October 21, 2014

Mr. Benjamin M. Lawsky, Superintendent
Department of Financial Services
New York State
One State Street, 20th Floor
New York, NY 10004

RE: Proposed Regulations for Virtual Currency Businesses

Dear Superintendent Lawsky,

On behalf of the Information Technology and Innovation Foundation (ITIF), we are pleased to submit these comments in response to the New York State Department of Financial Services' (NYSDFS) request for public comment concerning its proposed regulations for virtual currency businesses, referred to as "BitLicenses."[1]

ITIF is a nonprofit, non-partisan public policy think tank committed to articulating and advancing a pro-productivity, pro-innovation, and pro-technology public policy agenda internationally, in Washington, and in the states. Through its research, policy proposals, and commentary, ITIF is working to advance and support public policies that boost innovation, e-transformation, and productivity.

At the outset, it is important to note that while ITIF applauds the desire to bring regulatory certainty, transparency, and clarity to virtual currency businesses, the State of New York is likely the wrong entity to address these important policy issues. One of the challenges of global systems, such as virtual currencies or the Internet, is that they are subject to multiple jurisdictions by sovereign countries.[2] Subnational governments, like states, should not compound the problem of multiple and varied laws between countries by creating their own additional rules and regulations. Doing so across all states would introduce unnecessary and unreasonable compliance costs on businesses and threaten the viability of the market for virtual currency services. A better

[1] "Chapter 1. Regulations of the Superintendent of Financial Services, Part 200. Virtual Currencies," *The New York State Department of Financial Services*, July 17,2014, http://www.dfs.ny.gov/about/press2014/pr1407171-vc.pdf.
[2] Daniel Castro and Robert Atkinson, "Beyond Internet Universalism: A Framework for Addressing Cross-Border Internet Policy," *the Information Technology and Innovation Foundation*, September 2014, http://www2.itif.org/2014-crossborder-internet-policy.pdf.

approach would be for states to either defer to the federal government or work in partnership with all states to create a single, national approach to policy. However, if NYSDFS continues to pursue these regulations, there are a number of factors it should consider. Proposed rules are needed to add anti-money laundering criteria, cyber security requirements, and consumer protections to a largely unregulated virtual currency industry. Ideally, any proposed regulations should encourage innovation, competition, and investment, while monitoring intermediaries for misconduct. NYSDFS's proposal addresses many of these important factors, but it has room for improvement. Specifically, ITIF recommends:

1. NYSDFS should exempt virtual currency mining operations, virtual currency businesses that do not have full control of the virtual currency on behalf of their users, and businesses without a meaningful connection to New York from these proposed regulations.
2. NYSDFS should exempt virtual currencies used as a platform for non-financial services and nascent virtual currencies from these proposed regulations.
3. NYSDFS should relax disclosure requirements for material changes to business, user identities, and the affiliates of companies with a BitLicense.
4. NYSDFS should create a grace period for new virtual currencies with minimal adoption during which businesses would be exempt from these proposed regulations.
5. NYSDFS should build off of existing state and federal regulatory frameworks for virtual currencies when creating this regulatory framework.

Background

As defined by the Government Accountability Office (GAO), a virtual currency (sometime referred to as digital currency or cryptocurrency) is a digital unit of exchange that is not backed by government issued legal tender.[3] These currencies can be issued entirely inside a closed virtual economy, much like the digital currencies used in video games, or can be used in lieu of a government-issued fiat currency to purchase goods or services in the real economy. While these virtual currencies can be used as financial instruments alongside government issued legal tender, fiat currencies will remain important due to their ability to reflect exchange rates between economies and their stability, something virtual currencies have yet to master.

[3] "Virtual Economies and Currencies," *U.S. Government Accountability Office*, May 2013, http://www.gao.gov/assets/660/654620.pdf.

Virtual currencies are either issued by a central authority or generated in a decentralized network. In the former example, much like an airline issuing airline miles, a central entity creates and distributes the currency.[4] One example is the upcoming Ecuadorian virtual currency, coined the "cryptocentavo," which will be created, distributed and controlled by Ecuador's Financial and Monetary Regulatory Committee.[5] It is important to note that this example reflects a fiat digital currency, and there are currently no good examples of a non-fiat central authority issued virtual currency.

An example of the latter type of virtual currency is Bitcoin, which is created on a decentralized network with no single entity issuing the virtual currency.[6] To trade or buy something using the Bitcoin network, each user submits his or her bitcoin's account number ("public key") and password ("private key") for verification on the public transaction ledger ("blockchain").[7] Each unit of bitcoin is created and circulated through a process called "mining," in which users download computer software that they use to solve complex computational equations generated by the decentralized network. These equations (known as hashes) verify the validity of all virtual currency transactions over the network, mathematically proving the transactions took place at a specific moment in time and preventing problems like double spending, which could otherwise occur over a decentralized network.[8] The "blockchain" can serve many functions beyond just validating virtual currency transactions, some of which will be discussed later in this submission. Every transaction that is verified in the blockchain is made public, but identities of the parties involved in the transactions are often pseudonymous.[9] When a block is added to the blockchain, the miners are rewarded with newly minted virtual currency. Miners can also be incentivized with optional transaction fees paid by parties seeking to verify a transaction. These evolving virtual currency protocols are constantly growing and changing as its users grow and change.

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[4] Lyle Smith, "How Do Air Miles Work?", *USA Today*, Accessed October 15, 2014, http://traveltips.usatoday.com/air-miles-work-21494.html.
[5] Caleb Chen, "Ecuador's Centralized National Digital Currency," *Cryptocoin News*, September 1, 2014, http://www.cryptocoinsnews.com/ecuadors-centralized-national-digital-currency/.
[6] For the purposes of this paper, Bitcoin with an uppercase "B" applies to the overall system for this virtual currency, and bitcoin with a lowercase "b" represents individual units.
[7] Stephanie Lo and J. Christina Wang, "Bitcoin as Money?" *Federal Reserve Bank of Boston*, September 4, 2014, 2.
[8] "Virtual Economies and Currencies," *U.S. Government Accountability Office*. Double spending refers to the cryptographic problem where a single unit of digital currency is used in multiple transactions at the same time.
[9] Stephanie Lo and J. Christina Wang, "Bitcoin as Money?" *Federal Reserve Bank of Boston*.

Using a Layered Model to Regulate Virtual Currencies

Regulators can make sense of networks by considering the various functions of the network's different horizontal layers. Virtual currencies exist in at least three layers: the Architecture layer, the Application layer, and the Content layer.[10] The Architecture layer represents the lowest technical level and is comprised of the virtual currency protocols and the software that run them. On top of the Architecture layer is the Application layer, which provides more advanced interfaces for connecting the real world to the virtual currency system. It is comprised of most virtual currency businesses, such as virtual currency exchanges where virtual currency can be traded for fiat currency (e.g., itBit), virtual wallet services which store and transmit virtual currency on behalf of customers (e.g., Circle), and payment processors that offer merchants the ability to accept virtual currency for goods (e.g., Bitpay).[11] While the current primary use of the Application layer is for financial transactions, the Architecture layer also serves as a platform for other innovative applications. The final layer is the Content layer, which represents the transactions and balances of the virtual currency held by end users. In this layer, consumers and merchants use the intermediaries in the application layer to trade virtual currency for cash or goods. For example, if a user wants to buy a watch from Overstock.com using Bitcoin, he or she uses a wallet to send payment to the retailer who then accepts it using a payment processor.

Layer	Summary	Entities
Architecture	The bottom layer representing the technical infrastructure of the virtual currency system.	Software designers, Coders, Mining Operations.
Application	The middle layer is an abstraction layer that consists of interfaces for using the virtual currency system.	Exchanges, Payment Processors, Wallets, Trusts, Vaults, etc.
Content	The top layer is the data representing transactions and balances of virtual currency.	Customers, Merchants, Retailers, and businesses that accept virtual currencies.

Figure 1: Virtual Currency Layers

[10] Andy Yee, "Internet architecture and the layers principle: a conceptual framework for regulating Bitcoin," *Internet Policy Review*, Vol. 3 Issue 3, August 19, 2014, http://policyreview.info/articles/analysis/internet-architecture-and-layers-principle-conceptual-framework-regulating-bitco-0.

[11] "The virtual currency exchange of professionals worldwide," *itBit*, accessed October 15, 2014, https://www.itbit.com/, "Hello Money," *Circle*, accessed October 15, 2014, https://www.circle.com/en, and "Lead your industry," *bitpay*, accessed October 15, 2014, https://bitpay.com/.

These layers will provide a convenient framework by which to analyze regulations for virtual currencies. Like regulations for the Internet, regulators should focus on the layer they are attempting to control and minimize the regulation's effects on other layers.[12] NYSDFS has already exempted the Content layer from its regulations by adding an exception for "merchants and consumers that utilize virtual currency solely for the purchase or sale of goods or services." NYSDFS should also not impose regulations on the Architecture layer because global technical standards should not be set by a single state. Instead, NYSDFS should restrict its BitLicense framework to the Application layer, where the majority of virtual currency gatekeepers exist, and should avoid cross-layer effects, e.g., where regulations on the Application layer affect innovation in the Architecture layer.

Better government oversight of the intermediaries in the Application layer may help improve security which has been a problem in the past. For example, online exchanges Bitcoinia and Mt. Gox have both been hacked, subsequently losing thousands of bitcoins that they were unable to refund to their users.[13] By focusing its efforts on intermediaries in the Application layer, NYSDFS may be able to improve cybersecurity and reduce fraud over the virtual currency network.

It is also important to note that there is competition on each layer. Retailers compete with each other for sales on the content layer. Competition on the content layer is intra-platform, such as competition between two wallet services for customers. There is also inter-platform competition on the architecture layer as each cryptocurrency is in competition against every other cryptocurrency for adoption and market value (e.g., Bitcoin versus Litecoin). While Bitcoin is a clear market dominator, regulating the unique features of one currency may create a preemptive barrier for newer or different currencies by placing them under the same standards.

This layered model will inform several of the following recommendations.

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[12] Richard S. Whitt, "A Horizontal Leap Forward: Formulating a New Communications Public Policy Framework Based on the Network Layers Model," *Federal Communications Law Journal*, Vol. 56, 587-672.
[13] Alex Hern, "A history of bitcoin hacks," *the Guardian*, March 18, 2014, http://www.theguardian.com/technology/2014/mar/18/history-of-bitcoin-hacks-alternative-currency, Christian Decker and Roger Wattenhofer, "Bitcoin Transaction Malleability and MtGox," *Cornell University Library*, March 26, 2014, http://arxiv.org/pdf/1403.6676v1.pdf, and Cyrus Farivar, "Having lost $468 million in bitcoins, MtGox files for bankruptcy protection," *Arstechnica*, February 28, 2014, http://arstechnica.com/business/2014/02/having-lost-463-million-in-bitcoins-mtgox-files-for-bankruptcy-protection/.

1. **NYSDFS should exempt virtual currency mining operations, virtual currency businesses that do not have full control of the virtual currency on behalf of their users, and businesses without a meaningful connection to New York from these proposed regulations.**

NYSDFS has defined "virtual currency business activity" as any of the following activities involving New York or a New York resident: (1) receiving or transmitting virtual currency, (2) securing, storing or maintaining custody over a unit of virtual currency on behalf of others, (3) buying or selling virtual currency as a business, (4) performing retail conversion services between virtual currencies and fiat currencies, and (5) controlling, administering or issuing a virtual currency.[14] As discussed above, NYSDFS has exempted merchants and consumers who use virtual currency solely for the purchase of goods or services. It should also extend these exemptions to virtual currency mining operations, i.e., businesses that do not maintain full custody of the units of virtual currency they partially maintain on behalf of others, and businesses without a meaningful connection to New York.

Virtual currency mining operations should be exempt from regulations

Mining operations are a vital function of the decentralized virtual currency system in the Architecture layer. Businesses or individuals who act as a mining operation protect against double spending, promote security, and verify transactions in these networks. These mining operations operate for profit, earning bitcoins and often selling them to others, which under the proposed regulations could be interpreted as a virtual currency business activity.[15] Because competition between mining operations has continued to grow, their operating costs have increased and their revenues have decreased over time.[16] These operationally lean businesses will start to disappear or consolidate if costs continue to rise and competition continues to escalate. By imposing additional costs on the system, NYSDFS could hasten this outcome. As Superintendent Lawsky has indicated, this definition should explicitly exclude mining and other processes, such as software development, that

[14] "Chapter 1. Regulations of the Superintendent of Financial Services, Part 200. Virtual Currencies," *The New York State Department of Financial Services.*
[15] "Chapter 1. Regulations of the Superintendent of Financial Services, Part 200. Virtual Currencies," *The New York State Department of Financial Services*, Section200.2(n)(3).
[16] Dom Steil, "A state of mining," *Bitcoin Agile*, accessed October 15, 2014, http://bitcoinagile.com/204498/a-state-of-mining-bitcoin.

operate the Architecture layer from obtaining BitLicenses.[17] We agree with Superintendent Lawsky that this is the right step for BitLicense regulations.

To be clear, ITIF supports regulating mining operations in some instances, simply not with the BitLicenses framework which is better applied to virtual currency businesses in the Application layer. Applying it to other layers could act like a blunt instrument, hurting innovation throughout the system. As discussed above, virtual currency mining operations may be prone to consolidation as individual miners slowly exit or join a coalition as they realize the efficiency advantage.[18] This increase in concentration may one day call for oversight, either by mining operations themselves or by a third party to protect against anti-competitive behavior.

BitLicenses should only apply to virtual currency businesses with full custody of each cryptocurrency

In virtual currency systems like Bitcoin, each bitcoin has two distinct keys, a private key and a public key. Services can either control one of those keys, both, or neither. If a company, like Mycelium, takes control of both public and private keys on behalf of their customer, then it effectively controls that piece of virtual currency and can act on it without the permission of its owner.[19] Additionally, security services, like Xapo's Vault, take full control over both keys and act as secure online storage centers.[20] On the other hand, there are software-based wallets, like Blockchain.info, which issues software that allows users to keep the private keys on their home computers, while the company stores their public keys.[21] This type of software does not allow Blockchain to see their user's virtual currency balance or transactions, and it cannot make payments on their behalf. Custody gets more complicated when the public and private keys could be spread over multiple institutions to improve security and key control, as they are with multi-signature wallets like Bitgo.[22]

[17] Superintendent Benjamin Lawsky, "Excerpts from Superintendent Lawsky's Remarks at the Benjamin N Cardozo School of Law," *The New York State Department of Financial Services,* October 14, 2014.
[18] Stephanie Lo and J. Christina Wang, "Bitcoin as Money?" *Federal Reserve Bank of Boston*.
[19] "We help people and companies to store, transfer and exchange value," *Mycelium*, accessed October 15, 2014, https://mycelium.com/.
[20] "We've Built a Fortress," *Xapo*, accessed October 15, 2014, https://xapo.com/vault/.
[21] "Blockchain Wallet FAQ," *Blockchain Info*, accessed October 15, 2014 https://blockchain.info/wallet/wallet-faq.
[22] Danny Bradbury, "BitGo Safe Aims to Secure Bitcoin Wallets With Multi-Signature Transactions," *CoinDesk*, December 19, 2013, http://www.coindesk.com/bitgo-safe-aims-secure-bitcoin-wallets-multi-signature-transactions/.

The solution to this problem is to regulate the virtual currency businesses that fully control the keys to the virtual currency. For example, in the case of Blockchain.info, the virtual currency is never fully controlled by the service, and should be exempt from the same regulatory scrutiny. As an analogy, this is like the difference between regulating banks and regulating wallet-makers. ITIF recommends that NYSDFS change the definition of virtual currency businesses to only cover those businesses with "full custody" over units of virtual currency.

Exempt businesses that do not have a meaningful connection to the State of New York

In its current form, these regulations apply to any virtual currency business that is either physically located in New York or does online business with a New York resident—someone who lives, is located, has a business, or is conducting business in New York.[23] In those terms, an online exchange in China where a New Yorker converts less than $100 in bitcoin to RMB would need to get licensed in New York. NYSDFS could not possibly hope to meaningfully enforce these regulations on businesses in other countries, and it should not pursue policies that affect those outside of its borders unless they align with existing international agreements or there is informal international consensus on the policy goal.[24] To address these concerns for out-of-state and international businesses, the "virtual currency business activity" definition should be revised to exempt businesses that only do a trivial amount of business in the state.

2. NYSDFS should exempt virtual currencies used as a platform for non-financial services and nascent virtual currencies from these proposed regulations.

NYSDFS has defined virtual currency as any type of digital unit used as a medium of exchange or a form of digitally stored value that is incorporated into a payment system.[25] This includes currencies created from a central authority, those that exist in a decentralized repository, and those created or obtained by computing or manufacturing effort (i.e. mining).[26] NYSDFS also excludes digital units from this definition with no market

[23] "Chapter 1. Regulations of the Superintendent of Financial Services, Part 200. Virtual Currencies," *The New York State Department of Financial Services, section 200.2 (n).*
[24] Daniel Castro and Robert Atkinson, "Beyond Internet Universalism: A Framework for Addressing Cross-Border Internet Policy," *the Information Technology and Innovation Foundation*, September 2014, http://www2.itif.org/2014-crossborder-internet-policy.pdf.
[25] "Chapter 1. Regulations of the Superintendent of Financial Services, Part 200. Virtual Currencies," *The New York State Department of Financial Services, section 200.2 (m).*
[26] Ibid.

value outside of gaming platforms, those that are used exclusively as consumer affinity programs, and those that cannot be converted into or redeemed for fiat currency.[27]

Exclude virtual currencies that primarily function or are being used in a non-financial manner

While the definition of "virtual currency" already has certain exemptions discussed above, it does not extend these exemptions to currencies that are being used primarily in a non-financial manner. The Architecture layer for the Bitcoin blockchain is not limited to financial transactions but instead can provide a platform for many other innovations. This system, as previously discussed, is a building block for creative uses and third party applications. Storj, a cloud storage company, uses the Bitcoin blockchain and peer-to-peer protocols to provide secure, private, and efficient cloud storage.[28] Other systems like Codius use the decentralized blockchain system to create "smart contracts," which are programs that formally encode certain conditions and outcomes.[29] Under this system, contracts have more speed, efficiency and trust than traditional contracts because their terms happen automatically.[30] Another example is NameCoin, which acts as a decentralized open source registration and transfer system based on the Bitcoin technology, which customers can use to register domain names.[31] Other companies use the blockchain as a notary service to digitally register documents and protect digital property. Companies like Proof of Existence use the blockchain to as a notary service to digitally register documents and protect digital property.[32] To accomplish this task, the company must insert a trivial amount of bitcoins into the blockchain, which allows it to also insert and notarize a digital file.[33] These business practices, while non-incidental to financial transactions, may qualify as virtual currency business activities under the proposed BitLicensing framework and should be excluded. An exemption will allow businesses to continue to offer these services free from a regulatory framework designed for the financial industry. If businesses want to use the virtual currency platform to innovate in non-financial ways, they should not be subject to rules prescribed for financial entities.

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[27] Ibid.
[28] "Decentralized Cloud Storage," *Storj*, accessed October 15, 2014, http://storj.io/.
[29] Daniel Cawrey, "Ripple Labs Unveils Proposal for New Smart Contract System," *CoinDesk*, July 21, 2014, http://www.coindesk.com/ripple-labs-unveils-proposal-new-smart-contract-system/, Stefan Thomas and Evan Schwartz, "Smart Oracles: A Simple, Powerful Approach to Smart Contracts," *GitHub*, July 17, 2014, https://github.com/codius/codius/wiki/Smart-Oracles:-A-Simple,-Powerful-Approach-to-Smart-Contracts.
[30] Ibid.
[31] "Decentralized secure names," *NameCoin*, accessed October 15, 2014, http://namecoin.info/.
[32] Daniel Cawrey, "How Bitcoin's Technology Could Revolutionize Intellectual Property Rights," *CoinDesk*, May 8, 2014, http://www.coindesk.com/how-block-chain-technology-is-working-to-transform-intellectual-property/.
[33] Ibid.

Exempt nascent virtual currencies

Under the proposed rules, new virtual currencies are subject to the same regulations as established ones.[34] This creates a barrier to entry for programmers that develop and issue new currencies because in order to use them, virtual currency businesses will have to acquire BitLicenses. In this circumstance, less established currencies with little economic value may not be attractive to businesses with tight margins and large operating costs associated with these BitLicenses.

There are over a hundred types of virtual currencies traded in the market today, and at the time of this writing, only 11 exceeded $5 million in total market capitalization.[35] The virtual currency with the highest market capitalization is Bitcoin, with a market cap of over $6 billion.[36] Most of these currencies do not exceed $1 million in market value and have low adoption rates. Virtual currencies with low market capitalization tend to have low adoption rates and do not pose the same threat to security or consumer protection as more popular currencies. Treating all virtual currencies equally would severely limit the adoption rates for alternative virtual currencies in New York and create a barrier to entry for new currency models. This would entrench the established virtual currencies like Bitcoin at the expense of the next (better and more secure) Bitcoin.

Therefore, virtual currencies with a low market capitalization and adoption rates should be exempt from this definition until they reach a certain gross financial and/or adoption threshold. NYSDFS could set the specific market capitalization threshold and closely monitor new virtual currencies, adding them if they reach the specified economic threshold. By adding this exemption, businesses would be free to experiment with new virtual currencies or those with low capital and adoption rates. NYSDFS would also prevent its rules from disincentivizing programmers from creating new virtual currencies.

[34] "Chapter 1. Regulations of the Superintendent of Financial Services, Part 200. Virtual Currencies," *The New York State Department of Financial Services*, Section 200.2(m).
[35] "Crypto-Currency Market Capitalizations," *Coin Market Cap*, accessed October 15, 2014, http://coinmarketcap.com/.
[36] Ibid.

3. **NYSDFS should relax disclosure requirements for material changes to business, user identities, and the affiliates of companies with a BitLicense.**

As a requirement for NYSDFS's BitLicensing regime, licensees must collect and preserve a variety of records over a period of at least ten years, including the amount, date, and precise time of each transaction.[37] Each licensee must also adhere to a number of reporting and disclosure requirements, including quarterly financial statements, audited annual financial statements, and several other disclosure requirements as part of the anti-money laundering program, cyber security program, and other sections of the framework.[38] Several of these disclosure requirements should be relaxed—particularly for material change to business, user identities, and affiliates of companies—to protect innovation, investment, and the open nature of virtual currency systems.

The "material change to business" clause is too arduous and risks hurting innovation

The current proposed rules would force each licensee to obtain the superintendent's prior written approval for any plan or proposal to introduce or offer a new product, service, or activity, or to make a material change to an existing activity involving New York or a New York resident.[39] This includes all changes that raise a legal or regulatory issue or a question of safety or the soundness of the business's operations. This must be a written plan describing the change, including a detailed description of the business operations, compliance policies, and the overall impact on the overall business of the licensee.[40] This plan must be submitted before the change takes place. As anyone who owns a smartphone or computer is painfully aware, the software world is one of many frequent and slight updates to address bugs and improve quality of the system. By enforcing this rule, NYSDFS would take a fluid system and stuff it into a rigid box, where a business proposing changes to its business model must seek permission from the state before those changes can occur.

In 1982, users of ARPAnet—the precursor to the Internet—were tightly controlled by government rules, barring them from sending mail over it for either commercial or political purposes.[41] Then the commercial restrictions on the Internet were relaxed in the 1990s, and users no longer had to seek permission to innovate.

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[37] "Chapter 1. Regulations of the Superintendent of Financial Services, Part 200. Virtual Currencies," *The New York State Department of Financial Services*, Section 200.12.
[38] Ibid.
[39] Ibid, Section 200.10.
[40] Ibid.
[41] Gordon Crovitz, "WeHelpedBuildThat.com," *Wall Street Journal*, July 28, 2012, http://online.wsj.com/news/articles/SB10000872396390443931404577555073157895692.

The result was the innovative experience enjoyed by billions around the world today. In the same way, NYSDFS should not embrace a precautionary permission system, instead it should embrace the idea of "permissionless innovation," the ability for users to experiment and create new ideas without being subjected to onerous regulation.[42] NYSDFS should explicitly exempt minor software updates that do not substantially affect consumer welfare from this clause. Timely software updates may enhance security and the consumer experience and should not be subject to a permission-based system. NYSDFS should also institute a time limit of 30 days for all material change claims to be processed so that virtual currency businesses are not stuck in regulatory limbo while waiting for approval. Additionally, some businesses may want to keep their business information protected as trade secrets. Therefore, NYSDFS should provide a system by which these changes are private to promote continued competition between virtual currency businesses.

Certain BitLicense disclosure requirements could lead to a closed virtual currency system

The decentralized virtual currency system functions similarly to open-protocol systems like email. With open-protocol email systems, a customer with a Gmail account can easily send an email anywhere in the world to a customer with an account on another email service, and visa-versa. Similarly, users in the content layer of the virtual currency systems are peer-to-peer, decentralized, open-source, and they can make transactions with anyone, anywhere in the world. In the proposed rules, BitLicenses require licensees to keep detailed records for all parties involved with transactions, including the "physical addresses of the parties to the transaction."[43] This would be like requiring that all email service providers know the identity of every recipient. This type of requirement makes sense for proprietary, closed systems like PayPal or credit cards, which can easily retain identifying information for each transaction because all of its users are also members.[44] However, virtual currency businesses often do not necessarily have a direct relationship to all transacting parties. The requirement that they identify everyone associated with a transaction is in effect prohibiting the use of the open network, which is a fundamental advantage to a virtual currency that operates with a decentralized architecture system. In terms of the layered model discussed earlier, by imposing these requirements on businesses in the Application layer, NYSDFS would in-effect limit the potential of the underlying Architecture layer.

[42] Adam Thierer, "Permissionless InnovationL The Continuing Case for Comprehensive Technological Freedom," *Mercatus Center*, 2014, http://mercatus.org/sites/default/files/Permissionless.Innovation.web_.pdf.
[43] "Chapter 1. Regulations of the Superintendent of Financial Services, Part 200. Virtual Currencies," *The New York State Department of Financial Services*, Section 200.12 (1).
[44] "PayPal User Agreement," *PayPal*, October 8, 2014, https://www.paypal.com/us/webapps/mpp/ua/useragreement-full.

Instead, as one commenter argues, NYSDFS should require virtual currency firms to only identify their own customers.[45] NYSDFS will still also have partial visibility in the event that a licensee conducts a transaction with a party that is not associated with a licensee. Additionally, based on the transparency of the system as a whole, NYSDFS can use the visibility of all transactions to catch criminals. NYSDFS can use this data to inform its law enforcement, as two researchers did to trace how the operators of Silk Road—an online marketplace where illicit goods and services were traded—hid their virtual currency holdings from law enforcement.[46]

Forcing access to licensee's affiliates could hurt investment in virtual currency businesses

The current rules provide NYSDFS with immediate access—upon request—to all facilities, books, documents, records, and other information maintained by the licensee or its affiliates, wherever located.[47] Under this proposed language, NYSDFS can ask to see the business records of any business that owns or invests in a licensee. This could make investment companies weary of investing in virtual currency subsidiaries that operate in New York if it opens them up to government search. Imagine an angel investment company in Texas buys a stake in a New York-based Bitcoin trust. As an affiliate, this investment company's total business records should not be accessed by NYSDFS if the majority of their business investments are unrelated to the business practices of the Bitcoin trust. This type of onerous requirement could stall innovation and investment at a time when virtual currency businesses are just beginning to take flight. This requirement is excessive, and NYSDFS should not need to see the business records of an affiliate whose business practices are wholly unrelated to virtual currency business activities.

[45] Jerry Brito and Eli Dourado, "Comments to the New York Department of Financial Services on the Proposed Virtual Currency Regulatory Framework," *Mercatus Center*, August 14, 2014, http://mercatus.org/sites/default/files/BritoDourado-NY-Virtual-Currency-comment-081414.pdf.
[46] Dorit Ron and Adi Shamir, "How Did Dread Pirate Roberts Acquire and Protect His Bitcoin Wealth?", *Cryptology ePrint Archive*, November 28, 2013, https://eprint.iacr.org/2013/782.
[47] "Chapter 1. Regulations of the Superintendent of Financial Services, Part 200. Virtual Currencies," *The New York State Department of Financial Services*, Section 200.12 (b).

4. **NYSDFS should create a probationary period for new virtual currency businesses during which they would be exempt from these regulations while applying for BitLicenses.**

Just as Amazon.com was founded in a garage in Bellevue, Washington, many online businesses get their start from humble beginnings.[48] In the same way that many virtual currency systems in the Architecture layer start out small as discussed above, so do the platforms in the Application layer that grow on top of them. Fledgling companies like this should be allowed to grow and operate under a grace period before being subjected to the BitLicensing framework.

Under the current rules, there are no exemptions for newly-created businesses.[49]. Because there are costs associated with BitLicensing requirements, this has the potential to cement established players at the expense of market entrants and create a barrier to entry. Without a means to protect new businesses, virtual currency markets in New York may see a dearth of creativity in virtual currency activities that the rest of the world would enjoy, or even prevent that creativity from taking root in the first place. NYSDFS should institute a mandatory probationary period for start-ups before they get their BitLicense.[50] During this period, NYSDFS could monitor these companies that operate under a specific threshold for their gross financial transactions to make sure they abide by certain transparency and antifraud requirements. For full-service virtual wallets, NYSDFS could implement a probationary period on businesses that hold a relatively small amount of virtual currency. For virtual currency exchanges, NYSDFS could allow this probationary period to cover businesses that handle an amount of financial transactions under a certain threshold. NYSDFS could also create such a threshold for newly created trusts, derivative exchanges, or other variants of virtual currency businesses. The Superintendent could set this threshold based on the type of business model, and during the probationary period, businesses could register with federal anti-fraud and anti-money laundering agencies. These businesses should have to report all complaints to NYSDFS and follow certain transparency requirements, such as disclosing their probationary status to all new customers. By offering this type of "on-ramp" for virtual currency businesses, NYSDFS will facilitate experimentation with new ideas in virtual currency.

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[48] Brad Stone, "The Everything Store," *The Back Bay Books*, October 2013, 30-37.
[49] "Chapter 1. Regulations of the Superintendent of Financial Services, Part 200. Virtual Currencies," *The New York State Department of Financial Services*.
[50] Jerry Brito and Eli Dourado, "Comments to the New York Department of Financial Services on the Proposed Virtual Currency Regulatory Framework," *Mercatus Center*, August 14, 2014.

5. **NYSDFS should build off of existing New York and federal regulatory frameworks for virtual currencies when creating this regulatory framework.**

When assessing its BitLicense framework, NYSDFS should look to and mirror existing or soon to be adopted federal regimes. There are many current agencies working to approve and regulate virtual currencies. In March 2013, the U.S. Financial Crimes Enforcement Network (FinCEN) released guidance for administering, exchanging, and using virtual currencies.[51] The Consumer Financial Protection Bureau (CFPB) is also considering possibly releasing rules to govern virtual currencies.[52] On September 12, 2014, a Bitcoin derivatives exchange announced that its trading platform that would allow participants to hedge risks and take bets on Bitcoin had received approval from the Commodity Futures Trading Commission.[53] The Winklevoss Bitcoin Trust has registered with the U.S. Securities and Exchange Commission and plans to open the fund to public investors.[54] Notably, these regulatory agencies have no passed any regulations or offered any guidance on the Architecture layer, instead focusing primarily on the Application layer.

Currently, the parallel BitLicense framework requirements go much further than transmitter licensing and federal anti-money laundering requirements. For example, licensees must report transactions that exceed $10,000 in one day by one person to NYSDFS in 24 hours.[55] This requirement is more burdensome than FinCEN, which does not require this, and transmitter licensees, which simply have to demonstrate they comply with federal anti-money laundering laws.[56] Furthermore, if each state were to create its own reporting requirements this would create unnecessary and potentially burdensome compliance costs on virtual currency businesses. NYSDFS should look to forthcoming and past guidance from federal regulatory frameworks, such

[51] "Application of FinCEN's Regulations to Persons Administering, Exchanging, or Using Virtual Currencies," *Financial Crimes Enforcement Network*, March 18, 2013, http://fincen.gov/statutes_regs/guidance/html/FIN-2013-G001.html.
[52] Alan Zibel, "Consumer-Finance Regulator Puts Digital Currencies in Its Sights," *Wall Street Journal*, August 11, 2014, http://online.wsj.com/articles/consumer-finance-regulator-puts-digital-currencies-in-its-sights-1407774947.
[53] Michael Casey, "TeraExchange Unveils First U.S.-Regulated Bitcoin Swaps Exchange," *Wall Street Journal*, September 12, 2014, http://online.wsj.com/articles/teraexchange-launches-bitcoin-derivatives-exchange-1410543989.
[54] "Registration Statement – Winklevoss Bitcoin Trust," *The U.S. Securities and Exchange Commission*, February 19, 2014, http://www.sec.gov/Archives/edgar/data/1579346/000119312514058712/d562329ds1a.htm, and Nermin Hajdarbegovic, "Winklevoss Bitcoin ETF to Trade on NASDAQ Under 'COIN' Symbol," *CoinDesk*, July 2, 2014, http://www.coindesk.com/winklevoss-bitcoin-etf-trade-nasdaq-coin-symbol/.
[55] "Chapter 1. Regulations of the Superintendent of Financial Services, Part 200. Virtual Currencies," *The New York State Department of Financial Services*, Section200.15 (d) (2).
[56] "Application of FinCEN's Regulations to Persons Administering, Exchanging, or Using Virtual Currencies," *Financial Crimes Enforcement Network*, March 18, 2013, http://fincen.gov/statutes_regs/guidance/html/FIN-2013-G001.html.

as CFPB or FinCEN, and adapt its rules and definitions accordingly to make it easier for businesses to comply with these rules.

Conclusion

To reiterate, ITIF believes that regulation of these global financial systems should be left to the federal authorities working in partnership with stakeholders in the private sector. Going forward, NYSDFS should not only look to federal precedent, but also keep in mind the structural layers of these networks when deciding its rules. NYSDFS should not only consider the impact of these regulations on consumers and existing businesses, but also future businesses that have not yet been created. To strike the right balance that helps protect customers and root out illegal activity without stifling innovation or competition, NYSDFS should foster new entrants and budding virtual currencies without burdening their adoption with heavy-handed reporting requirements. Virtual currencies may be the next wave of innovation in our country's financial services or they may be just a flash in the pan. Only time and a light regulatory touch will tell.

Sincerely,

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cc: Dana V. Syracuse, Office of General Counsel