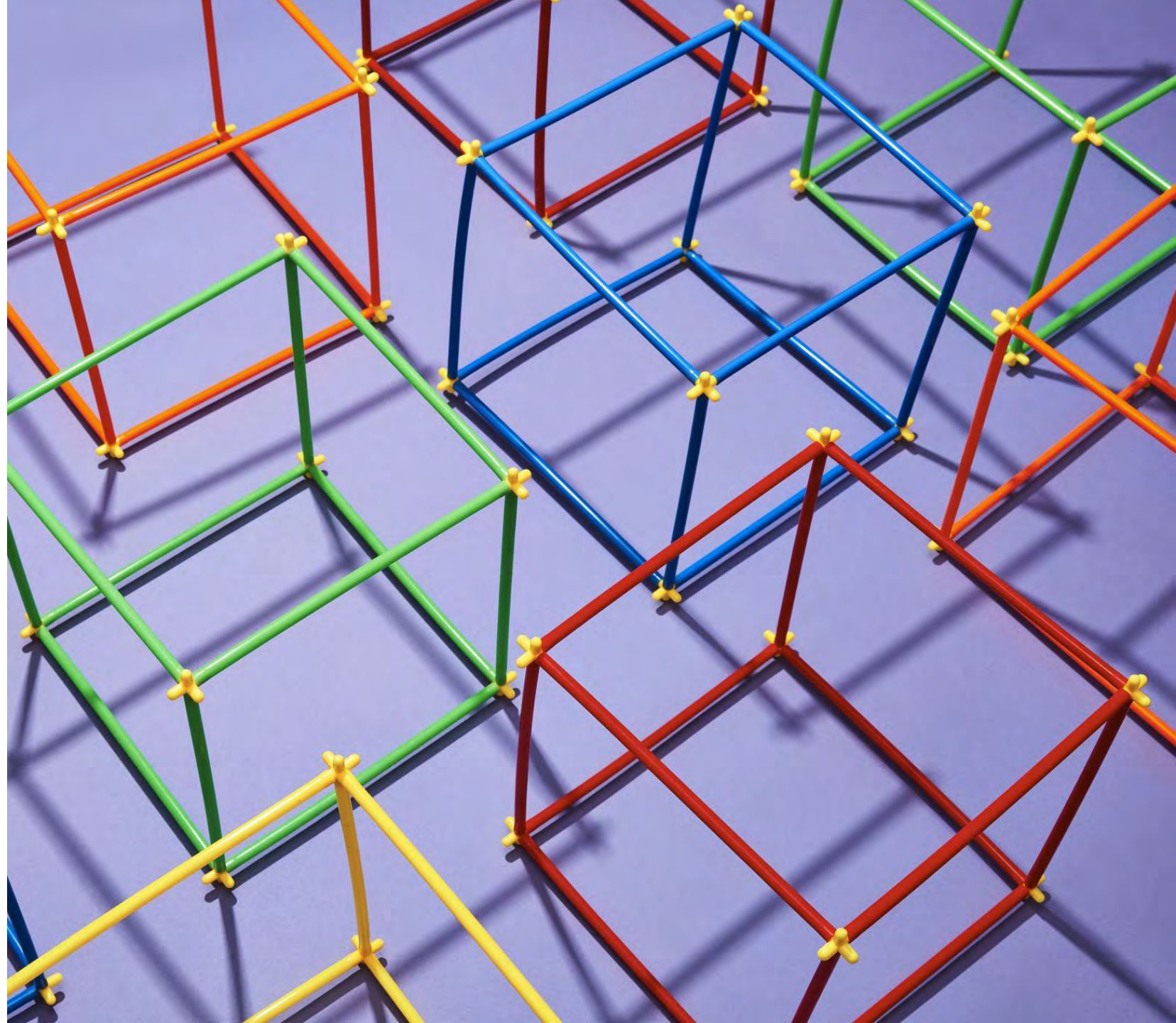


Blockchain in Public Sector:

A solution to a problem, or just a problem?



Washington D.C.
Chapter



Today's Panelists



Dr. Jorge Ferrer
Clinical Informaticist
National Artificial Intelligence Institute
Veterans Administration



Camille Crittenden
Executive Director
CITRIS and the Banatao Institute
University of California



Mike Wetklow
Deputy Chief Financial Officer
National Science Foundation

Poll Question:

Describe your level of blockchain expertise:

- A. Never heard of it
- B. I'm somewhat familiar with it
- C. I am pretty familiar with it
- D. I'm an expert



Poll Question:

My organization...


- A. Is not exploring blockchain
- B. Is researching how blockchain might be leveraged
- C. Is/Has carried out blockchain proofs of concept/pilots
- D. Is using blockchain in a production environment




What is Blockchain?



blockchain noun

 Save Word

block·chain | \ 'blāk-, chān  \

Definition of *blockchain*

: a digital database containing information (such as records of financial transactions) that can be simultaneously used and shared within a large decentralized, publicly accessible network

also : the technology used to create such a database
// The technology at the heart of bitcoin and other virtual currencies, *blockchain* is an open, distributed ledger that can record transactions between two parties efficiently and in a verifiable and permanent way.

AGA Paper and Treasury NSF Clickable Prototype Demo



Copy and paste the following link into your browser:
<https://projects.invisionapp.com/share/6JZUS6KGMVP#/screens/441714223>
Password: fit_gps



Blockchain Illustrative User Story

The screenshot displays a Microsoft Teams interface for a channel named **#blockchain-use**. The left sidebar shows navigation options: **All Unread**, **Threads** (with sub-item *Blockchain Core Concepts*), **Drafts**, and **Channels** (with sub-items *# Private vs. Permissioned*, *DLT Developers 1*, *# Smart Contracts 101*, and *# Platforms Chat*), and **Direct Messages** (with *Sara* and *Joseph*). The main chat area shows a list of messages:


- Joe, POTUS**: Inconsistent controls to defend against certain key risks necessitates an evolution and alignment of the United States Government approach to digital assets.
- Karen, COO**: Wow, Joe, this is really cool. How far away do you think we are from implementing some blockchain technology in our grants awarding and management systems?
- Judy, Institutional Coordinating Official**: I want to minimize redundant paperwork to work efficiently and with minimal errors.
- Thomas, GRFP Fellow**: I want to receive funding simply so I can spend my time researching. I also want to minimize reporting burdens and have the flexibility to easily transfer, take time off, or change my status.
- Sara, NSF Program Officer**: I want to track funds efficiently and maintain a clear paper trail to ensure program integrity. 🙌
- Joseph, DFM Financial Manager (aka \$\$ Ninja)**: I want to mitigate Fellowship-related risk and maintain payment integrity.
- Marvin, OIG**: I want to work with transparent and straightforward systems to identify violations accurately.

The right-hand **Details** pane provides channel information:

- Topic**: Track and coordinate blockchain use
- Description**: Reduces grant recipients' redundant reporting to multiple grantmaking entities and auditors
- Created by**: Dorothy on February 15, 2022



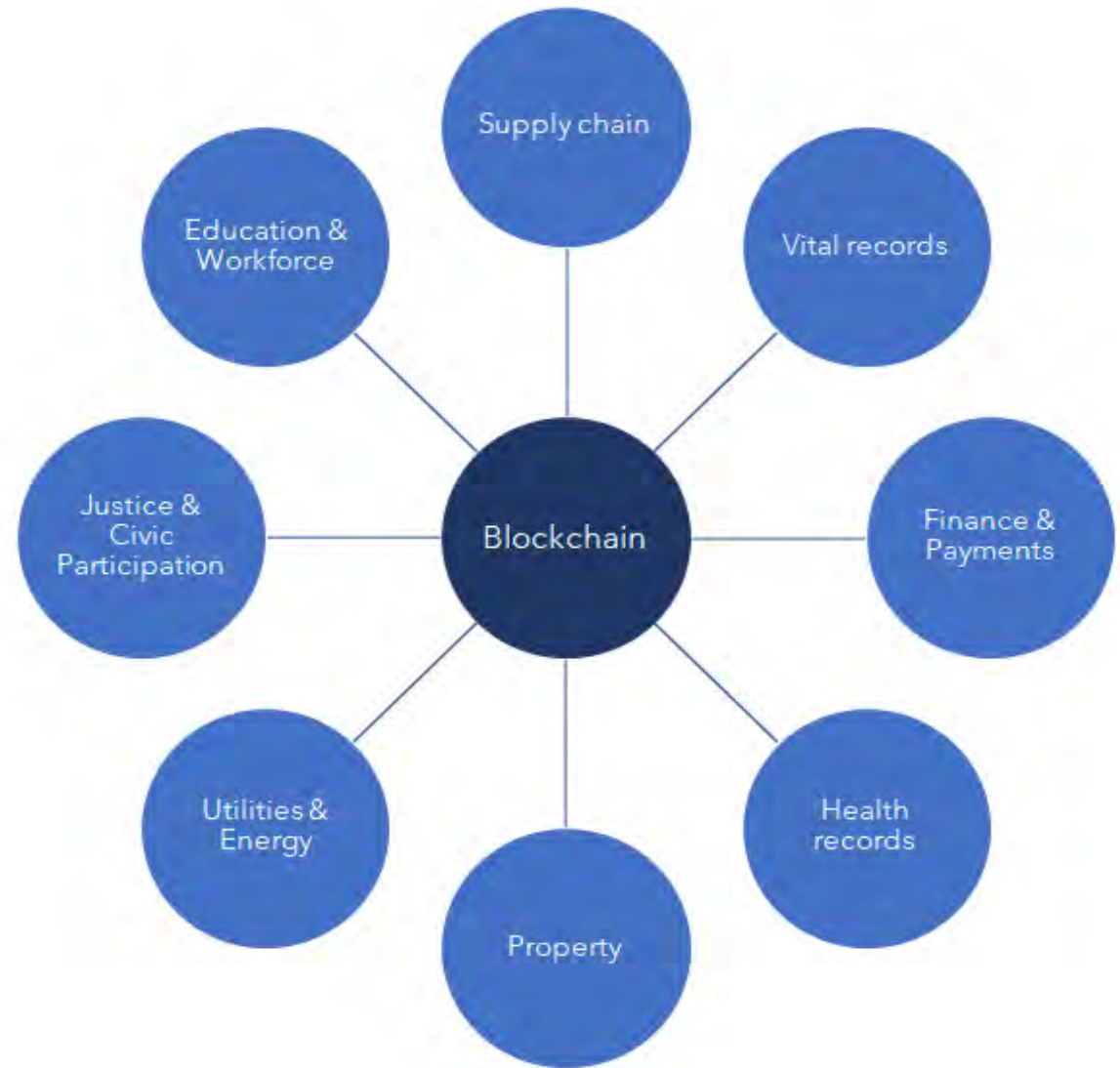
California
Blockchain
Working Group

- Background
 - Working Group process and mandate
 - Recommendations
 - Questions for future research and policy consideration
- 

California BWG Background

- Assembly Bill 2658 established the Blockchain Working Group to:
 - Define the term “blockchain”
 - Evaluate blockchain uses, risks, benefits, legal implications, and best practices (for CA government agencies & businesses based in CA)
 - Recommend amendments to state statutes that may be affected by the deployment of blockchain
- Created a 20-member workgroup, a mix of technical, private sector, legal, non-profit, and government appointees

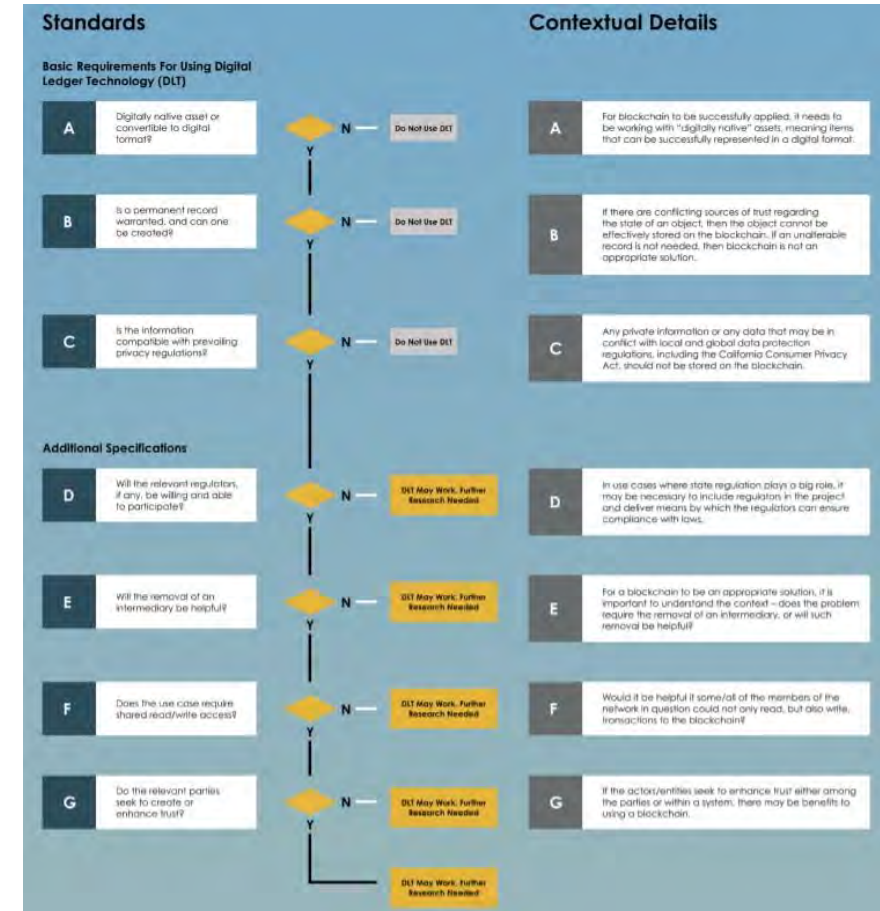
Application Areas Studied



Decision Matrix:

When is DLT the right approach?

- Is a digital file available?
- Is a permanent record desirable?
- Is the information compatible with privacy regulations?
- Will the removal of an intermediary be helpful?
- Does the use case require shared read/write access?
- Do the relevant parties seek to create or enhance trust?



Report Available

Government Operations Agency
website:

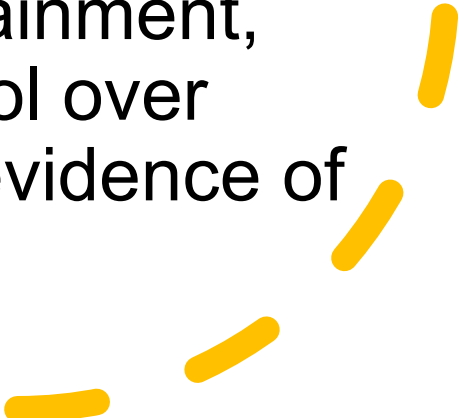
- <https://www.govops.ca.gov/blockchain/>

Permanent DOI (eScholarship
Repository):

- <https://escholarship.org/uc/item/2j9596dp>



Potential Future Use Cases

- Motor Vehicles: license and vehicle registration
 - Pharmaceutical industry: creating a more secure supply chain
 - Cannabis industry: intersection with fintech applications for payment systems, intersection with agricultural industry for supply chain authentication
 - Healthcare: greater individual control over healthcare records, genetic information, certification of vaccinations
 - Education: certifying skill attainment, giving learners greater control over sharing transcripts or other evidence of training
- 



Blockchain InnoVAtion an Emerging Digital Technology for Provider Directories

Jorge A. Ferrer MD, MBA, FAMIA, FHIMSS

Clinical Informaticist VA National Artificial Intelligence Institute

HIMSS Blockchain in Healthcare Task Force Chair

Overview of Healthcare Industry Blockchain Efforts

- Over the past 6 years, there have been many healthcare efforts to introduce ledger-based Blockchain technologies to solve some of the greatest interoperability challenges in this space: (i) Provider Directory, (ii) Medication/Clinical Reconciliation, (iii) Prior Authorization & Consent and (iv) Sharing of clinical data between different organizations across clinical boundaries.
- How can it be used for provider directory use case?



Blockchain an Emerging Digital Technology for Provider Directory Management

- Based on the work of a VA NAI Tech Sprint the VA is evaluating a Use Case utilizing blockchain technology for Provider Directory Management.
- The team is taking a generalized approach to healthcare data interoperability, focusing initially on errors and out of date data in the Provider Directories.
- This approach is unique from current industry practices by extending the data across and to other healthcare interoperability problem areas.
- Demo: [Apex Data Solutions, LLC Provider Directory Interoperability Demonstration NAI AI Tech Sprint Final - YouTube](#)



How can it be used for Provider Directory?

- Because copies of the list of changes are guaranteed to be verifiably unaltered and identical, you can be sure every stakeholder with an interest in this information who has a copy has the same information.
- From this immutable, verifiable record of provider information change, a single source of truth suitable for aligning systems of record can be created internally to facilitate propagation of updates to systems of record (SORs) that have an interest in particular providers.
- As the Blockchain copy is appended with new information, this can trigger updates to the local source of truth, which in turn can trigger synchronization with each managed SOR.
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Thank You!

Jorge A. Ferrer MD, MBA, FAMIA, FHIMSS

Email us at naii@va.gov

Website: [National Artificial Intelligence Institute \(NAII\) \(va.gov\)](https://www.naii.va.gov)

[Join the AI@VA Community](#)



Poll Question:

What do you see as the biggest challenge with blockchain adoption in the public sector?

- A. Lack of technical knowledge
- B. Laws, policies, regulations and or standards
- C. Legacy IT systems
- D. Lack of viable use cases
- E. Other



Poll Question:

Where do you see blockchain's biggest potential within government?

- A. Payments
- B. Accounting
- C. Health Care
- D. Education
- E. Other

