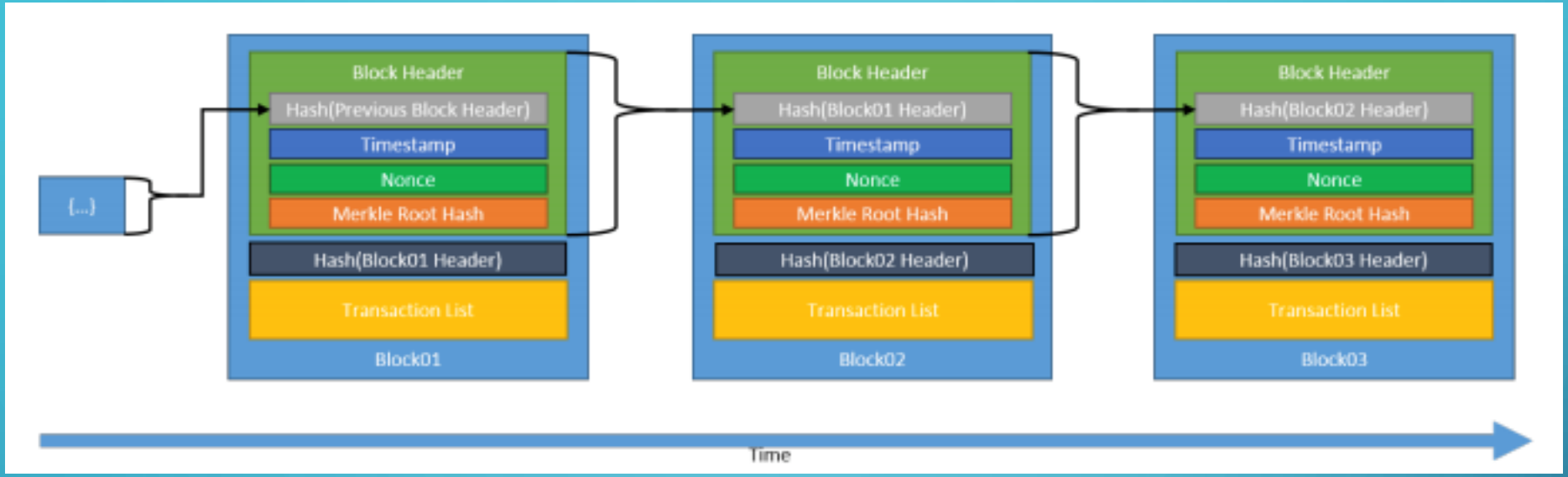
BLOCKCHAIN & GOVERNMENT

BUSINESS AND LABOR INTERIM COMMITTEE

SEPTEMBER 2019

Utah Department of Technology Services

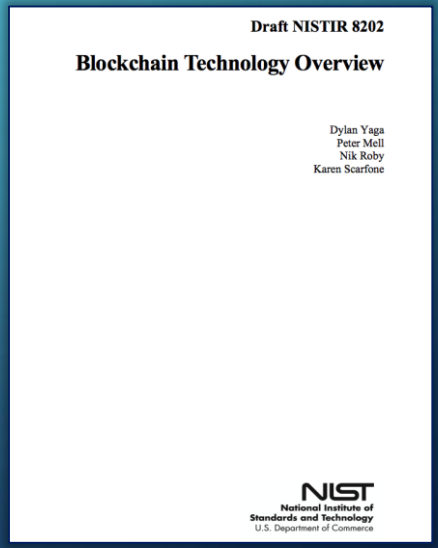


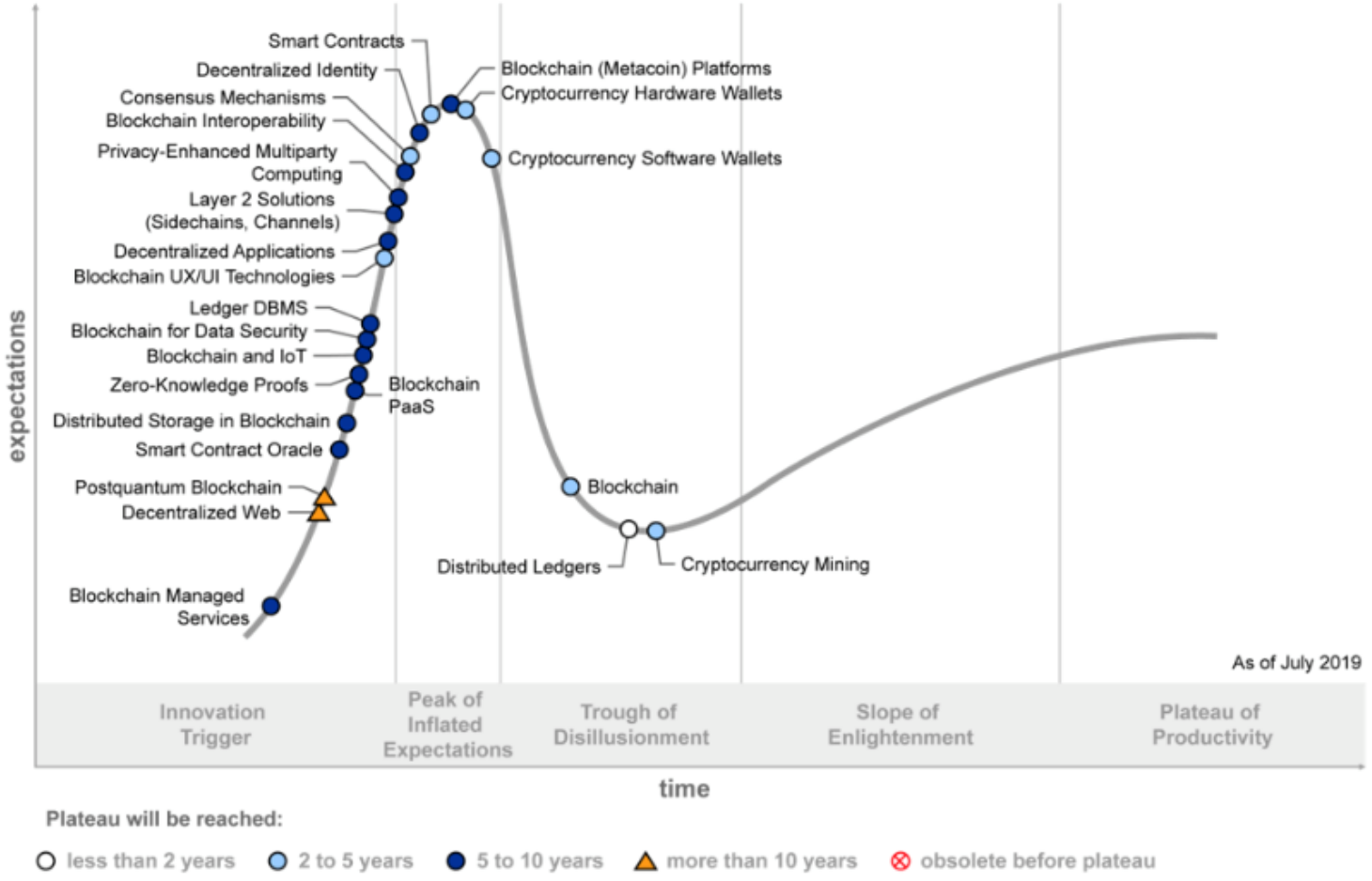
Understanding how blockchain technology works

NISTIR 8202

Blockchain Technology Overview

January 2018





Source: *Gartner*

Hype Cycle for Blockchain Technologies 2019

STRATEGIC PROJECTIONS THROUGH 2022

- Through 2022, only 10% of enterprises will achieve any radical transformation with the use of blockchain technologies.
- By 2022, more than a billion people will have some data about them stored on a blockchain, but may not be aware of it.
- Through 2020, 80% of enterprise blockchain-based applications whose goal is to save money will fail to do so.

source: Gartner

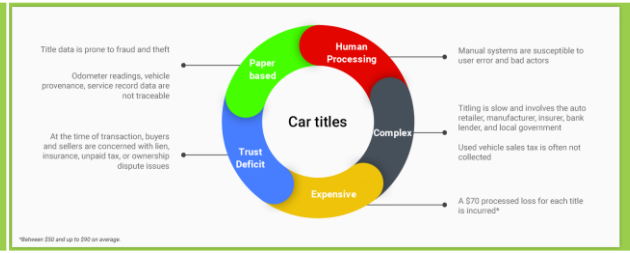
DTS
Utah Department of
Technology Services

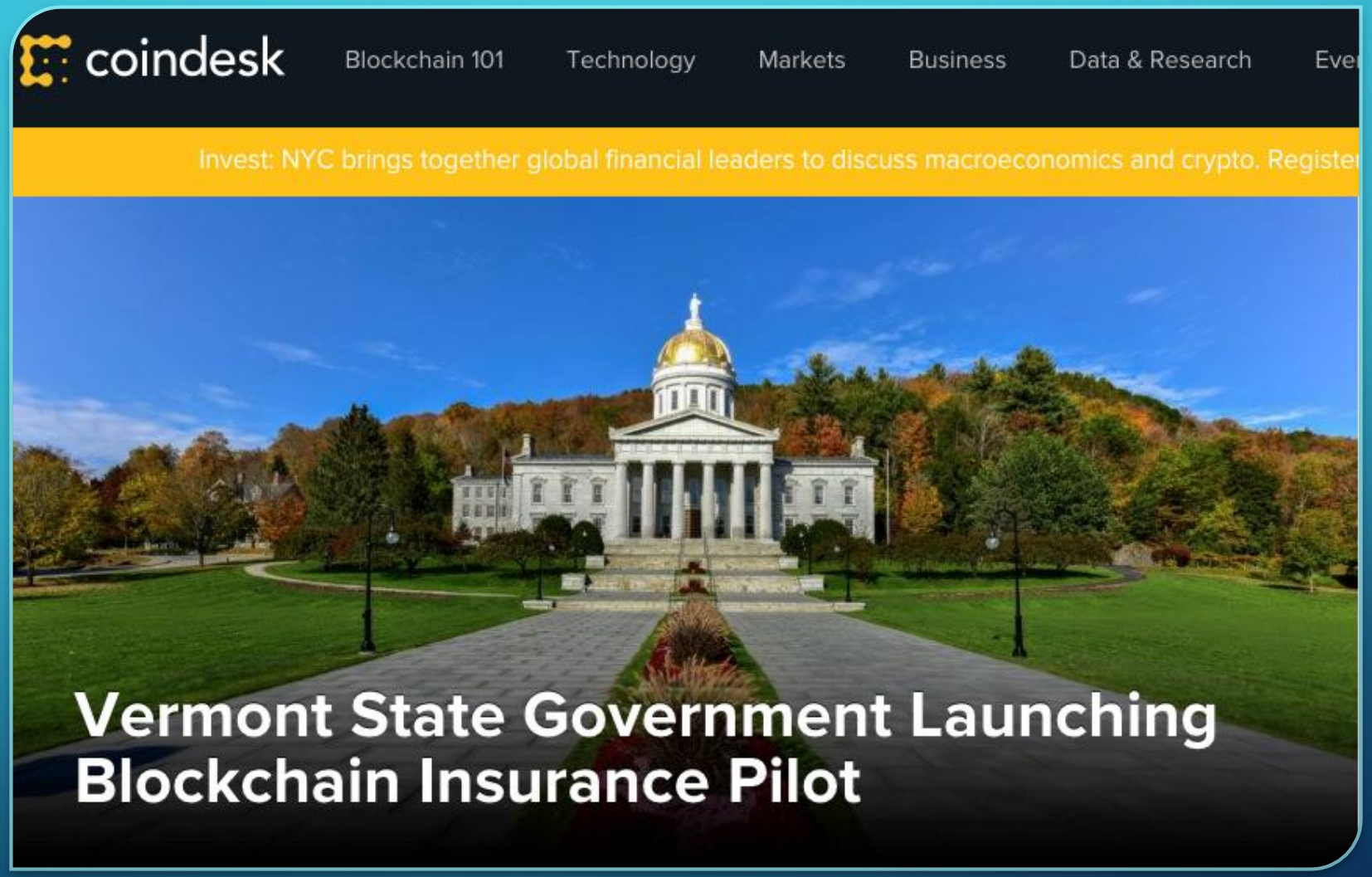
Comparing Blockchain Spectrum to Use Case Categories

	Blockchain Inspired		Blockchain Complete	Blockchain Enhanced
	Efficiency Play	**Record Keeper**	**Digital Asset Market**	**Blockchain Disruptor**
Uses Blockchain for:	▪ Immutability ▪ Traceability ▪ Consortia-based consensus ▪ Reduced reconciliation ▪ Shared closed ledger	▪ Immutability ▪ Traceability ▪ Auditability ▪ Compliance ▪ Shared closed ledger	▪ Immutability ▪ Traceability ▪ Digital asset creation ▪ Payment mechanism ▪ Distributed ledger ▪ Consensus ▪ Shared open ledger	▪ Immutability ▪ Traceability ▪ Payment mechanism ▪ Distributed ledger ▪ Consensus ▪ Shared open ledger
What Is Exchanged?	▪ Existing data and fiat-based economic value	▪ Data ▪ Identity	▪ New forms of digital assets ▪ Autonomous terms and conditions of doing business	▪ New forms of digital assets ▪ Autonomous terms and conditions of doing business ▪ New forms of autonomous interactions
Why Should Enterprises Care?	▪ Improved efficiency ▪ Ensure cost parity with competitors ▪ Application, data, process rationalization ▪ Reduced manual overhead ▪ Monopolization ▪ Replatforming	▪ Improved efficiency ▪ Record certainty ▪ Reduced fraud ▪ Standardization of data and process	▪ Monetization of intangible assets ▪ New market growth ▪ Creation of new assets ▪ New customer growth via monetized “things” ▪ New product and service development	▪ New business model development ▪ New decentralized competition ▪ Digital ecosystem development ▪ New product and service development
Ratio of Revenue Growth Expense Reduction	▪ Primary outcome: expense reduction ▪ Secondary outcome: revenue growth	▪ Primary outcome: expense reduction ▪ Secondary outcome: revenue growth	▪ Primary outcome: revenue growth ▪ Secondary outcome: expense reduction	▪ Primary outcome: revenue growth ▪ Secondary outcome: expense reduction
Industry or Business Focus	▪ Market infrastructure provider ▪ Large enterprise ▪ Government	▪ All enterprises and governments	▪ New marketplaces and startups ▪ Consumers ▪ Enterprises ▪ Governments (central banks) ▪ Market infrastructure provider	▪ Startups ▪ Spinouts ▪ Heritage business; new co.
Architectural Deployment Styles	▪ Private ▪ Consortia/Hybrid	▪ Private ▪ Consortia/Hybrid	▪ Consortia/Hybrid ▪ Public	▪ Consortia/Hybrid ▪ Public

Gartner

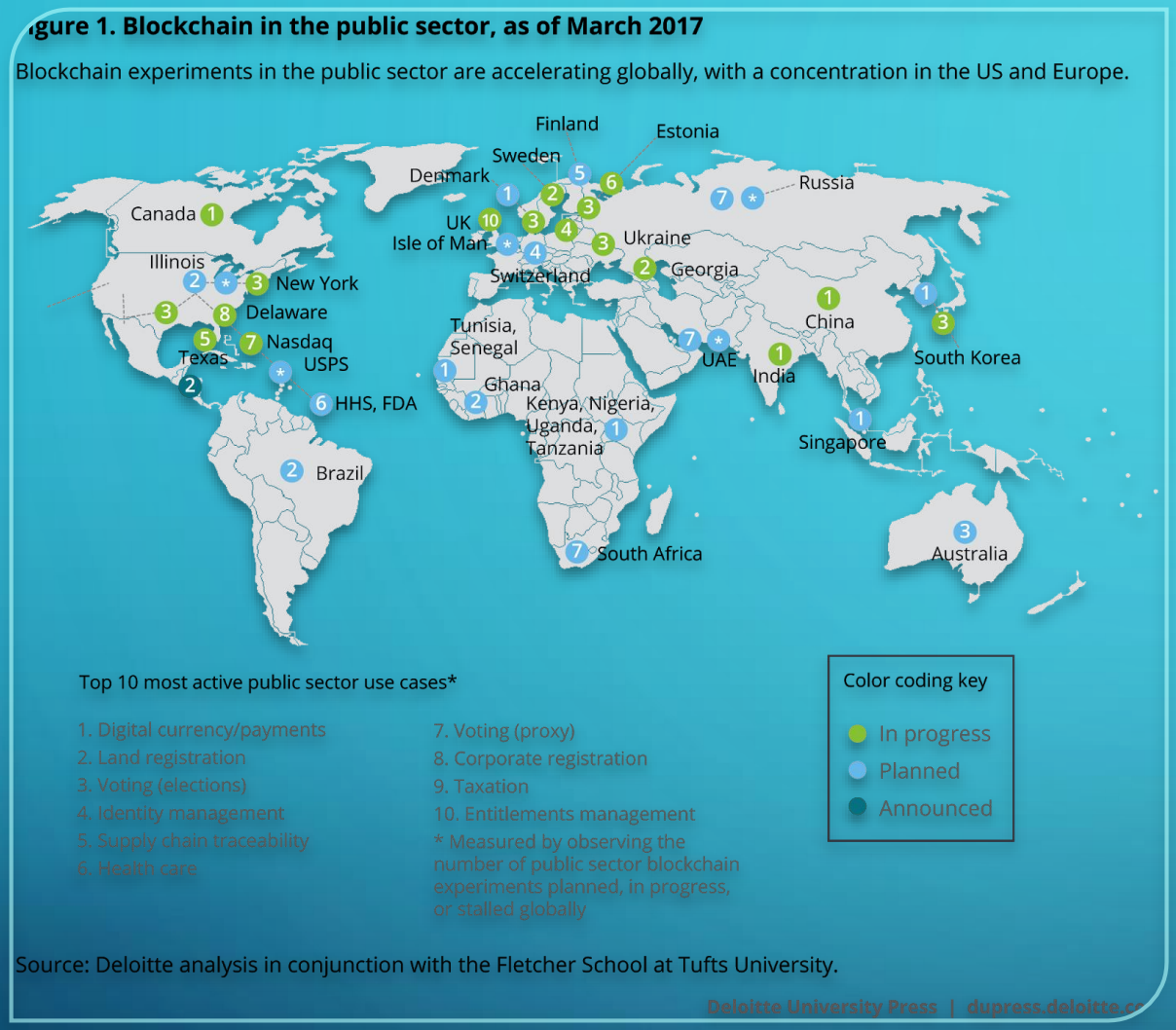
THREE POTENTIAL USE CASES FOR THE STATE OF UTAH

Vehicle Titling	
Digital Identity	
Document Immutability / Chain of Custody	



January 2019

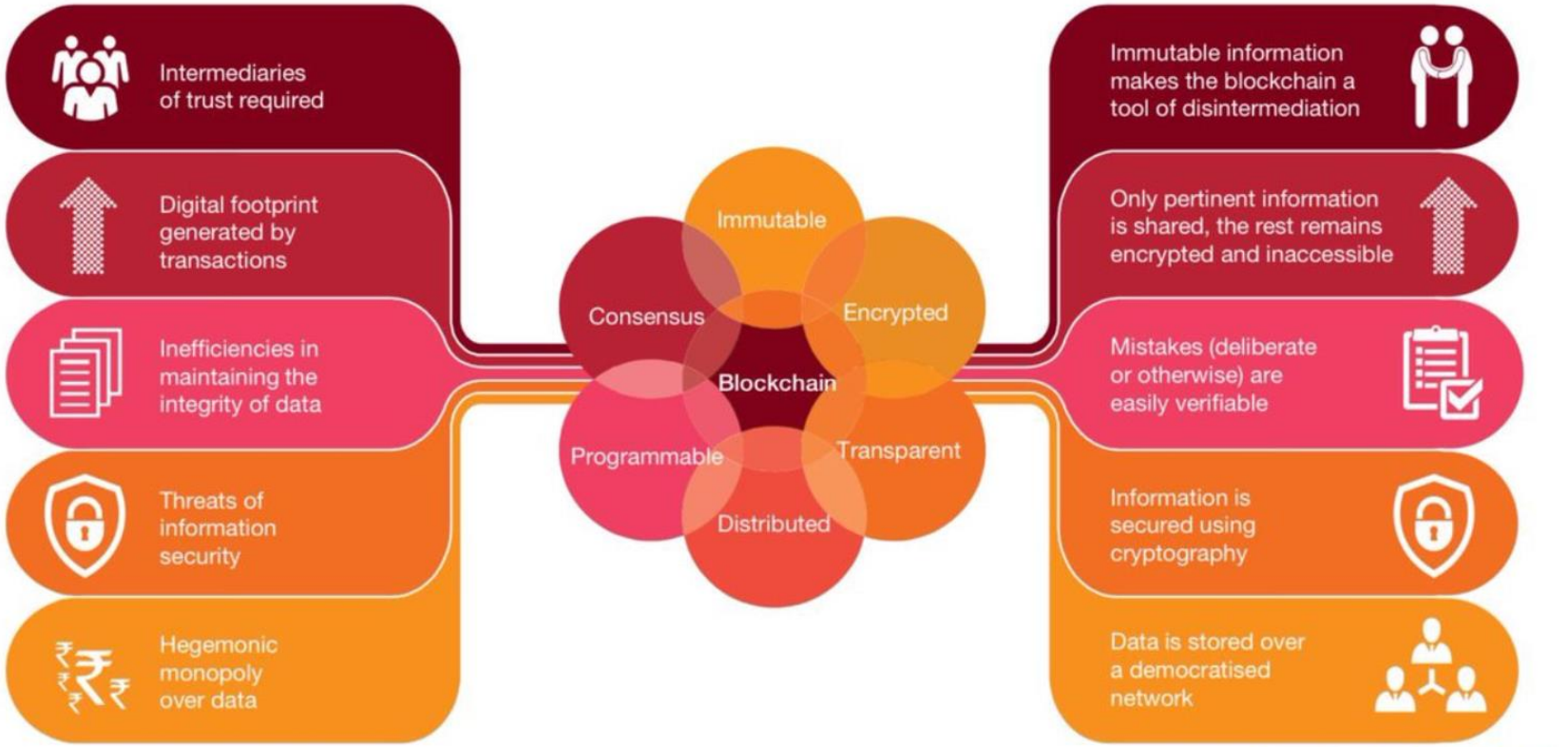
Utah Department of Technology Services



Blockchain: Potential Government Use Cases

1. Digital Currency / Payments
2. Land Registration
3. Voting (Elections)
4. Identity Management
5. Supply Chain Traceability
6. Health Care
7. Voting (proxy)
8. Corporate registration
9. Taxation
10. Entitlements Management

6 Advantages of Blockchain



source pwc via @mikequindazzi

COLORADO COUNCIL FOR THE ADVANCEMENT OF BLOCKCHAIN TECHNOLOGY

The Mission: Establish Colorado as a national hub for blockchain innovation in business and government

Hired a State Blockchain Architect

Final Report July 2019

Council Highlights

- We established our principles…
  - Do no harm
  - Provide clarity wherever possible
  - Position Colorado as a leader

…and set up working groups to address a number of topics:

- Definition of tokens
- Securities laws
- Taxation
- Money Transmission
- Banking services
- Trust/custody
- Regulatory environment
- Smart contracts
- Debt payments
- Digital identity
- Government use of blockchain
- Higher education

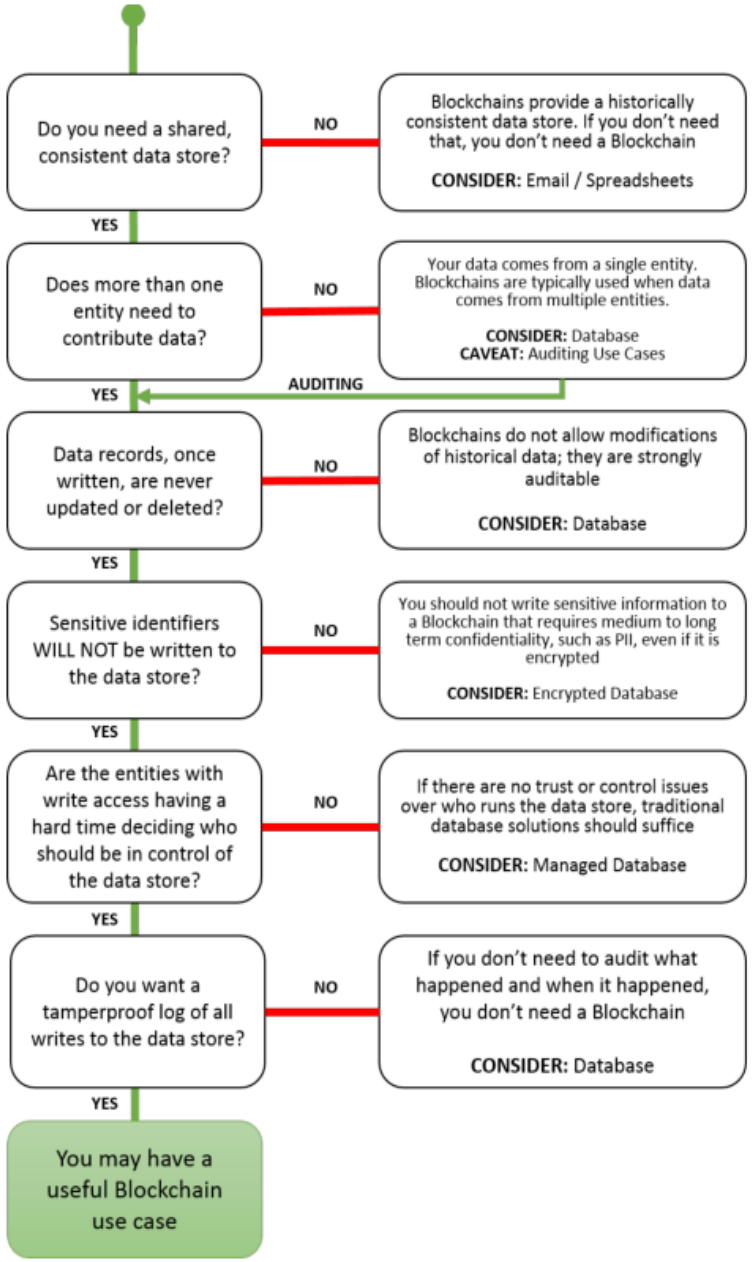
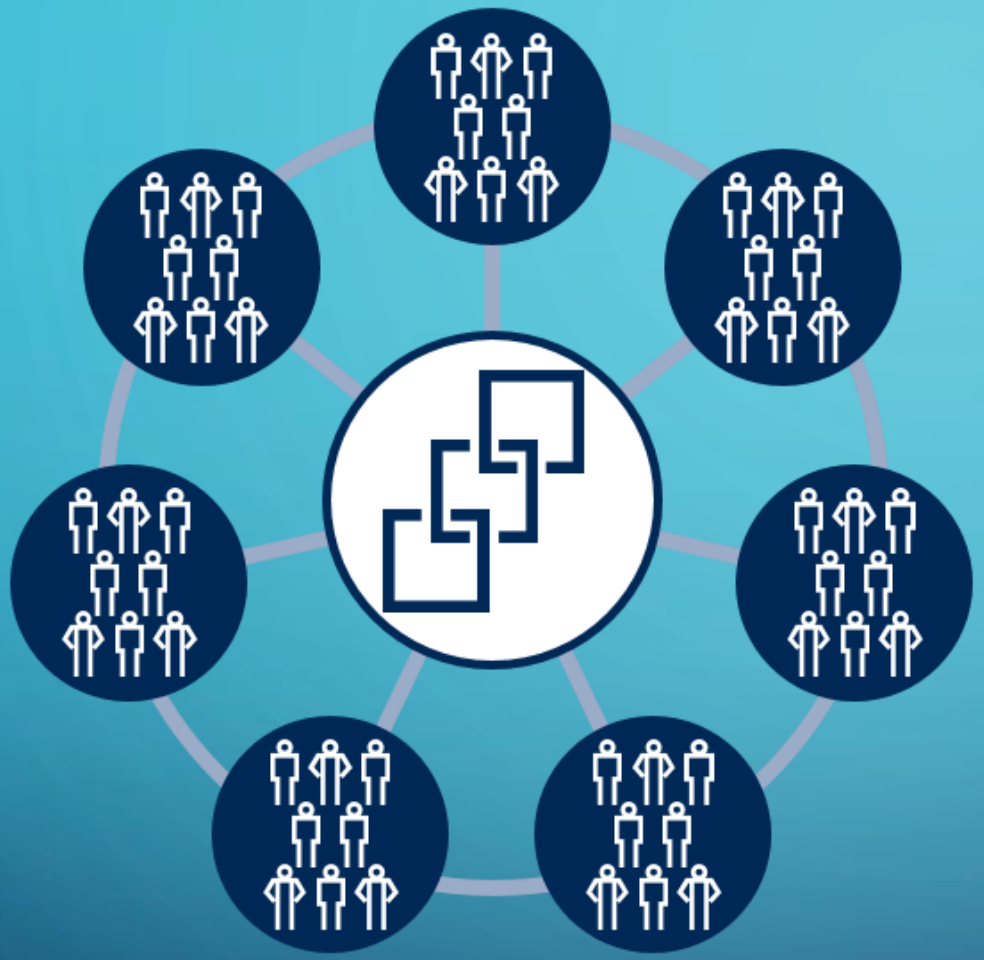


Figure 6 - DHS Science & Technology Directorate Flowchart

Delaware to test blockchain for corporate filings

BY SARA FRIEDMAN | JUL 10, 2018

The Emergence of a Society Enabled by Blockchain



1. Global-scale P2P networks and compute
2. Consortia-based collaboration
3. Natively intelligent things
4. Self-designing systems and autonomous agents
5. Asset monetizability and value fluidity/exchangability
6. Decentralized and distributed trust
7. Self-sovereign identity mechanisms
8. Microtransactability

ID: 377305

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"Blockchain's pre-eminence in society will start to emerge by 2030, but enterprises will need to start preparing for it now"