

RHODE ISLAND WANTS TO MAKE IT EASIER TO DO BUSINESS USING BLOCKCHAIN TECHNOLOGY

We have all dealt with government red tape and bureaucracy. We create new accounts for every department, validate our identity multiple times, and question why government services do not securely share our data.



Liz Tanner,
Secretary of Commerce for Rhode Island
Source: WPRI.COM

Liz Tanner is trying to change that. She served as the Director of the Department of Business Regulation for Rhode Island since 2017, before being appointed Secretary of Commerce for Rhode Island by Governor McKee. When Tanner joined state government, she set out to change the red tape and bureaucracy and elevate the rank of Rhode Island in business climate statistics. Scouring the country, Tanner found no inspiration from larger states with more resources. In fact, with a few exceptions, states conducted business in the same way. Looking internationally, she was intrigued with Estonia as one of the first nations in the world to embrace and [deploy blockchain technology](#) in production systems.

INTRODUCING BLOCKCHAIN TECHNOLOGY TO GOVERNMENT WITH ESTONIAN MODEL

The Estonia model made conducting business with the government easy and frictionless. Using blockchain technology, citizens enter their information only once and the same information would be available when interacting with many agencies and departments of government, such as applying to college or obtaining a license or permit. Tanner was keen to take the Estonia blockchain experience to Rhode Island.

In 2017, the state floated an RFP to explore the concept of introducing Blockchain technology to the government. The response was unprecedented, with over sixty ideas

from over thirty vendors covering various businesses, from marijuana to permitting and licensing to health care.

[Rhode Island chose Infosys Public Services](#) to help streamline the process of opening a new business. However, a deep dive determined that five independent state agencies were involved in this process. Recognizing that long term adoption is dependent on the success of the pilot, the project scope was narrowed to the Department of Business Regulation.

The initial proof of concept work centered on credentialing Certified Public Accountants (CPAs) as a low-risk project that could prove the technology.

REDUCING A MULTI-WEEK PROCESS TO THIRTY MINUTES

Normally it was a cumbersome process for a CPA to renew a license in Rhode Island and prove their credentials. The blockchain pilot developed by Infosys Public Services reduced the time dramatically and allowed the CPA to hold their credential in a wallet on their phone.

Obtaining a CPA license requires proof of educational credentials, CPA exam results, work experience, and identity verification. A driver's license verifies identity and residency, the employer verifies credentials, and the Department of Business Regulation confirms all documentation before issuing or renewing the license.

The blockchain based solution establishes an identity blockchain network that digitizes and automates workflows enabling the secure exchange of information among the state agency and citizens. In the future, CPAs will be able to initiate a service request (e.g., a renewal of their CPA license) by simply interacting with any agency they worked with in the past. This 'primary agency' via the identity blockchain network collaborates with the Department of Business Regulation to complete the service request. This solution eliminates the need for the citizen (CPA requesting renewal) to share information multiple times.

The department of Motor Vehicles (DMV) also provided the capability of a listen only node to the identity network. This will enable Rhode Island to develop additional DMV use cases on this One Rhode Island identity network.

Infosys Public Services used Hyperledger Indy, tools and libraries to create and manage digital identities and used core blockchain standards to ensure the data's

security. The Hyperledger was built in such a way that it was scalable in the cloud using Amazon [AMZN +0.2%](#) Web Services (AWS).

The solution is highly secure as all the data on an individual remains in the individual's wallet and the user has control on who and what part of her/his data can be accessed. Personal identifiable information is never stored on the ledger; verification is requested only via a Decentralized Identifier that represents the credentials.

CPAs are one of the few professionals that can practice across states. However, they must provide a valid license to render their services to a client. With this solution, CPAs have a fast, secure, and easy way to verify their credentials using their digital wallet. Several states and national organizations are exploring ways to adopt blockchain as it simplifies the credential verification process by leaps and bounds.

THREE KEY TECHNOLOGY COMPONENTS OF THE SOLUTION

A blockchain consists of secured information blocks chained sequentially to one another. The chain forms an immutable ledger distributed over participating nodes. The first element of the solution is digital identity. Today every document which proves our identity, such as a driver's license or passport, is controlled and owned by the government, whether we like it or not. Blockchain digital identity technology establishes a "Self-Sovereign Identity" (SSI) that shifts ownership of identities from the government to individuals.

SSI shifts the identity and credential management from centralized systems run by the government with all the associated silos to a peer-to-peer model using public-key cryptography, decentralized identifiers over a blockchain.

The second element is Hyperledger Indy, a distributed ledger purpose-built for decentralized identity. Hyperledger Indy comes with tools, libraries, and reusable components to create and use independent digital identities on blockchains.

Finally, there is Hyperledger Aries, the client part of a decentralized identity application. Aries is the client layer within Hyperledger Indy that facilitates interaction with other platforms.

WRAPPING UP

Talking to a state agency is a first for me. But here's the cool part: Rhode Island with their partner Infosys Public Services is doing this rather than talking. I know the choice

of CPA digital credentials certainly was not sexy, but it proved the technology. The importance of establishing a base is massive and could lead to a complete overhaul of how to do business with the government.

The State of Rhode Island and Infosys Public Services deserve credit for delivering a pilot blockchain initiative in the middle of a pandemic, which is heroic. It is also important to note that this project would not have happened without strong leadership from former Governor now US Commerce Secretary Gina Raimondo, who understood the possibilities and learned about the technology to help move it forward. When the time finally came to push the pilot onward, Lieutenant Governor, now Governor Dan McKee, provided approval from the top.

Looking forward, Tanner, with new funding, would like to return to her original desire of establishing a new business by providing the information in one place. Today, when you form your LLC or corporation, you do so in multiple areas of state government, including four or five different websites. In the future, citizens will use a single data entry website to enter information once, and from there it goes everywhere it is needed. Now *that* is sexy.

Through the blockchain initiative, residents and businesses in Rhode Island will establish a digital credential to be used across various government and state websites. Tanner shies away from calling it blockchain because of its association with cryptocurrency. Tanner describes it as “a way to hold information in a very secure and safe place so you can use it repeatedly.” It is a worthy goal that I hope other states will follow the example of Rhode Island.

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