# A SURVEY OF CURRENT U.S. REGULATORY EFFORTS CONCERNING NON-MONETARY CRYPTOCURRENCY AND DISTRIBUTED LEDGER TECHNOLOGIES

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#### INTRODUCTION

State sponsorship of distributed ledger technologies creates an unrivaled opportunity for the State of Florida to revolutionize both governmental and private party record keeping. Several states, such as Delaware, California, and Colorado, have championed early efforts to define and regulate the use of distributed ledger technologies, smart contracts, registration systems, identification programs, voting and electoral efforts and even real estate transactions using this technology.

Unfortunately, many States have enacted laws confusing the underlying terminology. <sup>4</sup> It is critical to understand the differences between distributed ledger technology and blockchain technology.

A distributed ledger is a computer database consisting of several nodes or computing devices.<sup>5</sup> Each node independently replicates and backups copies of the ledger. The revolutionary aspect of the technology is that no centralized copy of the ledger is stored by any one system. Instead, the nodes independently update and record ledger changes. Then, the nodes communicate with each other and must concur on the change to the ledger for it being binding on the ledger (this is known as "consensus"). "Distributed ledger technologies drastically reduce the cost of trust. The architectures and structures of distributed ledgers can help us mitigate our dependence on banks, governments, lawyers, notaries and regulatory compliance officers"

Blockchain is a type of distributed ledger technology. Blockchain data is grouped together and organized into "blocks" which are protected using advanced cryptography. These blocks are used to reach consensus within the ledger nodes. But not all distributed ledgers rely on blocks to reach consensus. Put differently, every blockchain is a distributed ledger, but not every distributed ledger uses blockchain.

The Florida Bar Cryptocurrency Task Force was tasked with identifying instances of Florida's sister states efforts at regulation, proposed regulation, or other guidance announcements on non-monetary aspects of distributed ledger technologies development in areas including:

- Corporate Records
- Government Records
- Personal Identification
- Voting Elections
- Voting Election Records
- Firearm Registries
- Signature Verification and Authentication
- Smart Contracts
- Citizenship
- Revisions to Evidence Codes for Authentication Issues
- Records of Consumer Goods Transactions

<sup>&</sup>lt;sup>4</sup> See The Difference Between Blockchains & Distributed Ledger Technology, Shaan Ray, TOWARDDATASCIENCE.COM, Feb. 19, 2018 (available at: <a href="https://towardsdatascience.com/the-difference-between-blockchains-distributed-ledger-technology-42715a0fa92">https://towardsdatascience.com/the-difference-between-blockchains-distributed-ledger-technology-42715a0fa92</a>).

<sup>&</sup>lt;sup>5</sup> See Id.

<sup>&</sup>lt;sup>6</sup> *Id*.

- Ownership of personal data within ledgers
- Notarization records
- Real Estate Transactions

This white paper considers the recent efforts of the Federal and State Governments at regulation within the distributed ledger technology space.

#### **FEDERAL**

Between 2013 and 2017, Congress held seven hearings involving distributed ledger technologies.<sup>7</sup> Of particular note is the July 14, 2016 "Resolution expressing the sense of the House of Representatives that the United States should adopt a national policy for technology to promote consumer's access to financial tools and online commerce to promote economic growth and consumer empowerment" which was tabled after forty minutes of debate.<sup>8</sup>

On December 1, 2014, and January 2, 2015, Congressman Steve Stockman (R-TX) proposed two nearly identical bills, "The Cryptocurrency Protocol Protection and Moratorium Act" and the "Online Market Protection Act of 2014." Both bills proposed a five-year hold on all federal and state regulation of cryptocurrencies.

In 2011, the Obama Administration announced the "National Strategy for Trusted Identities in Cyberspace." This initiative included grant funding for States that adopted electronic identification systems meetings four key criteria. While the text of the initiative predates current public knowledge of distributed ledger technologies, these advancements meet many of the criteria of the program. In August 2016, the U.S. Commerce Departments National Institute of Standards and Technology awarded a \$2M grant to further support the development of trusted identities based on Digital Driver's License. Five jurisdictions, Colorado, Idaho, Maryland, Wyoming, and Washington D.C. are currently participating in the program.

Resolution of whether State initiatives in electronic signature verification are preempted by the Federal E-Sign Act (15 U.S.C. § 7001) are unresolved and beyond the scope of this survey.

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<sup>&</sup>lt;sup>7</sup> LexisNexis Advance search results for query: blockchain, in: Legislative Histories, jurisdiction: U.S. Federal.

<sup>8</sup> H.R. 835, 114th Cong. (2015) (available at: <a href="https://www.congress.gov/bill/114th-congress/house-resolution/835/text?format=txt">https://www.congress.gov/bill/114th-congress/house-resolution/835/text?format=txt</a>).

<sup>&</sup>lt;sup>9</sup> CryptPMA, H.R. 5777, 113th Cong. (2014) (available at: <a href="https://www.congress.gov/bill/113th-congress/house-bill/5777">https://www.congress.gov/bill/113th-congress/house-bill/5777</a>).

<sup>&</sup>lt;sup>10</sup> Online Market Protection Act of 2014, H.R. 5892, 113th Cong. (2015) (summarized as "A Bill to Protect Cryptocurrencies")(available at: <a href="https://www.congress.gov/bill/113th-congress/house-bill/5892">https://www.congress.gov/bill/113th-congress/house-bill/5892</a>).

<sup>&</sup>lt;sup>11</sup> National Strategy for Trusted Identities in Cyberspace: Enhancing Online Choice, Efficiency, Security, and Privacy, THE WHITE HOUSE (2011)(available at: <a href="https://www.nist.gov/sites/default/files/documents/2016/12/08/nsticstrategy.pdf">https://www.nist.gov/sites/default/files/documents/2016/12/08/nsticstrategy.pdf</a>)

<sup>&</sup>lt;sup>12</sup> Gemalto Wins U.S. Government Grant for Digital Driver's License Pilot in Four Jurisdictions, GEMALTO.COM, Nov. 14, 2016 (available at: <a href="https://www.gemalto.com/press/pages/gemalto-wins-us-government-grant-for-digital-driver-s-license-pilot-in-four-jurisdictions.aspx">https://www.gemalto.com/press/pages/gemalto-wins-us-government-grant-for-digital-driver-s-license-pilot-in-four-jurisdictions.aspx</a>); GEMALTO.COM, Sept. 27, 2017 (available at:

https://www.gemalto.com/press/pages/wyoming-joins-gemalto-s-digital-driver-s-license-pilot.aspx). <sup>13</sup> *Id.* 

#### **ALABAMA**

In May of 2017, Alabama became the first state to take advantage of the National Strategy for Trusted Identities in Cyberspace program when it partnered with IDEMIA to launch a smart phone application that allows taxpayers to electronically identify through facial recognition technology.<sup>14</sup> It is unclear from publicly available records whether the program uses a distributed ledger to run the underlying architecture of the program.

#### **ALASKA**

No non-monetary regulation, proposed regulation, initiatives, or guidance at this time.

#### ARIZONA

Arizona has treated distributed ledger technology with favor, with enactments and proposals encouraging further growth in the sector. ARIZ. SB-1237, amending ARIZ. REV. STAT. § 28-363 and 28-3169 (2016) directs the Arizona Department of Transportation to study and specify what may be done with an electronic driver license within the State. Proposed ARIZ. HB 2602 (2018) would create prohibition of local municipalities from prohibiting or restricting individuals from running a computer node based on blockchain technologies. ARIZ. REV. STAT. § 44-7061 (2017) enforces electronic signatures and records secured through blockchain technology, creates enforcement of smart contract terms, defines ownership of information and provides other relevant definitions. ARIZ. REV. STAT. § 13-3122 (2017) prohibits use of blockchain ledger tracking for registered firearm owners, unless done by a criminal justice employee, a pawnbroker, a probation officer, or if the owner consents in writing.

## **ARKANSAS**

No regulation, proposed regulation, initiatives, or guidance at this time.

## **CALIFORNIA**

While California has the highest national market share of distributed ledger technology development, it has struggled to pass new regulations in the sector, taking a cautioned approach. California's successful enactments have been of minimal impact within the sector. CAL. AB-221 (2015) would have funded a feasibility study of a digital mobile driver's license app for smart phone.

<sup>&</sup>lt;sup>14</sup> New app aims to make filing your taxes easier and safer, WHNT.com, Jan. 29, 2018 (available at: http://whnt.com/2018/01/29/new-app-aims-to-make-filing-vour-taxes-easier-and-safer/)

<sup>&</sup>lt;sup>15</sup> ARIZ. SB-1237 (2016) (available at: <a href="https://legiscan.com/AZ/text/HB2417/id/1588180">https://legiscan.com/AZ/text/HB2417/id/1588180</a>).

<sup>&</sup>lt;sup>16</sup> ARIZ. HB 2602 (2018) (available at: <a href="https://legiscan.com/AZ/text/HB2602/id/1737625/Arizona-2018-HB2602-Engrossed.html">https://legiscan.com/AZ/text/HB2602/id/1737625/Arizona-2018-HB2602-Engrossed.html</a>).

<sup>&</sup>lt;sup>17</sup> ARIZ. REV. STAT. § 44-7061 (2017) (available at: <a href="https://www.azleg.gov/ars/44/07061.htm">https://www.azleg.gov/ars/44/07061.htm</a>).

 $<sup>^{18}</sup>$  Ariz. Rev. Stat.  $\S$  13-3122 (2017) (available at:

https://www.azleg.gov/viewdocument/?docName=https://www.azleg.gov/ars/13/03122.htm).

<sup>&</sup>lt;sup>19</sup> Nearly 40% of bitcoin jobs in the U.S. are located in California. *See* 5 U.S. States Poised to Promote Bitcoin-Friendly Regulation, Daniel Cawrey, Coindesk.com (available at: <a href="https://www.coindesk.com/5-us-states-poised-promote-bitcoin-friendly-regulation/">https://www.coindesk.com/5-us-states-poised-promote-bitcoin-friendly-regulation/</a>) (last accessed June 8, 2017).

It was vetoed by California Gov. Jerry Brown in October 2015.<sup>20</sup> The successful CAL. SB-843 amends 16 CAL. PENAL CODE, § 320.6(f) (2016) to prohibit the exchange of Bitcoin or other cryptocurrency for raffle tickets.<sup>21</sup> CAL. AB-2658 (2018) is currently in committee, which if enacted would recognize as legal contracts signed through blockchain technology.<sup>22</sup>

#### **COLORADO**

COLO. SB-086 was signed into law on May of this year.<sup>23</sup> The bill empowers Colorado's Chief Information Security Officer to "develop and maintain a series of metrics to identify, assess, and monitor each public agency data system for its platform descriptions, vulnerabilities, risks, liabilities, appropriate employee access control, and the benefits and costs of adopting encryption and distributed ledger technologies."<sup>24</sup> The bill further encourages the use and further regulation of to encourage the development of distributed ledger platforms.<sup>25</sup>

#### **CONNECTICUT**

No non-monetary regulation, proposed regulation, initiatives, or guidance at this time.

#### **DELAWARE**

Delaware is friendly toward non-monetary development of distributed ledger technologies and leads in innovative regulations. In 2016, Delaware's Governor announced a proactive Blockchain initiative to promote public and private sector adoption of distributed ledger technologies, blockchain, smart-contracts and digital record keeping. The initiative comprises three steps: (1) adoption of "smart records" on distributed ledgers maintained by the Delaware Public Archives; (2) "Smart UCC filings;" and (3) distributed ledger shares issued and tracked through distributed ledger technologies. These amendments, however, would only facilitate issuance of new shares registered to a distributed ledger.

DEL. SB-69 (enacted 2017) allows corporations to use distributed ledger technologies or blockchain to create and maintain corporate records, and to permit corporations to trade stock on the blockchain, so long as the stock ledgers enable the corporation to prepare the list of stockholders, records information, and records transfers of stock.<sup>28</sup>

<sup>&</sup>lt;sup>20</sup> Cal. AB-221 (2015) (available at:

https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill\_id=201520160AB221).

<sup>&</sup>lt;sup>21</sup> CAL. SB-843 (2016) (available at: https://legiscan.com/CA/text/SB843/id/1421174).

<sup>&</sup>lt;sup>22</sup> CAL. AB-2658 (2018) (available at: <a href="https://legiscan.com/CA/text/AB2658/2017">https://legiscan.com/CA/text/AB2658/2017</a>).

<sup>&</sup>lt;sup>23</sup> COLO. SB-086 (available at: https://legiscan.com/CO/bill/SB086/2018).

<sup>&</sup>lt;sup>24</sup> *Id*.

<sup>25</sup> Id

<sup>&</sup>lt;sup>26</sup> Governor Markell Launches Delaware Blockchain Initiative, CISION PR NEWSWIRE, May 2, 2016 (available at: <a href="https://www.prnewswire.com/news-releases/governor-markell-launches-delaware-blockchain-initiative-300260672.html">https://www.prnewswire.com/news-releases/governor-markell-launches-delaware-blockchain-initiative-300260672.html</a>).

<sup>&</sup>lt;sup>27</sup> Andrea Tinianow & Caitlin Long, *Delaware Blockchain Initiative: Transforming the Foundational Infrastructure of Corporate Finance*, Harv. L. Sch. F. on Corp. Governance & Fin. Reg. (Mar. 16, 2017)(available at: <a href="https://corpgov.law.harvard.edu/2017/03/16/delaware-blockchain-initiative-transforming-the-foundational-infrastructure-of-corporate-finance/">https://corpgov.law.harvard.edu/2017/03/16/delaware-blockchain-initiative-transforming-the-foundational-infrastructure-of-corporate-finance/</a>).

<sup>&</sup>lt;sup>28</sup> Del. SB-69 (available at: <a href="https://legis.delaware.gov/BillDetail/25730">https://legis.delaware.gov/BillDetail/25730</a>).

Several recent opinions by the Delaware Court of Chancery illustrate the problems with adopting the new technology to existing classes of stock certificates.<sup>29</sup> In the first *Dell* decision, because the nominee issued certificates for the stockholders seeking appraisal in the name of the custodial banks, the shares were no longer held continuously by the same record holder through the close of the merger, and therefore the statutory requirement for an appraisal was not satisfied—through no fault of the stockholder. Though this result was required by the applicable law, the vice chancellor regarded it as an absurd result.

In order to pursue an appraisal under Delaware law, the stockholder must not have voted for the merger. In the second *Dell* decision cited above, T. Rowe Price was the beneficial owner of several million shares for which Cede served as the record holder. DTC had a duty to ensure that T. Rowe's shares were voted according to T. Rowe's instructions. DTC did this by executing a proxy to T. Rowe's participant, State Street. Then, State Street outsourced the task of implementing voting instructions from T. Rowe to Broadridge Financial Solutions. But T. Rowe used Institutional Shareholder Services to transmit its voting instructions. T. Rowe had a computerized system that generated default voting instructions for ISS to vote in favor of a management-supported merger. In this instance, they changed the default vote and confirmed different instructions. But the date of the shareholder vote was later postponed three times, and the third time the default system was not changed. Thus, by mistake, and through no fault of the record owner of the stock, the vote was mistakenly made in favor of the merger.

Because the ownership of individual shares held beneficially is not tracked in the U.S. clearance and settlement system, imprecision occurs. When the vote is close, certainty about the exact number of votes cast often remains elusive.<sup>30</sup> This lack of ability of the current system to ensure accuracy in the number of shares voted, and by whom

Among the recent amendments allowing use of the new approach to corporate record keeping and communication with stockholders is DGCL Section 224, which was amended to allow the use of distributed ledger technology to create and maintain corporate records. Section 219 was also revised to allow the stock ledger to be maintained by "or on behalf of the corporation" to allow for use of this new technological approach to maintaining the stock ledger. This would allow for a much for precise and dependable method to determine who the record owner of stock is in a company and how that stock was voted for a particular transaction.

## **FLORIDA**

FLA. HB-1357 would have directed the Fla. DHSMV to implement protocols for issuing optional electronic credential & procure related technology solution; requires that certain revenue be deposited into Motor Vehicle License Clearing Trust Fund for distribution; authorizes DHSMV to assess competitive market rate fee structure; requires that electronic credential be in format that allows certain entities to verify authenticity of such electronic credential & to validate certain

<sup>&</sup>lt;sup>29</sup> See In re Appraisal of Dell Inc. (Dell Continuous Ownership), 2015 WL 4313206 (Del. Ch. July 30, 2015) and the later decision captioned In re Appraisal of Dell Inc. (Dell Dissenter Requirement), — A.3d –, 2016 WL 3030909 (Del. Ch. May 11, 2016).

<sup>&</sup>lt;sup>30</sup> See in re: Transkaryotic Therapies, Inc., 954 A.2d 346 (Del. Ch. 2008), and Marcel Kahan & Edward Rock, The Hanging Chads of Corporate Voting, 96 Geo. L.J. 1227, 1279 (2008).

privileges; provides for assumption of liability.<sup>31</sup> It died on calendar in the Fla. Senate on March 10, 2018.<sup>32</sup>

#### **GEORGIA**

No non-monetary regulation, proposed regulation, initiatives, or guidance at this time.

#### HAWAII

Haw. HB 1481 (2018) would create a working group to study the uses and best practices of blockchain technology.<sup>33</sup>

#### IDAHO

No non-monetary regulation, proposed regulation, initiatives, or guidance at this time.

#### **ILLINOIS**

In 2016 a group of Illinois state and county agencies announced the Illinois Blockchain Initiative<sup>34</sup>, with several areas of interest:

- *Identities and Attestations*: Birth, death and change of name certificates, marriage licenses, driving/vehicle licenses, voter registrations, health insurance cards, professional licenses, social security numbers, criminal histories, FOID cards, and employment identification numbers
- Ownerships: Land registries, property titles, academic credentials, vehicle registrations, and gun registrations.
- Compliance Ledgers: Shared, read-only regulatory audit ledgers for financial services, insurance, energy, public utilities, health facilities; "proof-of" regulatory ledgers such as surety bonds and unemployment insurance; prescription and controlled substance monitoring; business incorporation and UCC filings.
- Reporting Ledgers: Shared tax ledgers for both citizens and businesses, State contracting and procurement filings; voting systems; state revenues and expenditures; court records and docket filings; lien filings.
- Benefit and Entitlement Ledgers: Social services programs including SNAP, TANF, welfare, and unemployment; health entitlement programs including Medicaid, Medicare and disability benefits; housing and energy assistance programs; child support payments.
- Grant and Assistance Ledgers: Research grants, student loans, community and social organization grants, conservation grants, disaster recover grants.
- "As a Service" products: Escrow as a service, digital notarization as a service, public records management as a service, digital identity as a service.

<sup>&</sup>lt;sup>31</sup> FLA. HB-1357 (available at: https://www.flsenate.gov/Session/Bill/2018/1357).

<sup>32</sup> I.d

<sup>33</sup> Haw. HB 1481 (2018) (available at: https://legiscan.com/HI/bill/HB1481/2018).

<sup>&</sup>lt;sup>34</sup> *Illinois Blockchain Initiative*, STATE OF ILL. (available at: <a href="https://illinoisblockchain.tech/doit-blockchain-rfi-443ff452cbcc">https://illinoisblockchain.tech/doit-blockchain-rfi-443ff452cbcc</a>)

- Governmental Distributed Ledger. Building a public, permissioned blockchain where the public is allowed to participate and network nodes and participants are authenticated by the State.
- Securing IoT Infrastructure: Applying distributed ledger technology to IoT operating systems and firmware to ensure critical infrastructure hasn't been tampered.

ILL. HR-120, currently in committee, would create the Illinois Legislative Blockchain and Distributed Ledger Task Force to study if State, county, and municipal governments can benefit from blockchain based system for recordkeeping and service delivery.<sup>35</sup>

## **INDIANA**

No regulation, proposed regulation, initiatives, or guidance at this time.

## **IOWA**

No regulation, proposed regulation, initiatives, or guidance at this time.

#### KANSAS

No non-monetary regulation, proposed regulation, initiatives, or guidance at this time.

## **KENTUCKY**

No regulation, proposed regulation, initiatives, or guidance at this time.

# LOUISIANA

LA. HB-481 (enacted 2016) authorizes the creation of digital driver's licenses on a distributed ledger technologies architecture.<sup>36</sup> It allows individuals to use the digitized license in lieu of their physical license when stopped by law enforcement.<sup>37</sup>

# **MAINE**

ME. SB-950 proposed studying the use of blockchain technology for paper ballots in Maine Elections.<sup>38</sup> The proposal died in the Committee for Veterans and Legal Affairs.<sup>39</sup>

#### MARYLAND

No regulation, proposed regulation, initiatives, or guidance at this time.

<sup>35</sup> ILL. HR-120 (available at: https://legiscan.com/IL/bill/HR0120/2017).

<sup>&</sup>lt;sup>36</sup> LA. HB-481 (available at: https://www.legis.la.gov/legis/BillInfo.aspx?i=232017).

<sup>37</sup> Id.

<sup>&</sup>lt;sup>38</sup> ME. SB-950 (available at: https://legiscan.com/ME/bill/LD950/2017).

<sup>&</sup>lt;sup>39</sup> *Id*.

#### **MASSACHUSETTS**

No regulation, proposed regulation, initiatives, or guidance at this time.

## MICHIGAN

No regulation, proposed regulation, initiatives, or guidance at this time.

#### **MINNESOTA**

No regulation, proposed regulation, initiatives, or guidance at this time.

#### MISSISSIPPI

No regulation, proposed regulation, initiatives, or guidance at this time.

#### Missouri

No regulation, proposed regulation, initiatives, or guidance at this time.

#### MONTANA

No regulation, proposed regulation, initiatives, or guidance at this time.

## **NEBRASKA**

NEB. LB-694 (2018), postponed as of this publication, would prohibit cities, villages, and counties from taxing, licensing or otherwise regulating distributed ledger technologies. NEB. LB-695 (2018), postponed as of this publication, recognizes distributed ledger technologies and makes smart contracts based on blockchain enforceable. 1

#### NEVADA

NEV. SB-398 (enacted 2017), gives legal recognition to electronic records, signatures and contracts that comply with certain statutory requirements. 42 Section 1 of the bill defines "blockchain," Section 3 of the bill includes blockchain within the definition of electronic records, Section 4 and 6 prohibit local governments from taxing, licensing or restricting blockchain usage. 43

#### **NEW HAMPSHIRE**

No non-monetary regulation, proposed regulation, initiatives, or guidance at this time.

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<sup>&</sup>lt;sup>40</sup> NEB. LB-694 (2018) (available at: https://legiscan.com/NE/bill/LB694/2017).

<sup>&</sup>lt;sup>41</sup> NEB. LB-695 (2018) (available at: https://legiscan.com/NE/bill/LB695/2017).

<sup>&</sup>lt;sup>42</sup> NEV. SB-398 (2017) (available at: <a href="https://legiscan.com/NV/text/SB398/2017">https://legiscan.com/NV/text/SB398/2017</a>).

<sup>&</sup>lt;sup>43</sup> *Id*.

# **NEW JERSEY**

No non-monetary regulation, proposed regulation, initiatives, or guidance at this time.

## **NEW MEXICO**

No non-monetary regulation, proposed regulation, initiatives, or guidance at this time.

## New York

Four non-monetary distributed ledger technologies bills are pending in New York. N.Y. AB-8780 (2017) would deem valid and enforceable signatures, records, and contracts secured through blockchain technology. AB-8792 (2017), which directs the state board of elections to study and evaluate the use of blockchain technology to protect voter records and election results. N.Y. AB-8793 (2017), establishes a task force to study and report on the potential implementation of blockchain technology in state recordkeeping, information storage, and service delivery N.Y. AB-8783 (2017) would create a task force to provide information on the effects of widespread implementation of digital currency on financial markets in the state.

## NORTH CAROLINA

N. Car. S.L. 2017-102 (HB-229) proposes to exempt smart contracts, smart property, multi-signature software from existing money transmitter registration laws.<sup>48</sup> No other non-monetary regulation, proposed regulation, initiatives, or guidance at this time.

## NORTH DAKOTA

No non-monetary regulation, proposed regulation, initiatives, or guidance at this time.

#### Оню

No non-monetary regulation, proposed regulation, initiatives, or guidance at this time.

## **O**KLAHOMA

Oklahoma is openly hostile to monetary uses of distributed ledger technologies.<sup>49</sup> No non-monetary regulation, proposed regulation, initiatives, or guidance at this time.

<sup>&</sup>lt;sup>44</sup> N.Y. AB-8780 (2017) (available at: <a href="https://legiscan.com/NY/bill/A08780/2017">https://legiscan.com/NY/bill/A08780/2017</a>).

<sup>&</sup>lt;sup>45</sup> N.Y. AB-8792 (2017) (available at: https://legiscan.com/NY/bill/A08792/2017).

<sup>&</sup>lt;sup>46</sup> N.Y. AB-8793 (2017) (available at: <a href="https://legiscan.com/NY/bill/A08793/2017">https://legiscan.com/NY/bill/A08793/2017</a>).

<sup>&</sup>lt;sup>47</sup> N.Y. AB-8783 (2017) (available at: https://legiscan.com/NY/bill/A08783/2017).

<sup>&</sup>lt;sup>48</sup> N. Car. S.L. 2017-102 (2017) (available at: <a href="https://www2.ncleg.net/BillLookup/2017/h229">https://www2.ncleg.net/BillLookup/2017/h229</a>).

<sup>&</sup>lt;sup>49</sup> See, e.g., OKLA. STAT. ANN. § 1-9-332, cmts. (altcoin transferees have no money transfer protections; sellers who accept altcoins do not take them free from preexisting security interests) (https://law.justia.com/codes/oklahoma/2016/title-12a/section-12a-1-9-332/).

#### **OREGON**

No non-monetary regulation, proposed regulation, initiatives, or guidance at this time.

## PENNSYLVANIA

No non-monetary regulation, proposed regulation, initiatives, or guidance at this time.

# RHODE ISLAND

No regulation, proposed regulation, initiatives, or guidance at this time.

#### SOUTH CAROLINA

No non-monetary regulation, proposed regulation, initiatives, or guidance at this time.

## SOUTH DAKOTA

No regulation, proposed regulation, initiatives, or guidance at this time.

#### **TENNESSEE**

Cryptocurrency is not treated as currency under the Tennessee Money Transmitter Act.<sup>50</sup>

TENN. HB-556 (2015) authorizes the State DMV to develop a secure "electronic driver license system" and to display electronic images on a cellular phone or any other portable electronic device. TENN. HB-1507, SB-1662 (2018) amendments to TENN. Code, Title 12; Title 47; Title 48; Title 61; and Title 66 deem valid and enforceable signatures, records, and contracts secured through blockchain technology. It defines distributed ledger technologies, smart contracts and other terms within the sector. It also allows businesses to retain ownership of certain classes of personal information on distributed ledger technologies.

## **TEXAS**

Texas has a hands-off approach to all applications of distributed ledger technologies. Cryptocurrency is not treated as currency under Tex. Dept. of Banking interpretation (2014) of the

<sup>&</sup>lt;sup>50</sup> Regulatory Treatment of Virtual Currencies under the Tenn. Money Transmitter Act, Greg Gonzales, Commissioner, TN DEPT. FIN. INSTITUTIONS, December 16, 2015 (available at: <a href="https://www.tn.gov/content/dam/tn/financialinstitutions/newdocs/TDFI%20Memo%20on%20Virtual%20Currency.pdf">https://www.tn.gov/content/dam/tn/financialinstitutions/newdocs/TDFI%20Memo%20on%20Virtual%20Currency.pdf</a>).

<sup>&</sup>lt;sup>51</sup> TENN. HB-556 (2015) (available at: https://legiscan.com/TN/bill/HB0556/2015).

<sup>&</sup>lt;sup>52</sup> TENN. HB-1507, SB-1662 (2018) (available at: https://legiscan.com/TN/bill/HB1507/2017).

<sup>&</sup>lt;sup>53</sup> *Id*.

<sup>&</sup>lt;sup>54</sup> *Id*.

Texas Money Services Act.<sup>55</sup> In 2017, the first cryptocurrency real estate transaction occurred in Texas.<sup>56</sup>

#### **UTAH**

Utah is friendly toward distributed ledger technologies. UTAH SB-227 (2016) requires the Driver License Division and Department of Technology Services to study and report findings and recommendations regarding electronic driver licenses.<sup>57</sup> UTAH SB-175 (2017) would modify the state's unclaimed property law to include altcoins.<sup>58</sup>

#### **VERMONT**

Vermont is friendly toward distributed ledger technologies development. VT. HB-868 (2016) amends 10. Vt. Stat. §1913 to allow for admission of blockchain records as business records under the evidence code. <sup>59</sup> VT. HB-269 (2018), if enacted, would create new classes of corporate entities: (1) a new form of Limited Liability Company – a Digital Currency Limited Liability Company; <sup>60</sup> (2) and Autonomous Agent Corporations. <sup>61</sup> The DCLLC would be a subclass of existing LLC law, with specific guidance on: (1) permitting DCLCC governance to be provided in whole or in part through the technological architecture of the system; (2) allowing the assignment of the roles of members and managers to participants — nodes, miners, etc; (3) granting limited liability protection to these participants, and authorizing the limitation of their agency authority with respect to the system; (4) granting authority for the kinds of counter-hacks that the Ethereum system has carried out when under attack; (4) creating governance procedures for innovations and changes in the currency architecture. <sup>62</sup>

VT. HB-269 would also follow Estonia's program of creating a distributed ledger for citizenship data ("Personal identity-related information") relating to the identity of natural persons that includes data such as gender identification, birth information, marital status, citizenship and nationality, government identification designations, and personal, educational, and financial histories.<sup>63</sup>

<sup>&</sup>lt;sup>55</sup> Regulatory Treatment of Virtual Currencies Under the Texas Money Services Act, Charles G. Cooper, Banking Commissioner, TEX. DEPT. OF BANKING, April 3, 2014 (available at: <a href="http://www.dob.texas.gov/public/uploads/files/consumer-information/sm1037.pdf">http://www.dob.texas.gov/public/uploads/files/consumer-information/sm1037.pdf</a>).

<sup>&</sup>lt;sup>56</sup> First Bitcoin-Only Real Estate Transaction Completed in Texas, Jon Buck, COINTELEGRAPH.COM, Sept. 19, 2017 (available at: <a href="https://cointelegraph.com/news/first-bitcoin-only-real-estate-transaction-completed-in-texas">https://cointelegraph.com/news/first-bitcoin-only-real-estate-transaction-completed-in-texas</a>) (last accessed June 8, 2018).

<sup>&</sup>lt;sup>57</sup> UTAH SB-227 (2016) (available at: <a href="https://le.utah.gov/~2016/bills/static/SB0227.html">https://le.utah.gov/~2016/bills/static/SB0227.html</a>).

<sup>&</sup>lt;sup>58</sup> UTAH SB-175 (2017) (available at: <a href="https://le.utah.gov/~2017/bills/static/SB0175.html">https://le.utah.gov/~2017/bills/static/SB0175.html</a>).

<sup>&</sup>lt;sup>59</sup> VT. HB-868 (2016) (available at: <a href="https://legislature.vermont.gov/bill/status/2016/H.868">https://legislature.vermont.gov/bill/status/2016/H.868</a>).

<sup>&</sup>lt;sup>60</sup> VT. HB-269 (2018) (available at: <a href="https://legislature.vermont.gov/assets/Documents/2018/Docs/BILLS/S-0269/S-0269%20As%20Introduced.pdf">https://legislature.vermont.gov/assets/Documents/2018/Docs/BILLS/S-0269/S-0269%20As%20Introduced.pdf</a>).

<sup>&</sup>lt;sup>61</sup> Id. (e.g., an artificial intelligence that controls securities or commodities corporations.)

<sup>&</sup>lt;sup>62</sup> Vermont Bill Aims to Draw in Blockchain Business and Study Remote Citizenship, Elizabeth Zima, GOVTECH.COM, Jan. 19, 2018, (available at: <a href="http://www.govtech.com/computing/Vermont-Bill-Aims-to-Draw-in-Blockchain-Business-and-Study-Remote-Citizenship.html">http://www.govtech.com/computing/Vermont-Bill-Aims-to-Draw-in-Blockchain-Business-and-Study-Remote-Citizenship.html</a>).

<sup>63</sup> VT HB 269 (2018) at § 2451 (available at: https://legiscan.com/VA/bill/HB269/2017).

#### VIRGINIA

Virginia is friendly toward distributed ledger technologies development. VA. HB-1608 (2017) ("Uniform Fiduciary Access to Digital Assets Act") amends VA. CODE §62.3-1622 (and repeals other parts of the VA. CODE) and allows fiduciaries to manage digital properties, including virtual currencies. VA. HJR-153 (2018) is currently in committee. If passed, it would establish a one-year joint subcommittee to study distributed ledgers and blockchain technology in "state recordkeeping, information storage, and service delivery."

## WASHINGTON

While Washington heavily regulates monetary distributed ledger technologies, no non-monetary regulation, proposed regulation, initiatives, or guidance at this time.

#### WEST VIRGINIA

West Virginia is openly hostile toward monetary use of distributed ledger technologies and silent on most non-monetary applications.<sup>67</sup> Its only development of distributed ledger technologies is a pilot program this year to allow blockchain voting for the 2018 primary election.<sup>68</sup> The program is limited to currently deployed military voters, spouses and their dependents that are registered to vote in two counties, Harrison County and Monongalia County.

#### **WISCONSIN**

No non-monetary regulations, proposed regulations, initiatives, or guidance at this time.

## **WYOMING**

Wyoming is friendly toward distributed ledger technologies development. WYO. HB-101 (2018) awaits enactment by the governor and would update the Wyo. Bus. Corp. Act to authorize the creation and use of blockchain technology for: (1) the purpose of storing records, (2) the use of a network address to identify a corporation's shareholder, and (3) the acceptance of shareholder votes signed by network signatures. The bill signals to blockchain developers that the state not only invites them to build their business within its borders, but that it also embraces the technology by incorporating it into its own administrative offices. Wyo. HB-126 (2018) ("Series LLC Bill") amends the Wyoming Business Corporations Act to permit the creation of "Series LLCs." Series LLCs are an entity structure that enables issuers to establish a compartmentalized series of

<sup>67</sup> See, e.g. W. VA. SB-2585 (2017) (banning altcoins due to crime association) (available at: <a href="https://legiscan.com/WV/bill/HB2585/2017">https://legiscan.com/WV/bill/HB2585/2017</a>).

<sup>64</sup> VA. HB-1608 (2017) (available at: https://legiscan.com/VA/bill/HB1608/2017).

<sup>&</sup>lt;sup>65</sup> VA. HJR-153 (2018) (available at: <a href="https://legiscan.com/VA/bill/HJR153/2018">https://legiscan.com/VA/bill/HJR153/2018</a>).

<sup>&</sup>lt;sup>66</sup> *Id*.

<sup>&</sup>lt;sup>68</sup> West Virginia Secretary of State's Office Announces Secure Military Mobile Voting Solution for the Primary Election, W. VA. SEC. OF STATE, March, 28, 2018 (available at: <a href="https://sos.wv.gov/News-Center/Pages/Military-Mobile-Voting-Pilot-Project.aspx">https://sos.wv.gov/News-Center/Pages/Military-Mobile-Voting-Pilot-Project.aspx</a>).

WYO. HB-101 (2018) (available at: <a href="https://legiscan.com/WY/bill/HB0101/2018">https://legiscan.com/WY/bill/HB0101/2018</a>).

<sup>71</sup> Wyo. HB-126 (2018) (available at: https://legiscan.com/WY/bill/HB0126/2018).

