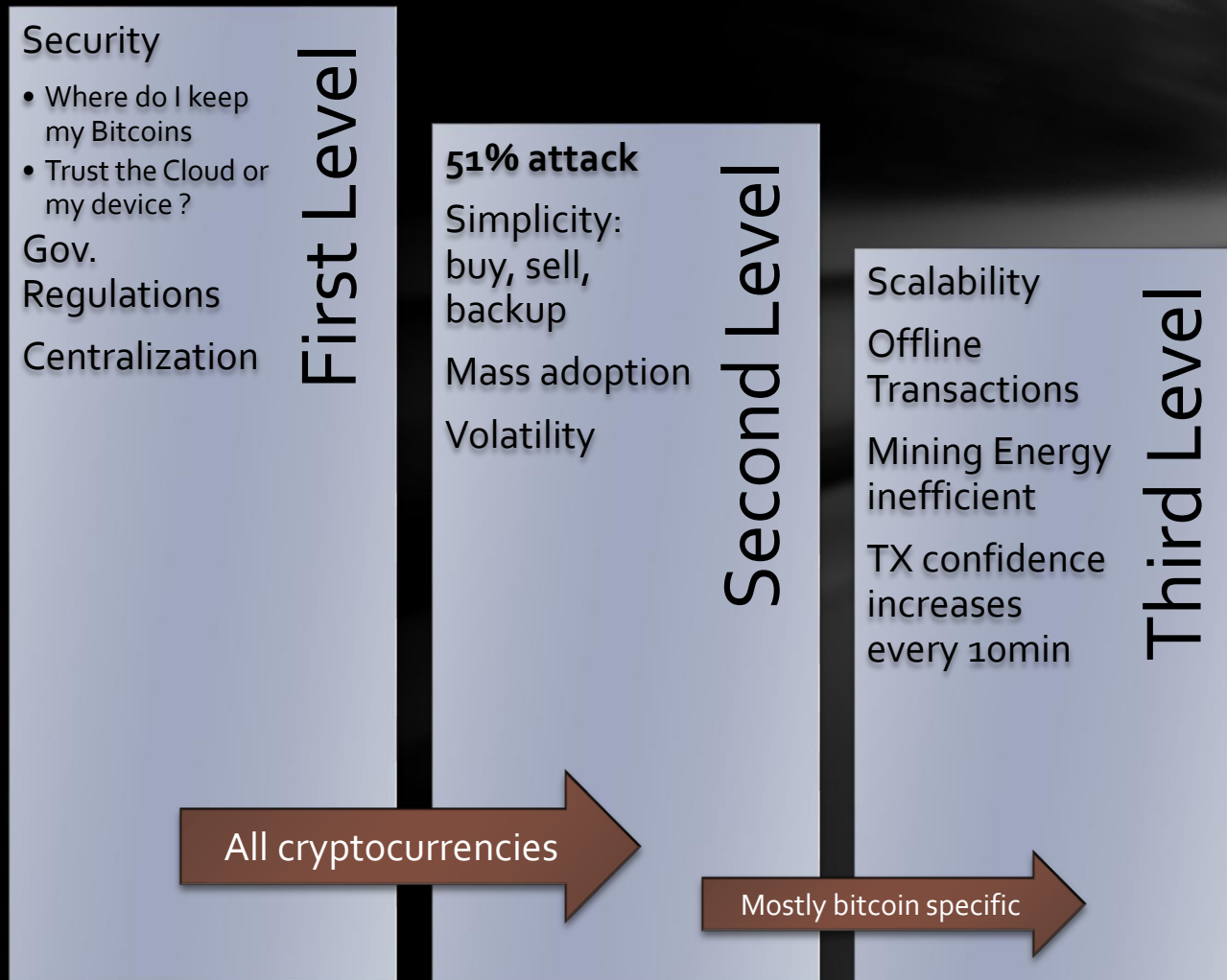
How to obtain ?

- Mining (Forget about it)
- Buying
 - Exchanges, ATMs
 - localBitcoins
- Goods and services
- Get paid in Bitcoin (US and Europe)

How to use ?

- Send Receive (Easy)
- Backup/Restore/Security (cumbersome)

Current Problems



Security issue

There has been a total of 1.4M bitcoin (\$840M) stolen

- That's 12% of current total bitcoins
 - Mostly from exchanges
- ~ \$1100 per user!



Critical (≥10 k฿)			
Rank	Name	Time	Severity
1	Bitcoin Savings and Trust	2011-2012	est. 263024 ฿
2	Silk Road Seizure	October 2013	171955.09292687 ฿
3	MyBitcoin Theft	July 2011	78739.58205388 ฿
4	Linode Hacks	March 2012	u.b. 46653.46630495 ฿
5	July 2012 Bitcoinica Theft	July 2012	40000.00000000 ฿
6*	May 2012 Bitcoinica Hack	May 2012	18547.66867623 ฿
		Unresolved as of December 2012	39000฿ total impact
7	Allinvain Theft	June 2011	25000.01000000 ฿
8	Tony Silk Road Scam	April 2012	est. 30000 ฿
9	Bitfloor Theft	September 2012	u.b. 24086.17219307 ฿
10	Bitomat.pl Loss	August 2011	est. 17000 ฿
11	Bitcoin7 Hack	October 2011	est. 11000 ฿ u.b. 15000฿

* Rank includes pass-through impact

SECURITY 2/26/2014 @ 12:01PM | 6,458 views

Nearly 150 Breeds Of Bitcoin-Stealing Malware In The Wild, Researchers Say

+ Comment Now + Follow Comments

With a potentially [massive hack of the Mt. Gox exchange still unfolding](#), it's no secret that cybercriminals see a gold mine in cryptocurrencies. But a new study by security researchers shows just how quickly the cottage industry in Bitcoin theft is evolving: Nearly 150 types of malware are actively stealing bitcoins, more than a hundred of which were created in just the last year.

At the RSA conference in San Francisco, researchers from Dell's SecureWorks security division released a new paper Wednesday tallying those strains of cryptocurrency-focused malware, based on their own clients' infections and other antivirus data feeds. As of this month, they counted 146 currently active distinct species of Bitcoin-stealing malware, up from 45 a year earlier and just 13 in early 2012.

SecureWorks' chart showing the correlation between Bitcoin's price increases and the creation of new Bitcoin-targeting malware.

<http://www.forbes.com/sites/andygreenberg/2014/02/26/nearly-150-breeds-of-bitcoin-stealing-malware-in-the-wild-researchers-say/>

Global Card Fraud

- Losses are measured in terms of basis points - cents per \$100 in losses
- 2010 fraud losses on general purpose and private label credit, debit, and prepaid cards worldwide were:
 - 4.6 basis points in 2010
 - Loss of \$7.6 billion
 - 63% of losses were borne by issuers: mostly on card present transactions
 - 37% by merchants and acquirers: mostly on card-not-present transactions

Source: Nilson

© Glenbrook Partners, LLC 2013

Glenbrook is stating that credit card fraud in 2010 total 0.046%.
Reed, Michael J

Bitcoin in Israel

Israeli Bitcoin Association (איגוד הביטקוין הישראלי)

<http://www.bitcoin.org.il/>

Israel Meetup

<http://www.meetup.com/bitcoin-il/>

Israel Bitcoin embassy

אחוזת הבית 1, ת"א

~150 businesses accepting Bitcoin in Israel

NIS Exchanges:

Bits of Gold

Bit2c



Bitcoin and academia

- MIT gives 100\$ in Bitcoins to every MIT student
<http://www.coindesk.com/final-winners-mit-app-contest/>
- Students can get MSc in Digital Currency
- Universities in the world start to accept tuition in Bitcoins

College Cryptocurrency Network

5.) A college education. Universities in England and Cyprus accept Bitcoin for tuition payments. One of those universities, the University of Nicosia in Cyprus, offers a master's degree in digital currency.

**DRAPER UNIVERSITY PUSHES BITCOIN EDUCATION BY OFFERING
FREE ONLINE BITCOIN COURSE**

October 9, 2014 / JP Buntinx

Various alliances

The Bitcoin Foundation

Pay the Bitcoin Core developers

Global Bitcoin Alliance

The GBA's mission is to promote the growth of Bitcoin communities worldwide by sharing knowledge and resources and by connecting local, regional, and regional organizations.

Bitcoin Association

The Bitcoin Association works to improve understanding of Bitcoin and related technologies with regulators, charities, businesses, media and citizens globally.

College Cryptocurrency Network

We are an international nonprofit organization, 501(c)(3)-pending, dedicated to forming a robust network of student groups and academics for blockchain education, innovation, and advocacy.

Miss Bitcoin

Decentralized applications fund

DApps Fund I is building the future of Decentralized Applications. DApps are based on a token-economy utilizing a block chain to incentivize development and adoption.

More on the Web

Videos:

- Bitcoin 101 Blackboard Series (James D'Angelo)
- How Bitcoin Works Under the Hood

<https://www.youtube.com/watch?v=Lx9zgZCMqXE>

News:

- www.coindesk.com
- www.bitcoinmagazine.com

Forums:

- www.reddit.com/r/Bitcoin
- www.bitcointalk.org

What I want from you

1. Don't make my mistake

Took me 3 times hearing about it before I dove into it

2. Digest what you just heard and Learn about the subject

3. Take Action and be Proactive on two planes

- Private level
- Technion level

Questions ?

