

# Private Keys And Security **In A World Of Blockchain**



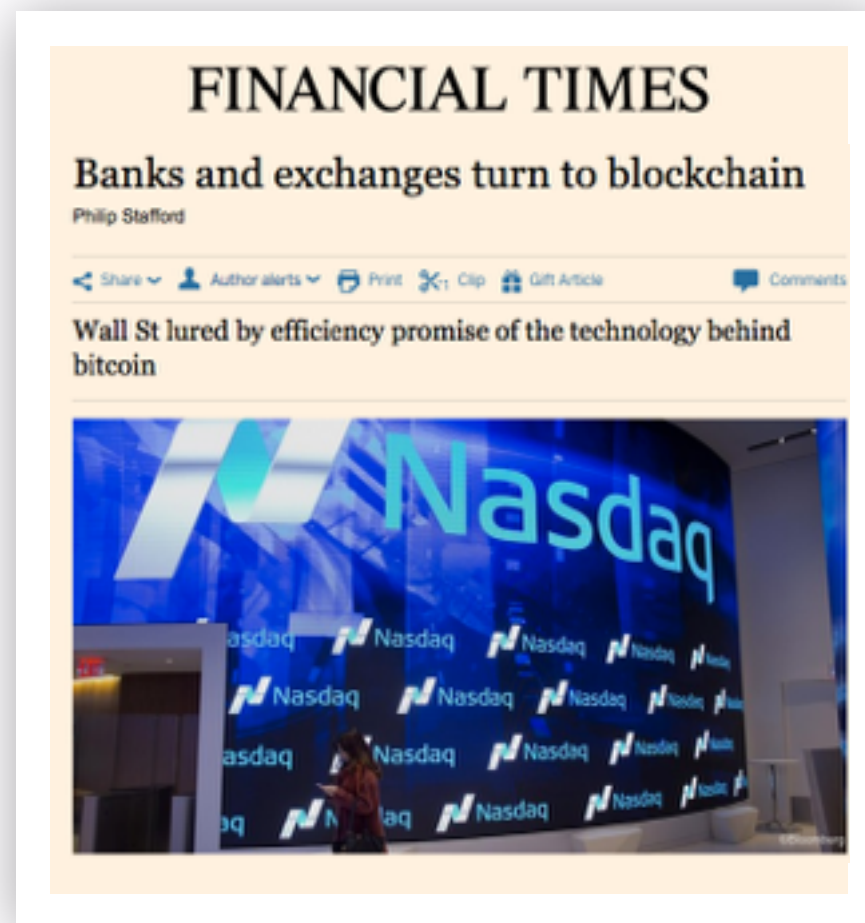
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# State of the blockchain

# 2016 - A big year for blockchain



Public Ledgers Evolve



Wall Street Places Bets



Digital Assets Have Arrived

# Why this matters

**1** Cheaper, faster and more secure transactions

**2** A new asset class with permission-less innovation



"an emerging technology [that] replaces the need for third-party institutions to provide trust for financial, contract and voting activities".

# The blockchain promise

An explosion in tradable assets

Networks to manage internet of things

Banking the unbanked

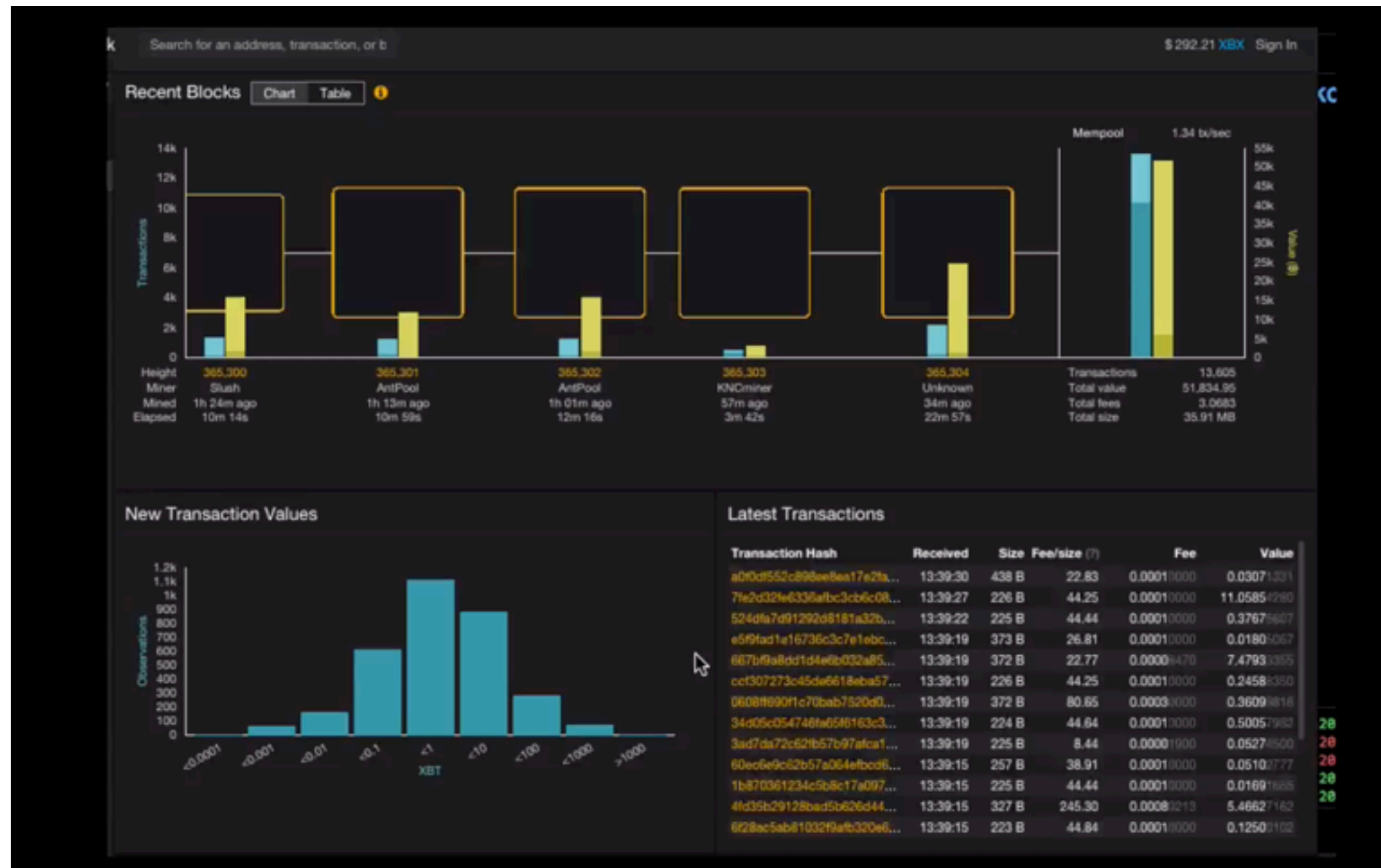
P2P mobile payments

Smart contracts

Augmented reality and VR

# Under the hood

# One Ledger To Rule Them All





# Suits vs. Hoodies





# New kids **on the block**



Bitcoin

Launch - 2008

Market cap - \$9.6 Billion



Ethereum

Launch - 2015

Market cap - \$1.1 Billion  
Money raised - \$18 Million



Augur

Launch - Pending

Money raised - \$10 Million

# Incumbents **join the party**



## HyperLedger

Players : IBM, JPM  
Status: beta, under  
technical development



## “Settle Coin”

Players : UBS, JPM, DB, SAN  
Status: Pitched to central  
banks, Launching 2018



## E-Coin

Players : E-corp, Dark Army  
Status: This may be here  
sooner than you think ;)



# A new security challenge

# The blockchain challenge

Lost or stolen  
private keys

New HR risks

End users have  
responsibility

Immutable means  
no 1-800 number

Badly written  
smart contracts

Ransomware

# Oh no, Hackers strike again!



Mt Gox hack

2014 - 850,000 BTC  
Value stolen: \$400M  
Company collapsed



BITSTAMP

BitStamp hack

2015 - 19,000 BTC  
Value stolen: \$5M  
Hot wallet hack

BITFINEX 

BitFinex hack

2016 - 119,000 BTC  
Value stolen: \$65 M  
Lost ~30%, made bond

# The new normal



Swift

2016 - \$81 M loss  
Swift messaging  
system was hacked



Target

2013 - 40M CC stolen  
Malware infected  
payments system






Yahoo

2016 - 500 M accounts  
Customer data stolen  
and sold on dark web



**New Tools For A New Era**

# Private keys **to the Kingdom**

-  Where the rubber hits the road.
-  To own a digital asset, means to maintain control over a private key.
-  Easier for individuals. Harder for organizations

# Navigating **new terrain**



Best practices are a must - CCSS (CryptoCurrency Security Standard)



Trust no one - not even your employees.



If done right - major new efficiency

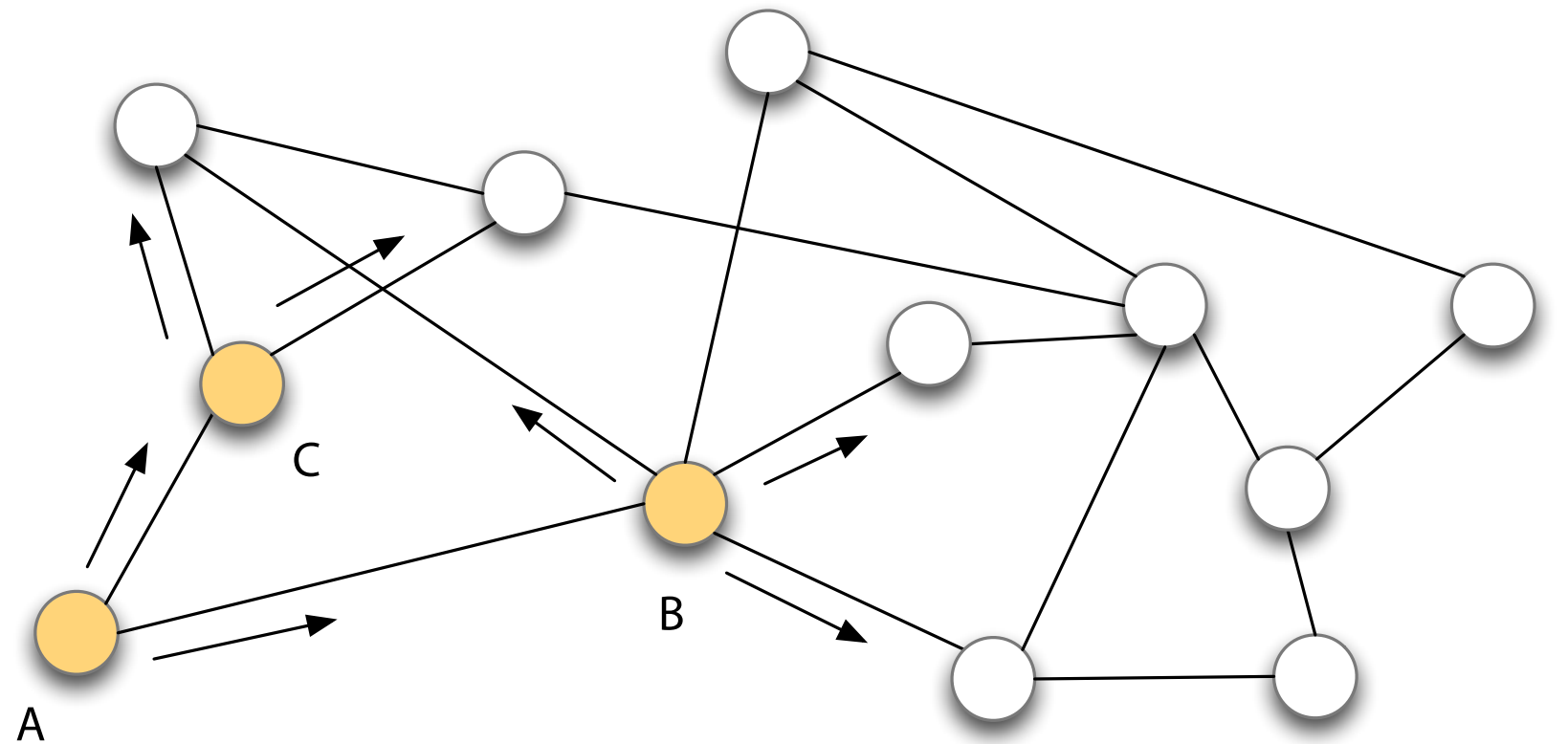


What if Google adds a crypto wallet to every Android?

This isn't going away

# The way forward

Networks grow in rapid and unexpected ways  
Do not underestimate the hoodies and their “open innovation” ethos



Thanks



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