



Law As Code. Reality, Possibility and Potential

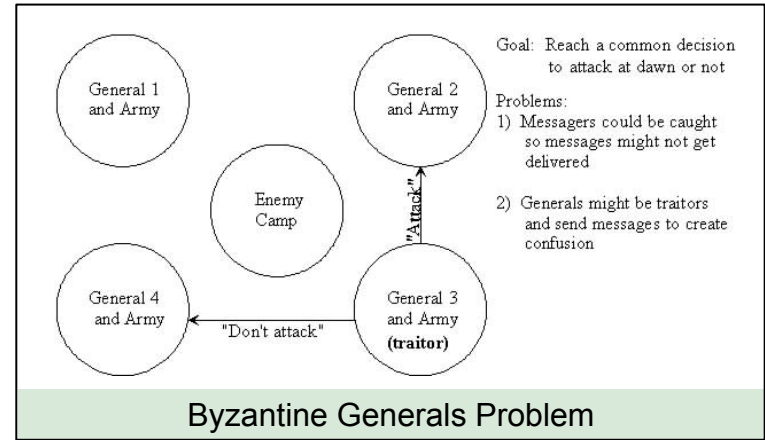
Tillit Discusses State of Blockchain Legal Trends

Who is Tillit?

- Startup leveraging decentralized ledgers in business applications
- Current work includes:
 - Core blockchain technology
 - Several “law as code” applications for stock transactions and tax compliance
- Principals are legal and technology experts
 - Miles Cowan - Founder and CEO, Tillit Inc
 - Miles practiced law as a transactional attorney for Dentons, with a focus on private equity and venture capital transactions, including debt and equity financings and mergers and acquisitions. He is a Juilliard graduate and worked as a classical musician in New York and Europe prior to law school.
 - Zachary Smith - Co-Founder, Tillit Inc
 - Zac is an investor and business operator located in NYC. Previously he ran a successful cloud computing startup (Voxel) and payment processing company MerchantPlus. He is also a Juilliard graduate.

Blockchains Today

- What is Bitcoin?
- What is a “blockchain”?
- Key blockchain concepts:
 - Byzantine General Problem
 - Decentralized consensus
 - Mining = Proof of Work
 - Trustless validation of transactions or code



Blockchain technology enables us to re-evaluate all of the world's trust relationships

Trust Relationships

- When re-evaluating trust, we must ask:
 - Where are existing trust relationships (explicit and implicit)?
 - Is it possible to allocate this trust relationship on to a blockchain?
 - Is there a reason to do so?
- Only if we meet these qualities, should we attempt it. Examples:

Trust Relationship	Pass the Tests?
Currency, transfer of value	Yes!
Smart contracts	Sometimes! Show me more?
Decentralized entities / D.A.C.	Hmmm...
Self owning robots	Not in my world! Leave that to the matrix.

Centralization in Bitcoin

Centralized Services

- Hosted Wallets
 - blockchain.info
 - BitGo
 - Coinbase
 - Coinkite
- Exchanges
 - Bitstamp
 - BTC-e
 - Bitfinex
- Payment services
 - Bitpay
- Mixers

Broken Trust

Study in April 2013 found that 45% of exchanges fail. Last year has seen increasing stability - **BUT:**

- Mt Gox
 - Transaction malleability
- Bitcoin Savings and Trust
 - Ponzi Scheme



Blockchain Applications

Currency Applications

- Store of value (investments)
- Transfer of value (payments)



Non-Currency Applications

- Smart contracts
 - Smart Stock
 - Self-enforcing derivatives
 - “Trustless” letters of credit
 - Proof of Existence
- Smart property
 - Digital property
 - Physical property



This is where “Code as Law” gets interesting!

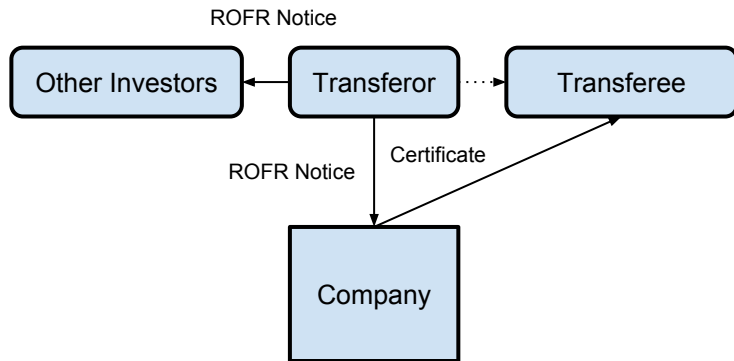
Background on “Code as Law”

- Lawrence Lessig - *Code and Other Laws of Cyberspace*
- Nick Szabo - Coined the term “smart contracts”
- Key Concepts
 - Computer protocols that facilitate, verify, or enforce the negotiation or performance of a contract
- Why now?
 - Blockchain technology has created a mechanism for trustless publication, validation and processing of instructions from simple (currency) to advanced (smart contracts)



Smart Contract Example: Private Stock Transfer

Right of First Refusal (ROFR)



1. Transferor gives ROFR notice to other investors and company
2. Other investors have fixed period to elect to purchase
3. At end of period transferor may transfer on same terms
4. Return stock, together with stock power, to company and direct new certificate be issued in name of transferee

Smart Contract Benefits

“Contract” operating on blockchain enforces contractual agreement:

- System will not permit transfer until all rules are complied with
- System provides messaging and consent features
- Contract automatically compiles real-time stock ledger
- Can implement lost stock procedures

It is possible to make a contract that is self enforcing and “non breakable”

Regulatory / Legal Landscape

- What's been said:
 - FinCEN - administrators, exchangers, users
 - SEC - facts and circumstances
 - IRS - treated as property - capital gains
 - CFTC - looking into regulation of virtual currency derivatives
- What hasn't:
 - State money transmitter laws
 - But note New York Department of Financial Services "Bitlicense"
 - Very little discussion on anything beyond the BTC currency aspect of cryptographic ledgers. Distributed trust applications and their implications are still in their infancy.

Emerging Issues

- Universal Commercial Code (UCC)
- Jurisdiction
- Lawyers as Coders?
- Do courts get “Master” Keys?
- Anonymity and Strong Identity Paradox

Questions? More thoughts?

Tillit Inc.

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- Follow us on twitter [@tillitinc](https://twitter.com/tillitinc)
- Jobs / Internships at www.tillitinc.com/joinus
- Available for events, speaking and meetups

Ask Questions

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