FDIC

FEDERAL DEPOSIT INSURANCE CORPORATION

# Virtual Currencies: Bitcoin, Blockchains and Beyond

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**October 25, 2016**

# Overview

- History and diversity
- How they work
- Where they are used today
- Adoption and acceptance
- Risks to consumers and financial intuitions
- Importance for FDIC to understand virtual currencies

# What is Virtual Currency?

- **"A digital representation of value that is neither issued by a central bank or a public authority, nor necessarily attached to a fiat currency, but is accepted by natural or legal persons as a means of payment and can be transferred, stored or traded electronically." ~ The European Banking Authority, 2014**

- **Bitcoin:**
  - **The most well known digital currency**
  - **Invented by Satoshi Nakamoto**
  - **Concept introduced October 2008**
  - **Released as open-source software in 2009**

# Centralized Systems (Ledger)

- **Comprise the bulk of the activity, legitimate and otherwise**
- **Central entity issues and controls the currency**
- **Offer variations of many traditional financial services**
- **Access through online portal, similar to online banking**

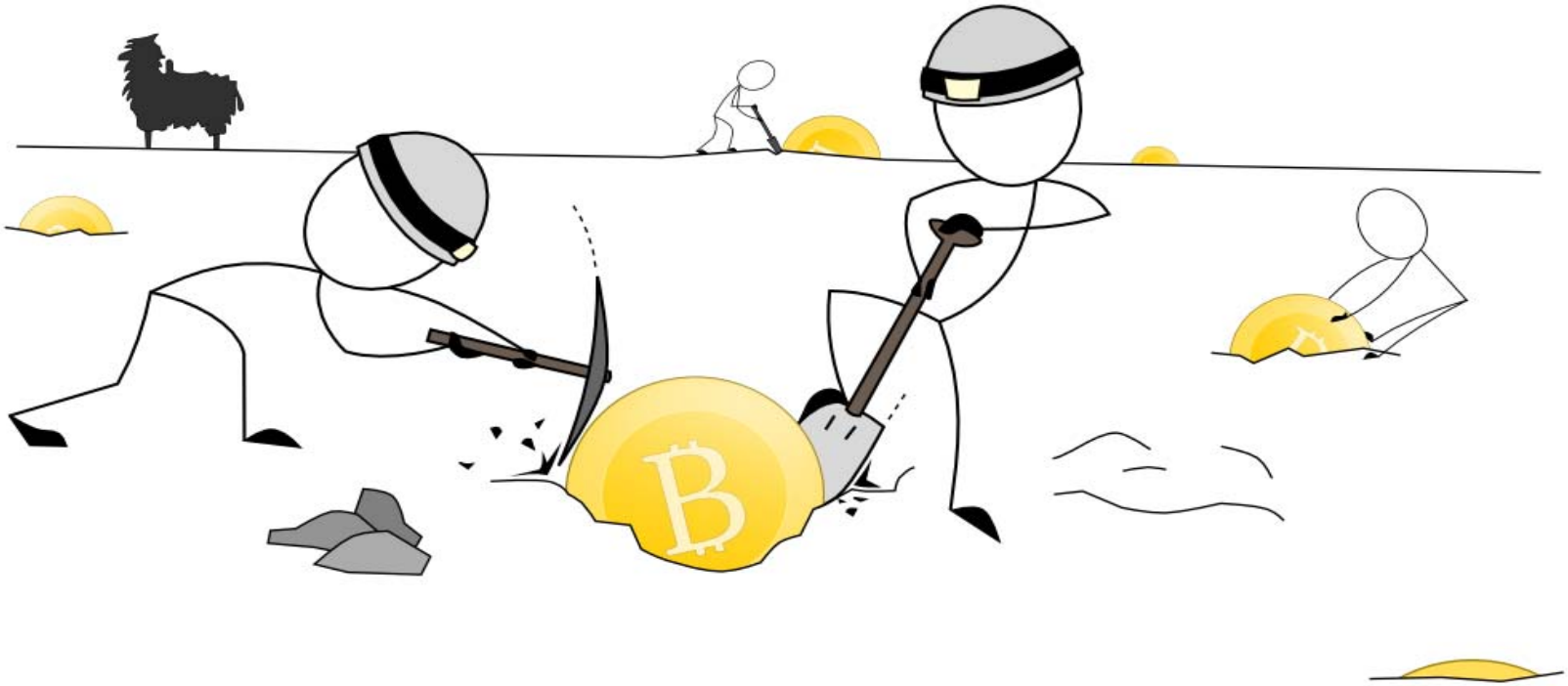
# Decentralized System (Ledger)

- **Peer-to-peer network-based virtual currencies**
- **No central issuing authority, monitoring, or oversight**
- **May experience price volatility**
- **Access through free, open source software**

# Blockchain Technology

- **The blockchain is a public ledger of all transactions in the network (a distributed database)**
- **Maintenance of the blockchain is performed by a network of communicating nodes that validate transactions, add them to their copy of the ledger, and then broadcast these ledger additions to other nodes**

# Bitcoin Mining



# Bitcoin Mining

- **Miners are individuals who run computer systems to repeatedly calculate "*proof-of-work,*"—or hashes—with the intention to create a successful block**
- **Approximately six times per hour, a new group of accepted transactions (a block) is created, added to the blockchain, and quickly published to all nodes**
- **In order to be accepted by the rest of the network, a new block must contain a hash provided by the miner**
- **Miners are incentivized with new Bitcoins**

# Exchangers

| Rates And Fees For Each $1 USD | | | |
|---|---|---|---|
| Your Currency | Buy(Rupees) | Sell(Rupees) | Minimum Amount |
| Payza | 98.0 | 90.0 | 105 |
| Perfect Money | 103 | 94.0 | 105 |
| WebMoney | 103 | 98.0 | 105 |
| EGOPAY | 103 | 94.0 | 105 |
| PayPal | 99.0 | 95.0 | 105 |
| Payoneer | 102.0 | 95.0 | 105 |

# Exchangers

- **Businesses that allow customers to trade virtual currencies for other assets, such as conventional fiat money, or different digital currencies**
- **Function just like foreign currency exchange**
- **Exchangers have been susceptible to money laundering, Ponzi schemes, and malware**

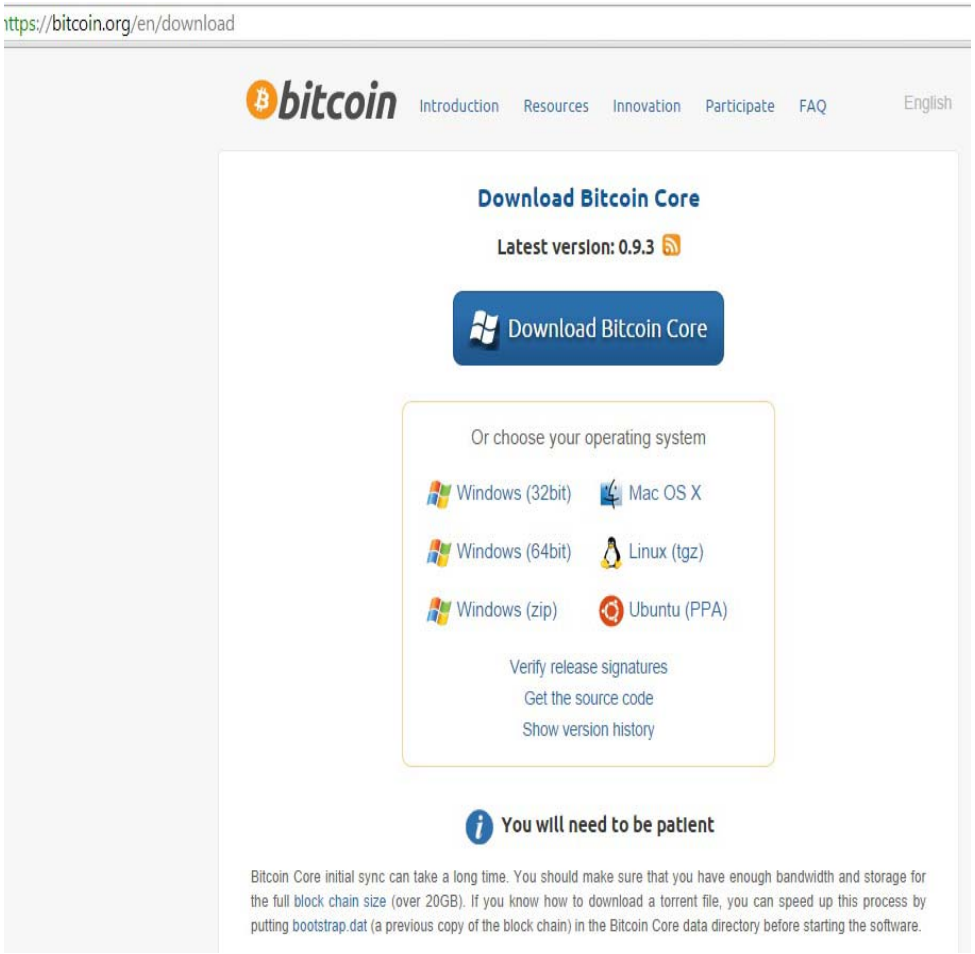
# Virtual Currency Acceptance

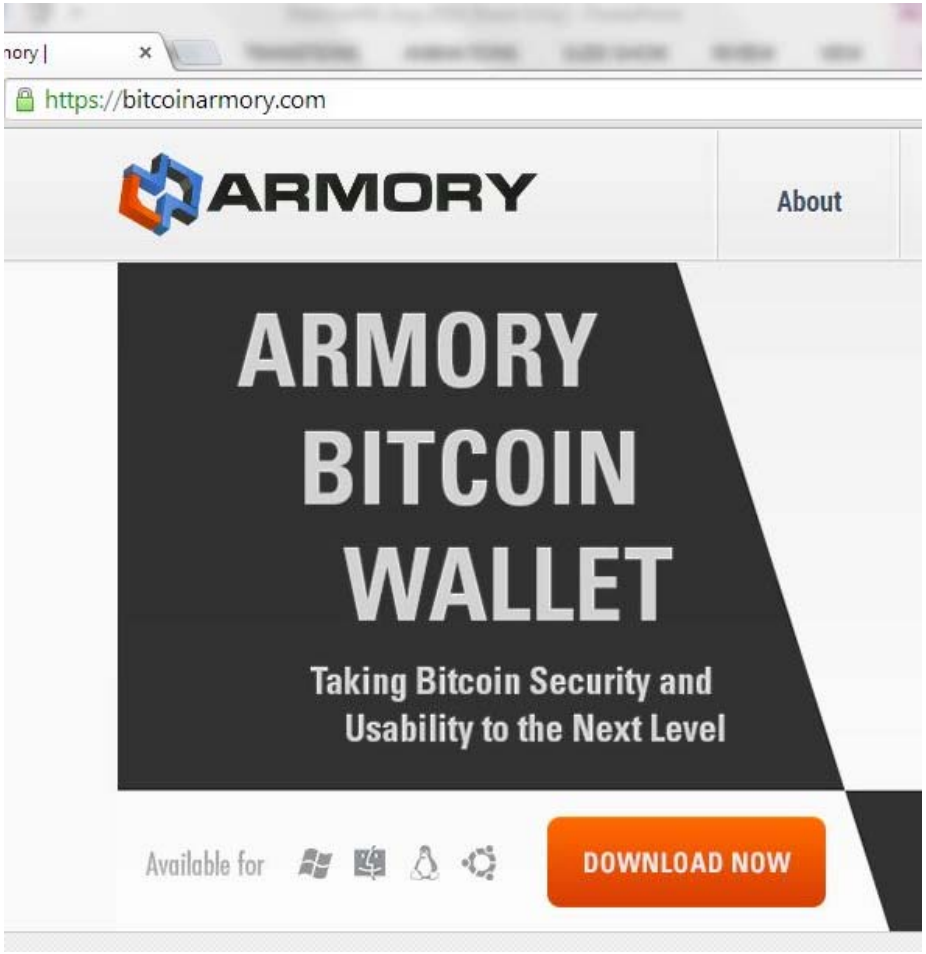
- **Users can now purchase real goods with virtual currency**
- **Businesses Include:**
  - Overstock.com
  - Expedia
  - Foodler
  - WordPress
  - Restaurants
  - Hotels
  - Law Firms
  - Doctors

# "Add On" Products

- **Easy-to-download wallet applications make it easier to see your virtual currencies**
- **User-friendly interfaces make it easy to send and receive virtual currencies**

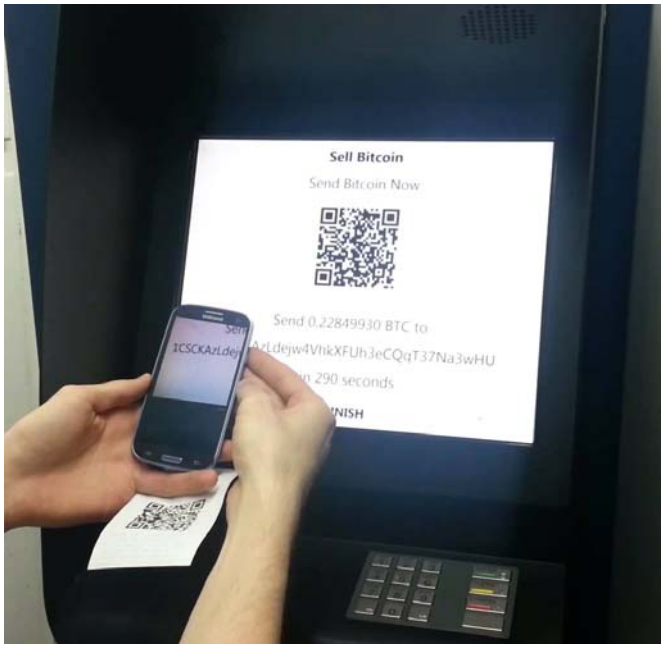
# Easy Software Download



# Current Trends

- **Virtual currency adoption and acceptance is growing**
- **Innovative services and schemes are constantly emerging**
- **Many virtual currency services are seeking legitimacy**
- **Illicit actor sets are also broadening and diversifying**



# FinCEN Guidance

- **FinCEN published guidance in March 2013 to clarify the application of it's regulations to persons administering, exchanging, or using virtual currencies**
- **FinCEN's rules define certain businesses or individuals as money services businesses (MSBs) depending on the nature of their financial activities**

# Current AML Climate

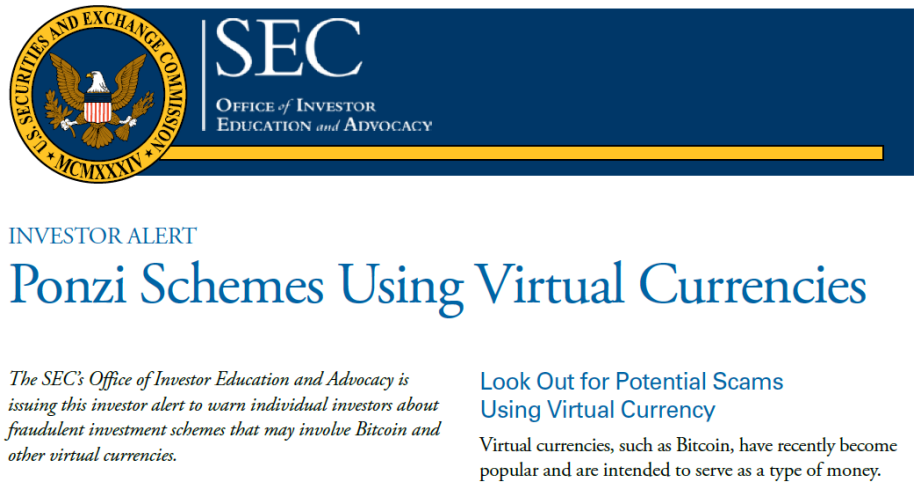
- **Exchangers are increasingly registering with FinCEN and working to develop AML programs**
- **Centralized payment systems and exchangers interact with the traditional financial sector and hold accounts at financial institutions**
- **Appropriate AML/Know Your Customer programs help prevent abuse by illicit actors**

# State-Level Licensing

- **States are grappling with how to deal with virtual currency**
- **48 states have some money transmitter licensing requirement, but not all necessarily encompass virtual currency**
- **NY developed a "BitLicense"**
- **Conference of State Bank Supervisors (CSBS) issued a Model Regulatory Framework on September 15, 2015, to assist states in licensing and supervising virtual currency activities.**
- **No federal licensing requirements; however, failure to obtain all necessary state licenses is a federal violation under 18 U.S.C. § 1960.**

# Illicit Use

- Online Black Markets
- Cyber Crime
- Child Pornography
- Securities Fraud
- Money Laundering
- Extortion/Blackmail
- Buy/Sell Intrusion Tools
- Theft


SEC
OFFICE of INVESTOR EDUCATION and ADVOCACY

INVESTOR ALERT

Ponzi Schemes Using Virtual Currencies

*The SEC's Office of Investor Education and Advocacy is issuing this investor alert to warn individual investors about fraudulent investment schemes that may involve Bitcoin and other virtual currencies.*

Look Out for Potential Scams Using Virtual Currency

Virtual currencies, such as Bitcoin, have recently become popular and are intended to serve as a type of money.

# Illicit Use

*"You know, you can do this just as easily online."*

# Law Enforcement Challenges

- **Decentralized virtual currencies have no central authority, so there's no one to subpoena for user information**
- **Centralized systems may set themselves up in money laundering havens**
- **P2P transactions are not monitored for suspicious activity**
- **Many features enhance user anonymity**

# Current Challenges for FDIC

- **Deposit insurance ambiguity**
- **Illicit use and connection to criminal activity**
- **Legal and supervisory challenges**
- **Integration with and risk to financial institutions**

# ...the Future?

- **Virtual currency adoption/acceptance is growing; however, not as fast as proponents predicted.**
- **Innovative services/proposals constantly emerge.**
- **Virtual currencies/services are seeking legitimacy; however, illicit actors are also broadening and diversifying.**
- **Great interest in the blockchain technology to transfer assets by banks and other institutions.**

# Questions?