

BLOCKCHAIN WORKING GROUP: FINANCE SUB-COMMITTEE  
SECRETARY OF STATE  
(ARCHIVES, BUSINESS PROGRAMS, VOTER REGISTRATION)

---

*March 12, 2020*

*Drafted by: Professor Michele Neitz*

**1. Describe the California context for the given subject.**

The California Secretary of State provides services in four major areas: political reform division (campaign finance); elections (including voter registration); business programs; and archives. I spoke about potential blockchain use cases today with Lizette Mata, the Deputy Secretary of State for Operations, and Rita Gass, the CIO for the Secretary of State.

In our conversation, we discussed three areas that might benefit from blockchain technology. Our conclusions were:

- A) **Archives:** a very plausible use case, ripe for experimentation now (see more below)
- B) **Business programs:** a potentially plausible use case in the future
- C) **Elections/Voter Registration:** this is not a plausible use case at this time.

Based on these conclusions, we explored the possibility of blockchain pilot projects related to business program and archives.

***Business Programs***

The business programs division has been experimenting with different modules related to new technologies. The modules are used in the new online portal, <https://www.sos.ca.gov/business-programs/bizfile/>. This website describes itself as:

A new online portal to help businesses file, search, and order business records. Whether you are filing a financing statement pursuant to the Uniform Commercial Code (UCC), searching for a corporation (Corp), limited liability company (LLC), limited partnership (LP) filing or looking for an immigration consultant, this hub consolidates all your online filing and search needs.

The Blockchain Working Group should flag this business programs section as a potential use case in the future, since the Secretary of State's employees could deploy a new technology as they develop future modules for the new portal.

## *Archives*

It appears that the Archives division would be the most effective first pilot project for the Secretary of State agency at this time. Accordingly, the rest of this report will focus on the Archives division.

The current California Archives division is paper-based. Ms. Mata and Ms. Gass explained that they have been searching for ways to move archives online, and have already been in conversations with the Department of Finance to find solutions. They believe that using blockchain technology to move California's archives online would be a good "low-hanging fruit" project for the Working Group.

### **2. Review any current literature or pilot projects relevant to the given use case. Describe any existing best practices.**

In 2019, a successful pilot project in the U.K., Estonia and Europe used blockchain technology to create a "tamper-sensitive and future-accessible architecture for archiving audio-visual content."<sup>1</sup> They then secured the system "using a proof-of-authority blockchain...distributed across multiple independent archives."<sup>2</sup>

The project, named ARCHANGEL, could be copied elsewhere. In fact, the project's principal investigator recognized in a press release that "it is becoming increasingly critical that institutions are able to vouchsafe the provenance and integrity of archival materials to the public in a transparent manner, considering the vast volume of digital content accumulating in archives worldwide."<sup>3</sup> Moreover, he noted "by combining blockchain and artificial intelligence technologies, we have shown that it is possible to safeguard the integrity of archival data in the digital age. It essentially provides a digital fingerprint for archives, making it possible to verify their authenticity."<sup>4</sup>

In addition, the National Archives and Records Administration released a White Paper in February 2019 exploring the benefits of blockchain technology as it relates to archives.<sup>5</sup> The White Paper will be a useful resource if we decide to move forward with this project, as it analyzes the implications of using blockchain with records management.<sup>6</sup>

---

<sup>1</sup> [Blockchain Project for National Archives Reports Successful Trial for Audio-Visual Content](#)

<sup>2</sup> *Id.*

<sup>3</sup> *Id.*

<sup>4</sup> *Id.*

<sup>5</sup> [National Archives and Records Administration, Blockchain White Paper.](#)

<sup>6</sup> *Id.*

**3. What agencies, companies or organizations might benefit most from improvements to data collection, storage, workflow? Which are responsible for managing confidential records, providing benefits, etc.?**

The immediate beneficiary would be the Secretary of State agency, whose employees would appreciate moving from a paper-based system to an online system. Local governments and any Californians seeking archival records would also benefit from a more efficient system.

**4. What is the scale of stakeholders, constituents or beneficiaries affected? (E.g., number of people, size of market, \$\$ transacted, etc.)**

We will need to do more research to get exact numbers about document inquiries. While this is an important historical division, I believe doing a pilot project with Archives would not directly affect a large number of businesses or individual Californians (making it a good place to start!).

**5. How mature is the current IT infrastructure?**

The Secretary of State has been very willing to do pilot projects in various areas with its IT infrastructure. We did not discuss the infrastructure in detail. However, with additional resources, I believe there would not be extensive modifications needed to do a blockchain pilot with Archives.

**6. What are the parameters for consideration regarding security and privacy? (E.g., HIPAA requirements for medical records, other requirements for confidentiality, etc.)**

The level of security and privacy risks are much lower for Archives than other Secretary of State divisions, such as elections or business programs. Archives are public records, so there is less concern about privacy.

**7. How might blockchain provide value in this context?**

Archives would benefit from blockchain in several ways. First, most people don't realize the importance of preserving our state's historical documents. These documents are used often by local governments, by litigators, and in a variety of other ways. The current paper-based system would gain efficiencies by moving online. Blockchain could provide transparency and ease of access to these records.

Second, moving the archives online would not impact immediate services to Californians, so it would be a practical place to start a blockchain pilot.

**8. What trade-offs should be considered before deciding whether to adopt a blockchain-based system? What are the potential risks and benefits?**

There are some risks involved with moving archives online. With a good data set, the most important thing is making sure the documents face the way they should (i.e., appear correctly). These are public records, and security measure must ensure that they are original, authentic documents.

Because blockchain technology can authenticate records, this benefit could result in an effective use case.

**9. Who else should be consulted before making a recommendation on this use case?**

I believe Ms. Mata and Ms. Gass are the right contacts to move forward on this project, but there are likely additional people in the Secretary of State who would want to provide input.

**10. Please include any preliminary recommendations.**

I believe the Blockchain Working Group should move forward with leaders from the Secretary of State to determine how best to move the state's archives online with blockchain technology. This agency is excited to work with us, and they have been successful with most (if not all) of their previous technology pilots. I think this could be a pilot project with lower risks and greater benefits than other use cases.

It is worth noting that the Archives division serves a critical function for the state but has a very slim budget. The agency always makes sure they go through the budget process for any funding requests. Some additional resources would be required to complete this blockchain pilot.