



**Vermont Bar Association**  
**2018 Tech Show Seminar Materials**

**Blockchain - Coming Soon to a Transaction  
Near You**

**May 16, 2018**  
**DoubleTree (formerly Sheraton)**  
**S. Burlington, VT**

**Speakers:**

**Jim Knapp, Esq.**



# Blockchain and Cryptocurrencies Coming to Deal Near you

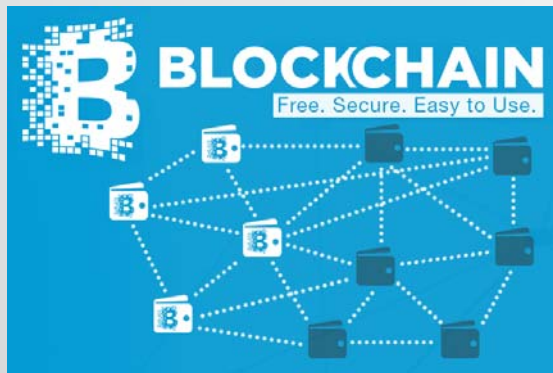
Presented By James E. Knapp



# Topics for Today

- Blockchain – what is it and how does it work
- Cryptocurrencies
- Blockchain applications in the world and in your practice

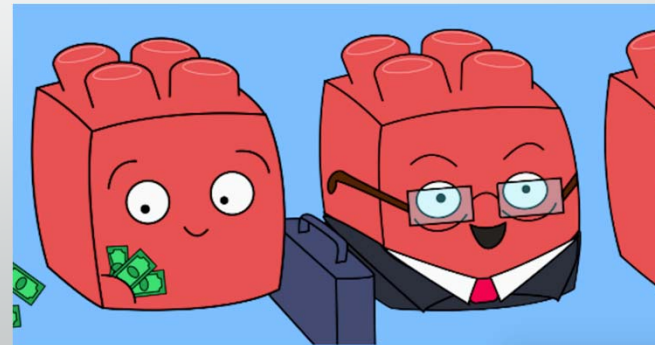
# Blockchain



21<sup>st</sup> Century  
Internet – Internet  
3.0

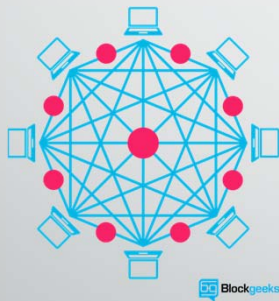
OR

Dot.COM  
Bubble all over  
again



# Blockchain – What is it?

- A distributed database or ledger



- Each participant / owner keeps duplicate copy of all records
- Resistant to tampering, forging, hacking

# Types of Blockchain

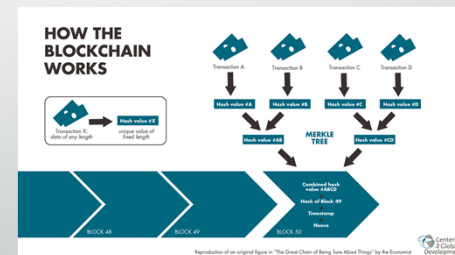
- Public, restricted and private blockchain
  - Structure of operations and authentication of transactions
- Public: everyone can access if they have the software (e.g., Bitcoin)
- Restricted / Private:
  - Invitation only
  - Roles created in blockchain programming

# Distributed database / ledger

- Multiple copies of the database held by nodes
- Authentication of transactions by "miners" or authenticated users
- Chaining blocks of data makes the historical record immutable
- All users must agree to enter the transaction in the database in order for it to be added to the "chain"

# How Does Blockchain Work

- A participant initiates a transaction – e.g. transfer a token to another participant
- A pre-determined number of other participants verify the transaction is legitimate
- Transactions are accumulated into a “block”
  - Blocks are authenticated
  - New block is added to the prior blocks in sequence
    - E.g. Block 064 is added to blocks 000 through 063.
  - Combined blocks 000 through 064 are authenticated
  - And the process repeats







# What Can Blockchain Do?

- Basis for Cryptocurrencies
- Foundation for the exchange of value
- Framework for smart contracts

# Cryptocurrencies – Blockchain in Action



# What's in Your Cryptocurrency Wallet?

- Tokens or units of value = “coins”
- Created and managed through a blockchain technology
- Used to purchase services in the blockchain
  - Propy.com – the “PRO”
- Used to exchange value
  - Ripple.com – the “XRP”
- Speculative “investment”
  - Bitcoin –
  - Bitcoin has other uses also
- Scam – money making

# Benefits and Risks

- Benefits:
  - Secure, immutable records of transactions
  - Reduces costs and risks of intermediaries
  - Cross-border transactions for small accounts
  - No central authority – less important in US – more important in less stable economies
  - Trust-less transactions
- Risks
  - Most Cryptocurrencies are highly speculative
  - Wide irrational swings in value
  - No central authority – no remedies
  - Pseudo-anonymity may promote criminal and other anti-social transactions



# Sweden - on the cutting edge

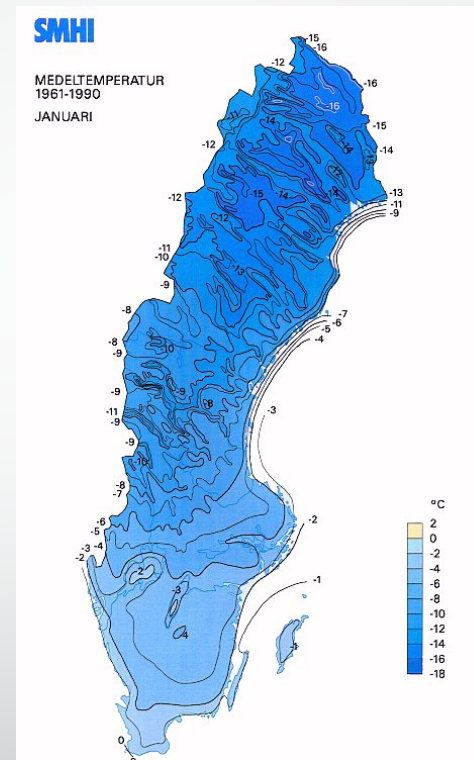


1987

2017

# Sweden – Cryptocurrency capital of the world?

- Bulk of Sweden's energy consumption is used for mining cryptocurrency
  - Cheap electricity through hydro-electric power
- Stable and crypto-currency friendly political system (investors like this)
- It's **cold** (datacenters full of mining CPUs like this)
- At least one Swedish politician accepts campaign contributions *exclusively* in Bitcoin



## A Local Spin on Cryptocurrencies

\_\_\_\_\_ has a particular problem as a result of low local electric rates and an overabundance of cryptocurrency miners using up the low electric rates and pushing up everyone else's electric bills.

# Smart Contracts

- Algorithm programmed in a blockchain
- Takes action on the basis of inputs
- Simple Example – Options – when Propy's PRO Coin reaches \$1.00 in value buy 500 coins.
- More complex contracts possible
  - Mix blockchain based information and external inputs to execute transactions





# Blockchain In The Real World

- Entertainment - arrangements for events, contracts between artists, distributors, and fans; ticket sales (reduce fraud and scalping)
- Retail – payment systems using cryptocurrencies; loyalty programs
- Supply Chain and Logistics – authentication of products and parts from source to end user – food, manufacturing
- Healthcare – new options for medical records management
- Charitable giving

# Blockchain – Clients – My Practice

- Relax –
  - You probably will not have to learn to program smart contracts
- But then
  - Maybe you should
- You will need to understand the concept to advise clients
- You will need to understand what can go wrong
- You will need to understand what remedies are available
- You will need to help clients understand the risks

## More about Clients

- You will need to learn enough to:
  - Understand how to frame a case
  - Discover and document relevant facts
    - Vermont one of the first states to give blockchain records status as business records
  - Explain the basis for the case to fact finders and judges
  - Craft persuasive arguments regarding rights and remedies
  - Know when someone is misstating facts or principles

# Impact of Blockchain on the Real Estate Industry in the US

- Challenging to convert recording systems to blockchain because present database technology and storage not up to storing “land records” as we know them
  - may be cost prohibitive in the near future for localities to convert
- Blockchain good for showing transfers of “tokens” but not storing terms and provisions of deeds, mortgages, liens, etc.

The  
"blockchain"  
deed recorded  
in South  
Burlington,  
Vermont

This conveyance has been recorded in smart contract [0xa188e5a3da203f8ebc72ec7578532926dc1d3bec](#) of the public Ethereum blockchain.



IN WITNESS WHEREOF, the parties do hereby execute this Warranty Deed this 20<sup>th</sup> day of February, 2018.

  
Katherine M. Purcell

STATE OF VERMONT  
COUNTY OF CHITTENDEN, SS.

On this 20<sup>th</sup> day of February, 2018, personally **KATHERINE M. PURCELL**, to me known to be the person who executed the foregoing instrument, and she acknowledged this instrument, by her signed, to be her free act and deed.

Before me,   
Notary Public

Printed Name: Michelle N Farbas

Notary commission issued in Chittenden County  
My commission expires: 2/10/19

Vermont Property Transfer Tax  
32 V.S.A. Chap 231  
-ACKNOWLEDGEMENT-  
RETURN REC'D-TAX PAID BOARD  
OF HEALTH CERT. REC'D.  
VT LAND USE & DEVELOPMENT  
PLANS ACT. CERT. REC'D  
Return No. \_\_\_\_\_  
Donna Kinville City Clerk  
Date Feb 21, 2018



# QUESTIONS