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Smart Securities®, Intelligent Markets

Caitlin Long
Chairman & President
NAIC Fall Meeting
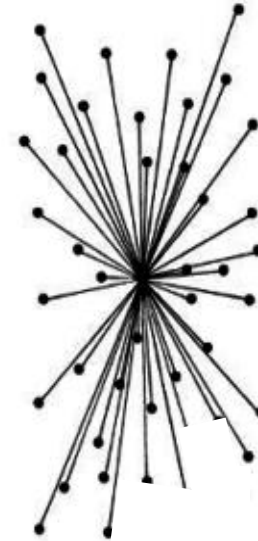**December 12, 2016**

Review: Blockchain & Smart Contracts 101
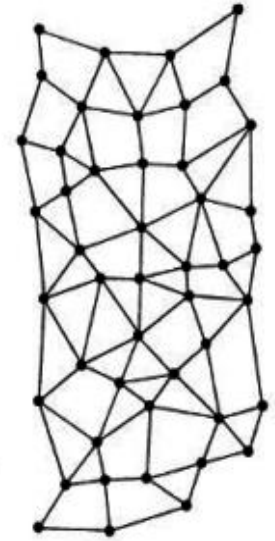
A <u>distributed ledger</u> is:
- An immutable, append-only database
- Cryptographically secured
- Distributed, massively replicated

<u>Smart contracts:</u>
- Self-enforcing terms and conditions
- Automatically execute administrative actions
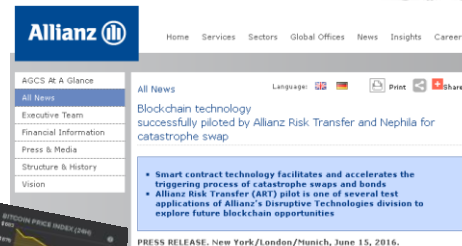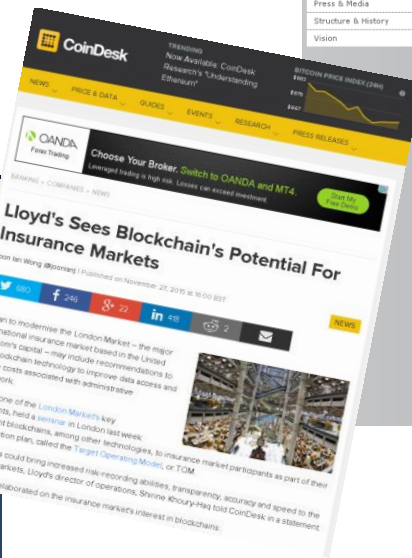

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Update: Insurer Uses of Blockchain Technology
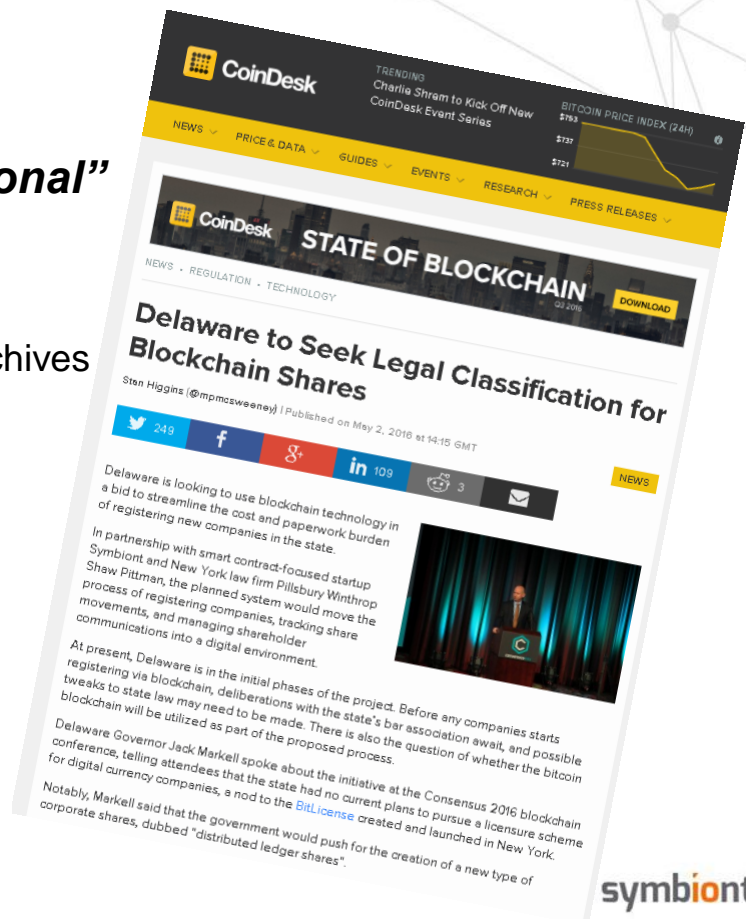
- <u>USAA</u>: payments, decentralizing back office operations

- <u>John Hancock</u>: KYC, legal & back office operations

- <u>Allianz</u>: cat swaps, international payments

- <u>B3i</u>: consortium led by Aegon, Allianz, Munich Re, Swiss Re and Zurich

Update: Delaware Blockchain Initiative

Delaware will soon begin to store "foundational" documents of finance on its blockchain.

- "Smart Records" – in production at Delaware Public Archives
- "Smart UCC Filings" – stay tuned
- Incorporation Documents – expected Spring 2017
  - One problem this change addresses is lack of beneficial owner tracking in securities markets

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TRENDING
Charlie Shrem to Kick Off New
CoinDesk Event Series

BITCOIN PRICE INDEX (24H)
$753
$737
$721

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STATE OF BLOCKCHAIN

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Delaware to Seek Legal Classification for Blockchain Shares

Stan Higgins (@mpmcsweeney) | Published on May 2, 2016 at 14:15 GMT

NEWS

Delaware is looking to use blockchain technology in a bid to streamline the cost and paperwork burden of registering new companies in the state.

In partnership with smart contract-focused startup Symbiont and New York law firm Pillsbury Winthrop Shaw Pittman, the planned system would move the process of registering companies, tracking share movements, and managing shareholder communications into a digital environment.

At present, Delaware is in the initial phases of the project. Before any companies starts registering via blockchain, deliberations with the state's bar association await, and possible tweaks to state law may need to be made. There is also the question of whether the bitcoin blockchain will be utilized as part of the proposed process.

Delaware Governor Jack Markell spoke about the initiative at the Consensus 2016 blockchain conference, telling attendees that the state had no current plans to pursue a licensure scheme for digital currency companies, a nod to the BitLicense created and launched in New York.

Notably, Markell said that the government would push for the creation of a new type of corporate shares, dubbed "distributed ledger shares".

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Update: A Key Ally Emerges—Judge Laster

The Block Chain Plunger:
Using Technology to Clean Up Proxy Plumbing and Take Back the Vote

Vice Chancellor J. Travis Laster

Keynote Speech

Council of Institutional Investors

Chicago, September 29, 2016

http://www.cii.org/files/09_29_16_laster_remarks.pdf

"I want you, the institutional stockholders of America, to take back the voting and stockholding infrastructure of the U.S. securities markets."

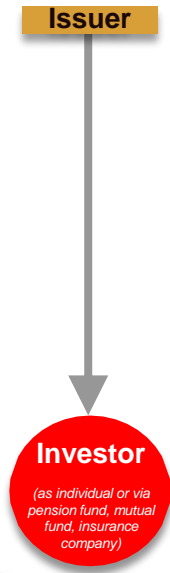*"The current system works poorly and harms stockholders."*

"But the current plumbers—financial intermediaries—do not have an incentive to fix it. They are making healthy profits in a non-competitive market. They might play around the edges, but **real change will have to come from the outside**. The good news is that you have a plunger that you can use to clean up the plumbing. That plunger is distributed ledger technologies, the technology that drives bitcoin…

"**The plumbing needs to be fixed.** A plunger exists. The takeover doesn't have to be hostile. It can be friendly. But it needs to be done."
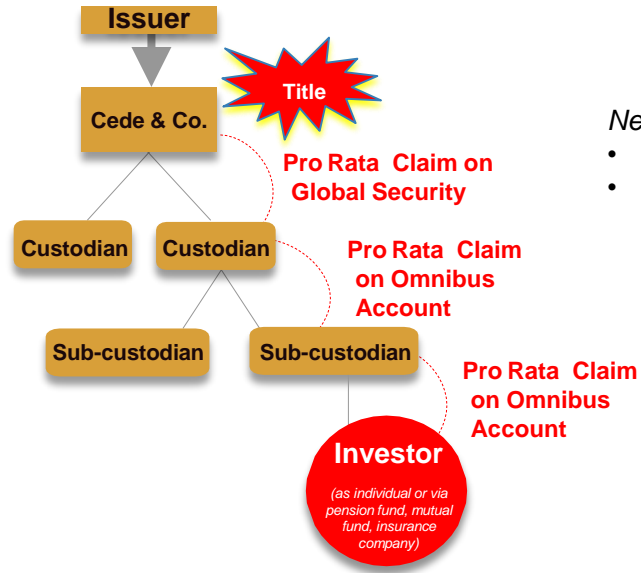
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Problem: Lack of Beneficial-Owner Tracking in Securities

In other words, how can regulators measure insurer solvency when securities—especially U.S. Treasuries—may be over-issued?

Pre-1978 UCC Amendment

Post-1994 UCC Amendment

Issuer

Investor

(as individual or via pension fund, mutual fund, insurance company)

Issuer

Cede & Co.

Title

Pro Rata Claim on Global Security

Custodian   **Custodian**

Pro Rata Claim on Omnibus Account

Sub-custodian   **Sub-custodian**

Pro Rata Claim on Omnibus Account

Investor

(as individual or via pension fund, mutual fund, insurance company)

Needlessly introduces:
- *Counterparty Risk*
- *Operational Risk*

Source: based on "Restructuring Securities Systems Processing, "Bank of Finland Discussion Papers, by Harry Leinonen, June 3, 2003.

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UCC Article 8 (Securities): What Happened?

	Pre-1978	1978 Amendment	1994 Amendment
Who Holds Title?	Owner	Owner	Central Securities Depository (Cede & Co.)
Owner Owns	Property Right	Property Right	Contractual Right (IOU)
Legal Status	Title	Title	Contractual Right (IOU)
Evidence	Paper Certificate	Book Entry on Issuer's Records	Your Agent's Records, Their Agent's Records
Legal Form	Security	Security	"Security Entitlement"
Direct vs. Indirect	Direct	Direct	Indirect Pro Rata Share of the Security Entitlement Issued by Your Securities Intermediary, Which Holds an Indirect Pro Rata Share of the Security Entitlement Issued by Its Securities Intermediary, Which Holds a Pro Rata Share of the Global Security Held at the CSD (Cede & Co.)

Sources: "Handbook of Key Global Financial Markets, Institutions and Infrastructure," edited by Gerard Caprio, Jr., Chapter 50 (Securities Settlement Systems), 2013, p. 561; "Revised Article 8 of the Mississippi UCC: Dealing Directly with Indirect Holding," Bryn R. Vaaler, Mississippi Law Journal, Winter 1996, Book 2; "Policy Perspectives on Revised UCC Article 8," James S. Rogers, Boston College Law School Faculty Papers, 1996.

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How Might Insurers Reduce This Risk?

Failure along the chain of custody is a low-probability but high-severity risk.

- Blockchains enable direct ownership/self-custody in a cost-effective, transparent way
    - Syndicated loans, private equity: blockchains are going into production stage
    - Bonds: stay tuned!
    - Delaware Blockchain Initiative highly significant
    - Timing: 5-10+ years to full implementation, but enabling legislative/regulatory changes underway now

- Interim options to reduce insurers' custody risk:
    - DTC: each insurer has a direct account
    - Custodians: restrict holding insurer assets in omnibus accounts
    - Broker/dealers: use segregated accounts
    - Examination by Insurance Departments of entire chain of securities custody, esp. DTC & omnibus accounts

Costs vs. benefits?

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