



## **Submission to the Conference of State Bank Supervisors**

Submission by:

Ripple Labs Inc.  
San Francisco, CA USA  
14 February 2015

Submission to:  
Emerging Payments Task Force  
Conference of State Bank Supervisors  
Via online portal

300 Montgomery Street, 12th Floor  
San Francisco, CA 94104

14 February, 2015  
Emerging Payments Task Force  
Conference of State Bank Supervisors

Dear Madam/Sir:

I am pleased to submit a response to the CSBS on behalf of Ripple Labs, Inc.

Ripple Labs is a technology company that conceived and developed the Ripple protocol, an open payments infrastructure for real-time clearing, netting and settlement of financial transactions. Our objectives in building the Ripple protocol are to facilitate more transparent and efficient payments systems, reduce friction between financial institutions and currencies, and broaden access to financial services.

We commend the CSBS for engaging with the industry and taking on the emerging issue of virtual currencies. Ripple Labs is grateful for the opportunity to submit this letter.

We discuss four points that we believe will be essential to effective regulation:

1. **Develop coordinated, national standards for registration and licensing of virtual currency-related businesses**
2. **Build upon the existing rules for banks and money transmitters, where appropriate**
3. **Consider the varying use cases of virtual currency to ensure an optimal licensing process**
4. **Consider the role of startups and smaller companies in the virtual currency sector when creating an amended licensing process.**

We thank you for considering our comments and are happy to assist with any questions.

Sincerely,

Karen Gifford  
Chief Compliance Officer  
Ripple Labs, Inc.  
Karen@ripple.com

## The state of payments today

Payment networks consist of several layers. Starting at the top, networks have services, which are the applications and consumer-facing interfaces to initiate or edit transactions. In many geographies, payment innovation has been focused on this layer.

The next layer down consists of instruments, or the tools that facilitate transactions. Included in this layer are banks' systems, risk management procedures, and transaction monitoring tools.

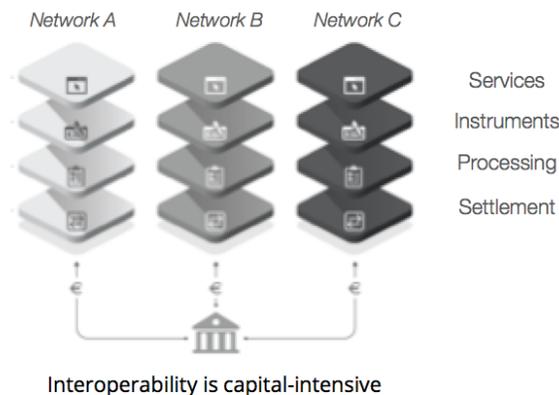
Beneath instruments is processing, which includes the rules, governance, message standards, and clearing and netting of transactions.

Finally, the bottom layer and foundation of a network is the settlement infrastructure. For decades this layer remained unchanged for many payment systems. Some countries have made recent efforts to modernize payment infrastructure, yet others still rely on antiquated technology that is decades old in some cases.

Each network – either in the same payment region or across borders – has a central counterparty with its own unique or proprietary layers, making interoperability between networks challenging or impossible.

To access broad reach in payments, banks must join numerous networks, each of which requires integration costs, reserves and ongoing maintenance. This is an expensive and resource-intensive effort.

**Figure 1: Today's Fragmented Payment Systems**



Many banks lack the size, resources, or payment volume to justify direct integration in multiple networks, so they rely on correspondents to access other domestic or cross-border networks.

Relying on numerous intermediaries requires reserves or collateral, and introduces additional costs and counterparty risks. If these costs and risks are not feasible, a bank goes without access to the network. These conditions have created high barriers to entry, resulting in a fragmented system with reliance on intermediaries.

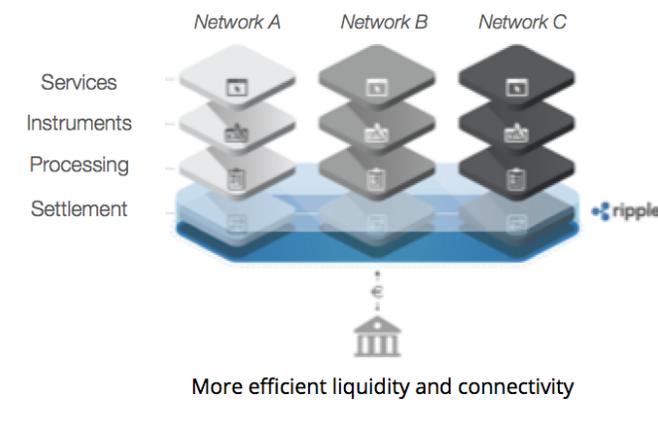
# Understanding Ripple

## The first neutral settlement protocol

Payment networks can minimize or eliminate many of the costs and risks of today's fragmented system by adopting the Ripple protocol, a neutral settlement standard that serves as the foundational layer of a payments system.

As neutral infrastructure, Ripple incorporates the existing messaging standards, governance, and rules of the networks that adopt the protocol. Ripple does not replace or show preference for any existing network; rather it is used by networks, banks, and clearing houses to enable increased efficiency and interoperability through a common platform.

**Figure 2: Connectivity Through the Ripple Protocol**



Ripple enables interoperability through the use of an open Internet protocol-based technology called RTXP, or the Ripple Transaction Protocol. RTXP is a common digital standard for payments that can be freely adopted by financial institutions.

Open Internet protocols have been used to solve connectivity issues in other sectors. For instance, in the early days of email, each email domain was a siloed, closed system, much like payment networks today. Users of one email domain were only able to communicate with others on that domain, forcing users to hold accounts with multiple domains to reach a broader number of recipients.

These inefficiencies and structural barriers were eventually resolved when email providers adopted the SMTP Internet protocol, an open standard that underpins the interoperable email system we know and use today. SMTP enables connectivity between all email domains, making email much more efficient.

Similarly, the Ripple protocol is an open digital standard that enables payment systems and banks to connect seamlessly, much like SMTP has done for email. Financial institutions would no longer be burdened by separate integrations and reserves for each payment network; rather, they could simply integrate the Ripple protocol once and use the payment networks built on top of the protocol.

As open, neutral infrastructure, Ripple modernizes the foundational layer of payments, bringing efficiencies and benefits to rest of the payment network. In addition to the RTXP settlement standard, there are three crucial components of Ripple:

- A record of balances without a central counterparty
- A competitive market for funds exchange and delivery
- A digital asset ensuring operational efficiency and security

### **A record of balances without a central counterparty**

Ripple features a ledger that bilaterally clears and settles payments between banks and payment systems in real-time. Unlike today's networks which typically rely on a central counterparty for executing and confirming transactions, Ripple transactions are cleared via consensus: a process native to Ripple by which a collection of authorized counterparties validate transactions through a distributed network.

The consensus process settles transactions every 3 to 6 seconds (near real-time) 24/7/365. Having many parties engage in consensus via a distributed network maximizes operational redundancy, thereby minimizing risk of systemic failure.

The distributed network eliminates the single point of failure that exists in networks with a central operator. On a distributed network, a large majority of the independent parties that participate in consensus would each have to be compromised to disrupt Ripple's operations.

Further, financial institutions that use Ripple are no longer restricted to the technical capabilities and settlement hours of the one central counterparty. Consensus enables real-time, low-cost 24/7/365 clearing and settlement without reliance on a central counterparty.

### **A competitive market for funds exchange and delivery**

When making cross-border transactions today, banks are subject to the FX dictated by their correspondent. The reliance on a single FX provider poses several risks. If the provider is temporarily unable to facilitate the transaction, banks are left with few alternatives, as the cost of switching providers is significant. The reliance on one FX provider paired with high switching costs yields limited currency liquidity and inherently uncompetitive FX rates for cross-border transactions.

Ripple structurally changes the process by opening FX up to a competitive marketplace. Authorized liquidity providers post bids to facilitate currency exchange. Ripple routes transactions through the lowest FX rate, reducing a material cost and minimizing banks' risk associated with having only one FX provider. This arrangement allows banks to outsource the financing of their payments and frees up working capital.

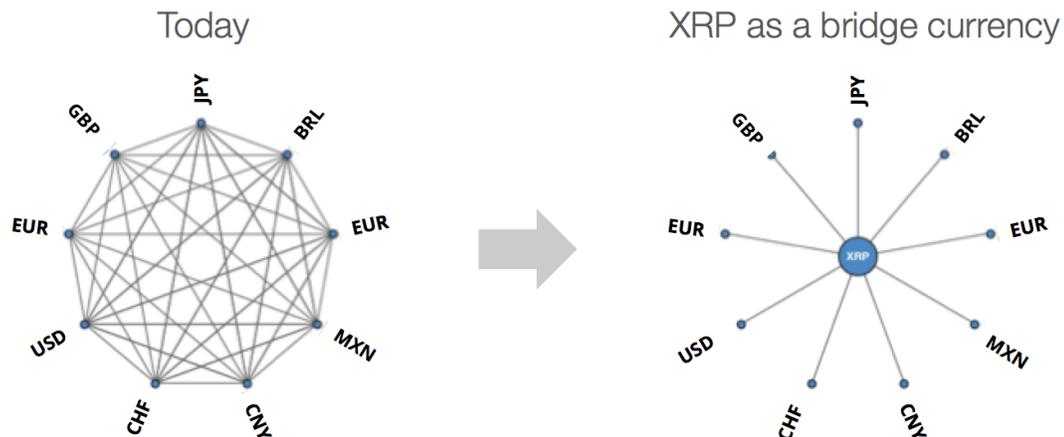
### XRP: Digital asset ensuring operational efficiency and security

The advent and adoption of Bitcoin brought attention to digital currencies; however, most discussions have focused on their use as a means of exchange and a store of value. The Ripple protocol deploys a digital currency as well, called XRP, but in two very different ways: as an optional bridge currency between illiquid markets and as a security mechanism.

XRP is the only native asset on the Ripple protocol; all other funds are IOUs that are backed by deposits in the banks' accounts. This allows XRP to be used as a common denominator between currencies on the network. Today, a bank must open a nostro account and post reserves for access to each currency. If a bank lacked the payment volume to justify posting reserves to a particular region, it simply went without access to the currency in that part of the world. Posting reserves to each country (or correspondent) is costly.

Using Ripple, a bank can post one reserve and use XRP as a bridge into all currencies on the network. This mechanism creates an efficient transaction path between currencies and maximizes currency liquidity.

**Figure 3: XRP Improves Efficiency as a Bridge Currency**



In this role XRP ensures operational efficiency in currency exchange. However, it is important to note that use of XRP as a bridge currency is completely optional. Users can freely opt to transact only in fiat currencies.

XRP's second role is as a security mechanism. All users are required to hold a small reserve of 20 XRPs to use the protocol.<sup>1</sup> A small fraction of an XRP is destroyed with each transaction. In this way XRP is similar to a postage stamp for transactions on the protocol. The small portion of the XRP that is destroyed is not a fee collected by anyone, rather a cost of using the protocol.

Under normal network volumes, this XRP cost remains very small. However, in the event that a participant tries to overwhelm the network with illicit activity – for instance with a denial of service attack – the Ripple protocol will exponentially increase the cost of each transaction. This feature quickly bankrupts the bad actor of its XRP reserve, prohibiting any additional traffic from its account.

In this role, XRP ensures the security and stability of the Ripple protocol at a minimal cost to users.

## Ripple: Users and use cases

As settlement infrastructure, Ripple is designed to be used directly by (1) banks and financial service businesses, (2) payment networks, and (3) liquidity providers. Banks, payment networks and other financial services providers can leverage Ripple for real-time domestic clearing and netting, and/or real-time cross-border settlement. Liquidity providers post bids to fund transactions that occur in the same currency and convert currencies for transactions that are made across borders. This is similar to how payment infrastructure is used today.

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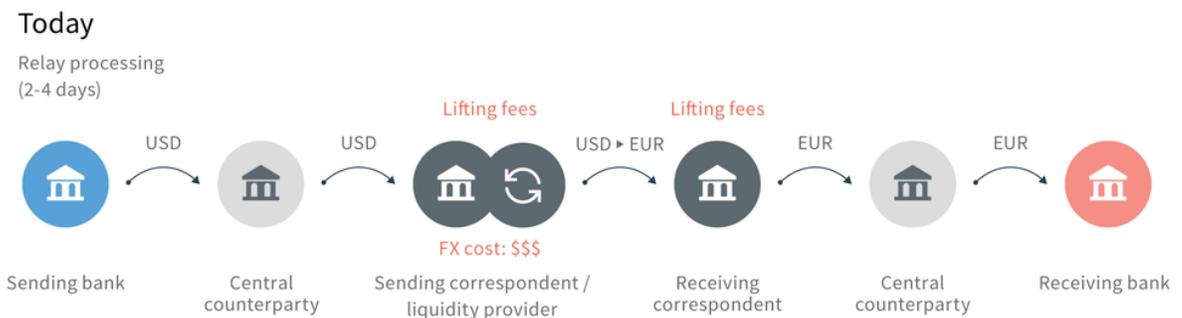
<sup>1</sup> As of 13 February 2015, 20 XRPs equated to \$0.29.

# Benefits of Ripple

## 1. Reduces fragmentation and concentration risk; increases competition

For cross-border transactions today, banks send payment messages through a global network provider (ex: SWIFT) but must rely on a complex patchwork of correspondents and intermediaries for settlement. This fragmented settlement infrastructure adds costs, delays, and risks, resulting in a system that is feasible for only high-value payments.

Given that only a handful of institutions have the size and international presence to serve as a correspondent, settlement of cross-border payments is largely concentrated in a small group of global money center banks, leaving most banks with few alternatives if their correspondent ceases operations.

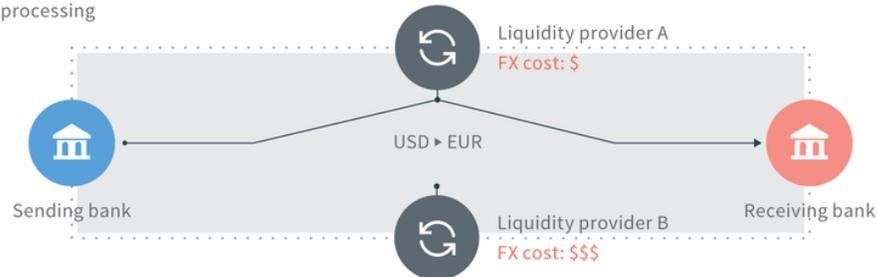


The Ripple protocol enables bilateral payments in real-time, circumventing the chain of intermediaries along with their costs, delays, and risks. As a result, Ripple can vastly broaden access to cross border payments, lowering barriers for banks (and their customers) who previously lacked the size or payment volume to facilitate transactions themselves.

Ripple has the potential to lower the cost of transactions by increasing competition. Instead of only one FX provider as in today's system, Ripple hosts a competitive marketplace of liquidity providers who bid on the currency exchange. Ripple sources FX from the lowest-cost liquidity provider, minimizing a significant cost of cross-border payments.

## Ripple

Straight-through processing  
(3-6 seconds)



## 2. Enables fund traceability and transaction visibility

Today's system provides little transaction visibility for sending and receiving banks, complicating balance confirmations, audits and AML compliance. Banks have little to no insight into the transaction path and counterparties as funds move across borders.

### Today

Limited transaction visibility



Bilateral connectivity simplifies the transaction path, improving traceability between sender and receiver. Further, banks can exchange more payment information (e.g. fee pre-disclosure; balance validation; confirmation) before and after settlement.

The transparency offered by the Ripple protocol has the potential to greatly improve the industry's AML efforts while lowering banks' cost of compliance. (Importantly, the ledger does not include any personally identifiable information like account numbers or customers' unique identifiers.)

## 3. Reduces systemic risk: no single point of failure

The distributed network created by the Ripple protocol maximizes redundancy across the parties on Ripple. This process means that systemic operation does not rely on any single party, rather it is shared across the participants on the network. A large majority of independent participants would need to fail for the system to cease operating.

Unlike today's networks, which rely on a central operator, it is impossible for control or power within Ripple to become concentrated in any one or few parties. Ripple's distribution minimizes systemic risk and improves operational resiliency – essential aspects of a trusted payment system.

#### **4. Maximizes payment reach while minimizing risks and reserve requirements**

Today, a bank must place reserves or collateral at its correspondent to minimize counterparty risk. As each correspondent typically only serves select markets or networks, a bank must maintain multiple correspondent relationships to maximize payment reach. This ties up significant amounts of working capital.

Ripple provides a more capital efficient solution while simultaneously enabling greater payment reach. Bilateral settlement obviates the need for correspondents and eliminates multiple reserve requirements. Instead of posting reserves at each correspondent, banks only have to allot one reserve to Ripple, which enables access to all the currencies, market makers, and payment networks on the protocol.

Further, eliminating multiple intermediaries also reduces the opportunities for payments to fail. Payments on Ripple reduce counterparty and settlement risk, making payments safer as well.

#### **5. Enables 24/7/365 settlement in real-time**

Today, banks are bound by the technological limitations and operating hours of the network's central counterparty. This may limit transaction speed and the restrict settlement to specified times.

Ripple replaces the central counterparty with a distributed network and consensus process discussed in the previous section. This enables low-cost, real-time settlement 24 hours a day, seven days a week, 365 days a year. The increased settlement speed and continuous access to payment services vastly improves the efficiency of networks.

## Who is Ripple Labs?

Named one of the 50 Smartest Companies by MIT Technology Review, Ripple Labs is the technology company that conceived and developed the Ripple protocol. The Ripple protocol is an open architecture, thus not owned by any one party, yet Ripple Labs exists to support its adoption by developing tools for financial institutions and payment networks.

Our staff of over 80 professionals has experience in financial services (E-loan, Goldman Sachs); payment networks (Fiserv, Visa); security (Jumio, United States National Security Agency); technology (Apple, Google); and policy (Federal Reserve, Promontory Financial Group).

Ripple Labs is uniquely positioned to play a pivotal role in creating a modern payments infrastructure as it is (a) developing a technologically advanced and extensible global transaction protocol and (b) cooperating with regulators and incumbent financial institutions to enhance and connect existing systems.

Ripple Labs has engaged with dozens of regulators, central banks, banks, payment networks, and liquidity providers globally (Americas, Europe, Asia-Pacific). Public engagements include: CBW Bank (US), Cross River Bank (US) Fidor Bank (Germany), Earthport (global interbank payment network operating in 65 countries). Private engagements include: top-20 EU and US banks, EU and US bank consortiums, multibillion-dollar hedge funds and quantitative trading firms, top-10 global remittance operators, top-15 global telcos.

Ripple Labs is backed by prominent investors including Google Ventures, Andreessen Horowitz, Lightspeed Venture Partners and IDG Capital Partners.

Ripple Labs is based in San Francisco, CA.

# 1. Policy Implementation

a. Within the umbrella state of money transmitter regimes, how can state regulators appropriately tailor licensing and supervision to each set of licensees?

b. In order to properly tailor licensing and regulatory regimes to virtual currency activities, should states consider a virtual currency-specific “amendment” or “endorsement” to a traditional money transmitter license?

We share several points that we believe are key to the CSBS’s regulatory approach:

## 1. Develop coordinated, national standards for registration and licensing of virtual currency-related businesses

The current regulatory regime in the United States is highly fragmented, making registration and licensing very cumbersome for startups, small companies, and businesses with broad reach. We believe that this fragmentation poses a competitive disadvantage for the United States, undermining our position as a leader in global payment innovation.

We applaud the CSBS for proactively seeking to create common standards for virtual currency-related businesses. To remain competitive and a driver of innovation, policy makers need to develop coordinated, national standards for products and services that have national or global reach, like virtual currencies.

It is imperative that the United States creates an environment that supports innovation in a safe and compliant manner. Streamlining balkanized registration requirements via national standards would remove many unnecessary inefficiencies in our regulatory system. During early development of the Internet, for instance, national standards generated a boom in both productivity and economic activity. Applying such standards to payments technology has the potential to drive equally positive outcomes.

Other countries have already taken steps to address similar issues. The United Kingdom’s primary regulator, the Financial Conduct Authority, recently launched Project Innovate: an initiative to help start ups (1) understand the regulatory framework and how it applies to them and (2) provide assistance in preparing applications for authorization.<sup>2</sup> The FCA’s leadership is creating an environment that supports innovation while ensuring compliance and safety of their financial system.

Further, Europe has addressed regulatory fragmentation by creating the concept of “passportability.” Under this approach, firms that obtain a license to conduct financial services in one European Economic Area are entitled to do business in

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<sup>2</sup> Financial Conduct Authority, “Project Innovate,” <http://www.fca.org.uk/firms/firm-types/project-innovate>.

all other European Economic Areas. Passporting streamlines registration processes, creating a supportive environment for safe, compliant innovation.<sup>3</sup> To remain globally competitive, the United States must ensure that its regulatory system avoids fragmentation by creating national standards for services that are national and global in reach.

## **2. Build upon the existing rules for banks and money transmitters, where appropriate**

As payments become increasingly digital, virtual currencies are likely to play a greater role in our economy, even within traditional payment systems. Consequently, state regulators should seek to develop a modular licensing process, looking to existing rules for banks and money transmitters that may apply to virtual currency companies.

If a business is already a money transmitter, but seeks to apply for a virtual currency license, or vice versa, the process could be streamlined in such a way that the company would only have to apply once, ultimately allowing them to avoid extra effort and high costs.

## **3. Consider the varying use cases of virtual currency to ensure an optimal licensing process**

It is necessary that regulators consider the different functions of virtual currencies when developing an effective and inclusive licensing process. Bitcoin (BTC), for example, acts as a replacement for fiat currency, while XRP, the currency deployed within the Ripple protocol, acts as an optional bridge between fiat currencies, and a security mechanism.

Applying general and rigid regulations, consumer protections, and licensing requirements without considering the unique functions of each virtual currency will result in a system that inadequately accounts for and reduces risk.

## **4. Consider the role of startups and smaller companies' in the virtual currency sector when creating an amended licensing process**

Rigidly defined capital thresholds and other regulatory requirements hold startups and smaller companies to the same expectations as large companies, which undermines efforts to create and innovative a competitive system. To ensure competition and innovation in payments, regulators should consider a tiered, risk-based scheme that accounts for the size and unique circumstances of each participant.

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<sup>3</sup> Bank of England, Prudential Regulation Authority, <http://www.bankofengland.co.uk/pru/Pages/authorisations/passporting/default.aspx>.

## 2. Licensing Process

a. Though states largely have the same licensing requirements, there is not a common implementation process. Please comment on the functionality of the NMLS or other licensing systems.

b. Would a common application and guide to licensure enhance the efficiency of the licensing system?

c. Obtaining required criminal background checks has been flagged as an administrative challenge in the licensing process. What procedures can states uniformly adopt to facilitate obtaining criminal background checks as part of the licensing process?

d. Credentialing business entity key personnel can be a hands-on process, but has proved indispensable for financial services licensing. Are there alternative means of credentialing that may facilitate the process?

A common application and guide to licensure would greatly enhance the efficiency of the licensing system. The current licensing structure can be overwhelming for growing technology companies such as Ripple Labs due to a lack of uniform requirements across states. This lack of uniformity ultimately leads to duplicated efforts and financial strain for companies. National standards would ultimately streamline the licensing process, making it more efficient and cost effective for startups and money transmitters.

In addition, states developing licensing standards for virtual currency–related businesses have at times included requirements that appear unrelated to the relative risks of virtual currency. For example, the first draft of the New York BitLicense, the New York Department of Financial Services required that all employees of virtual currency companies be fingerprinted, whereas traditional Money Transmitter Licenses only required fingerprints from directors and shareholders.

Ripple Labs urges CSBS to look to current money transmission licensing processes when developing a common license application, altering that framework only as needed to reflect unique risks or benefits presented by virtual currency products and services. Coordination with existing rules and processes is a logical approach and would ensure that regulatory efforts would not be unnecessarily duplicated. A universal application would be invaluable in terms of increased efficiency and cost reduction.

## 3. Training and Education

a. What education may be necessary for state regulators to aid in the licensing process?

b. What resources are available to explain technology and business models across the virtual currency industry?)

### Recognize the various use cases of virtual currencies

It is important that regulators consider the various use cases for virtual currency when developing an appropriate licensing process. Not all virtual currencies carry the same value or have the same core functions. Each use case of a virtual currency will create its own risks that should be accounted for.

For instance, Bitcoin (BTC) and Ripple’s native currency, XRP, have vastly different use cases. BTC acts as means of exchange and store of value – the typical functions of fiat currency. While also a virtual currency, XRP primarily serves different functions in Ripple. XRP acts as a neutral bridge between fiat currencies and as a security mechanism to prevent users from spamming the network. (In addition to the discussion here, see also the section on XRP at pp. 7–8 of this submission.)

To make payments between currencies that may not have a liquid market, financial institutions can opt to trade through XRP as a bridge between the fiat currencies. As XRP is the only native asset on Ripple, it can be used as a common denominator between currencies on Ripple. XRP allows financial institutions to trade into currencies that they previously lacked access to because they didn’t have a funded correspondent account in that region of the world. XRP as a bridge maximizes currency liquidity and geographic reach of payments in an efficient way.

Additionally, XRP functions as a security mechanism by serving the role as a “postage stamp” for transactions. A small portion of a user’s XRP reserve is destroyed with each transaction. Under normal volumes, this portion is negligible to users, approximately \$0.00000015 USD as of January 27, 2015. However, if a bad actor tried to overwhelm the network with illicit traffic -- possibly with a denial of service attack -- Ripple will automatically exponentially increase the XRP cost of the user’s transactions, bankrupting the account of its reserves and freezing its ability to make another payment. This feature protects the Ripple network from abuse and attacks, maximizing its operational resiliency.

Understanding who is using each virtual currency and what use cases each virtual currency serves is crucial to designing an effective licensing and training program.

The following links are public resources that Ripple Labs has developed for educational purposes:

- Ripple Primer: [https://ripple.com/files/ripple\\_primer.pdf](https://ripple.com/files/ripple_primer.pdf)
- Ripple Executive Summary: <https://ripple.com/integrate/executive-summary-for-financial-institutions/>

### **Take a holistic view of risk**

A crucial part of education and training is acknowledging the risks of both new and existing systems. While new technologies present new risks and deserve careful consideration, many of these risks are known and can be mitigated.

Regulators should take a holistic view, also considering the risks from the industry's reliance on antiquated infrastructure. These risks are not always as apparent as the risks that come with a new technology. They are often underappreciated, yet can pose serious threats to a system's operational resiliency.

Balancing the risks of the current systems with those of emerging technology ensures a prudent approach to innovation and safety. Ensuring a complete view of risks is essential to an effective education and training program for state regulators.

## 4. Technological Innovations

**What changes and innovations have been seen and/or can be anticipated in the technological aspects of virtual currencies and the resulting marketplace?**

Early virtual currencies were designed as a means of exchange and a store of value -- replacements for fiat currencies. Today, a large majority of virtual currencies still adhere to these use cases.

However, as the concept of virtual currencies has matured, new and innovative use cases have been developed. Ripple's use of XRP as an optional bridge between fiat currencies and as a security mechanism are clear examples of alternative use cases.

While unknown today, it is only rational to believe that other novel, alternative, and innovative use cases for virtual currencies will emerge. For this reason, it is imperative that regulators recognize the evolving nature of this technology and ensure regulations take into account the unique and specific use cases of each virtual currency.

Broadly applying rigid regulations, consumer protections, and licensing requirements without considering the unique characteristics of each virtual currency will result in a system that improperly accounts for and mitigates risks.

## 5. Denomination of Capital, Permissible Investments, and Bond Coverage

Capital, permissible investments, and surety bond requirements exist to create financial security in the event of failed transactions or a failed business. For financial services companies dealing in virtual currencies, should these safety funds be denominated in the applicable virtual currency or in dollars?

Ripple Labs agrees with the CSBS that it is important for companies engaged in the virtual currency business to be able to prove their financial stability via permissible investments or surety bonds, but note that it is equally important to avoid a one-size-fits-all regulation. It is necessary to take into consideration the size and growth rate of each company, as well as fully understanding their sources of capital. Narrowly defined capital requirements will ultimately prevent small companies and startups from participating in payments. It is important for regulators to consider both the size and growth rate of a company when amending the licensing process.

Furthermore, asking virtual currency companies that may be holding volatile assets, such as Bitcoin, to hold the equivalent value in fiat currency is an important issue that regulators should consider when detailing license requirements. Ben Lawsky, New York State's Superintendent of Financial Services, recently announced changes to New York's proposed Bitlicense regulation in New York state that would permit a broad range of financial assets, including virtual currency, to count toward licensees' capital requirements. Superintendent Lawsky's approach is a helpful example of regulation that takes into account both the need to ensure safety and soundness of the financial system and flexibility to support potentially valuable innovation.

## 6. Distressed or Failed Companies

Certain requirements in the Draft Framework are designed to provide regulators with tools for dealing with distressed or failed companies. Please comment on the practical issues and challenges facing regulators in the case of a distressed or failed company. What other tools should regulators have for resolving a failed virtual currency company, minimizing consumer harm and market impact?

Ripple Labs believes that it would be most logical for regulators to follow the same procedures as they do when resolving failed money transmitters. We see no benefit or risk in treating virtual currency companies differently than money transmitters.

## 7. Consumer Protections

What consumer remedies should policy makers consider for virtual currency financial activities and transactions?

### Aligning consumer protections with business models

Regulators should align necessary consumer protection requirements with the nature and customer type of each company that has been licensed. For instance, companies that operate consumer-oriented businesses should, appropriately, have extensive consumer protection obligations. However, companies that are focused on enterprise clients should be subject to different requirements.

Broadly applying the same consumer protection obligations to companies that are not consumer-facing in nature will inappropriately address risks. The unique characteristics and business model of each licensed company must be taken into consideration to create an efficient and effective regulatory program.

Ripple and potentially other companies have different business models and uses for virtual currencies. For example, Ripple is payment infrastructure to be used by banks, payment networks and liquidity providers. XRP serves two primary functions within Ripple. First, it increases liquidity by acting as an optional bridge between two currencies, and second, it acts as a security mechanism to prevent users from spamming the Ripple network. While XRP can be acquired by individuals seeking to make markets between currencies, these use cases are vastly different from a consumer-facing replacement for fiat currency.

Rigidly applying one set of consumer protections to virtual currencies with many different use cases and users will not effectively safeguard the system. Regulators must take a flexible approach that assesses the unique risks and necessary protections for each virtual currency.

### Ensuring safety and security on Ripple

Ripple Labs takes measures to keep the Ripple ecosystem safe and secure. As such, Ripple Labs defines and encourages best practices and standards for financial institutions and banks that adopt the protocol (referred to as “gateways” below).

Ripple Labs does not control gateway activity. Generally, established banks already implement best practices consistent with the regulatory requirements in the countries in which they operate. To support best practices by smaller, non-bank gateways we are implementing a program through which these gateways’ risk is ranked and monitored, and offer various incentives for such gateways to implement best practices around consumer protection, Know Your Customer (KYC) and other risk and compliance measures. We engage with gateways on topics related to technical development, risk and compliance.

Through these means, Ripple Labs encourages an open, neutral and inclusive protocol, while also promoting standards that support consumer safety and trust.

## 8. State Insurance or Trust Funds

Is it appropriate to allow holders of instruments denominated in virtual currency access to such insurance or trust funds?

Unless state regulators are concerned about unique risks pertaining specifically to virtual currency companies, Ripple Labs sees no reason that they should treat virtual currency companies differently than they do money transmitters.

## 9. & 10. BSA/AML & Consumer Identification

9. Fraud and illicit activities monitoring are increasingly technology based and proprietary, especially for virtual currency companies. Are state and federal exam procedures current with regards to new methods of detecting BSA/AML activity?

10. The Draft Framework includes maintaining records on the identification of virtual currency owners. Credentialing consumers for identification purposes can be accomplished to varying degrees, from basic account information to verified personal identification. What is the appropriate level of identification?

Ripple Labs takes seriously the importance of customer identification and anti-money laundering compliance. In this regard, it is worth noting that Ripple complements existing compliance regimes, and in some instances, provides a better solution to meeting particular compliance requirements than what is offered by current systems. Ripple Labs works to support faster and safer payment systems -- enabling regulatory compliance rather than circumventing it.

Financial institutions adopt Ripple as infrastructure to facilitate payments on behalf of their customers, just as they currently do with ACH. Importantly, the financial institutions that adopt Ripple remain fully responsible for a Customer Identification Program (CIP) and Know Your Customer (KYC) requirements. Ripple does not disrupt or change any of these existing responsibilities.

For instance, Earthport, the largest open network for global bank payments, has announced that it will use Ripple for settlement while continuing to use its existing risk and compliance framework. As basic, neutral infrastructure, Ripple enables participants to continue using their existing, tested and compliant procedures. Ripple does not alter existing responsibilities, rather functions in tandem with them to increase speed and efficiency in global payment transfers.

This concept extends beyond customer identification to anti-money laundering (AML) and counter terrorist financial (CTF) efforts as well. Ripple Labs fully recognizes and supports efforts to ensure payment systems are not used to support terrorism or illegal activities. As neutral infrastructure, Ripple is compatible with the systems and processes already in place at the banks and

financial services providers that wish to integrate it. Adoption of Ripple does not disrupt or alter a financial institution's AML and CTF responsibilities.

In fact, Ripple helps improve funds traceability for banks and regulators. As payments on Ripple are settled directly from sending to receiving institution -- without reliance on intermediaries -- transactions and funds are far easier to trace for AML purposes. Ripple's ledger stores transaction records globally across institutions, providing a complete record for banks and regulators. Investigations no longer require piecing together transaction flows from several separate sets of records to track the full history of a particular transaction or determine whether funds were delivered as intended.

It is important to note that with respect to the AML systems currently in use, certain AML and transaction monitoring processes are executed in batches. This may be appropriate today as settlement systems generally operate in batches as well. However, the development of real-time payment systems may require banks and regulators to engineer new transaction monitoring processes that don't rely on batch analysis. This is not specific to Ripple, but applicable to all ongoing efforts for faster payments.

## 11. Regulatory Flexibility

The Draft Framework stresses regulatory flexibility to accommodate different activity levels and business models and to avoid inhibiting innovation.

a. Given the rapidly evolving nature of virtual currencies, what should the nature of any necessary flexibility?

b. How can laws and regulations be written to strike a balance between setting clear rules of the road and providing regulatory flexibility?

To ensure the U.S. continues to be a global leader in trusted financial services, authorities must give careful attention to balancing regulation and innovation. There are several considerations regulators can take to ensure a proper balance.

### Ensure regulations account for the new technologies that will be necessary for creating a more competitive, inclusive, and efficient payment system

Emerging technologies should rightfully be subject to regulators' safety and security standards and be held to the regulatory requirements of other enabling technologies. However, regulators must consider how their rules and oversight should be applied to new technology solutions. This applies to both virtual currencies and other related technologies such as a shared ledgers and networks.

Payment networks today rely on one central operator to process and confirm transactions. This approach creates a single point of failure and jeopardizes operational resiliency. Ripple uses a distributed network of independent financial institutions to process and confirm transactions. This approach maximizes operational redundancy and resiliency. A large majority of independent operators must each be compromised to disrupt Ripple -- a much safer governance model.

However, regulatory requirements for payments reflect the existing systems, which generally assume a centralized operator. This assumption is not applicable to distributed networks, which do not rely on a central controller.

As an alternative governance model, distributed networks offer many benefits to payment systems: the elimination of systemic risk that stems from a single point of failure; maximized operational redundancy to improve system resiliency; and the distribution of trust across parties to eliminate the concentration of control in one entity.

For payment networks to leverage these benefits, regulators should ensure their rules are applicable to and inclusive of emerging technologies. The application of some rules may need to be revisited to reflect the alternative governance models of emerging technologies.

### **Recognize the various use cases of digital currencies**

Most market and regulatory discussions of digital currencies focus on their use as a medium of exchange and a store of value, i.e., essentially mirroring the functions of fiat currency. These use cases are applicable to the majority of digital currencies, but when writing regulations, it is crucial that regulators understand and reflect the other use cases of digital currencies.

Ripple includes a native digital currency (XRP) but deploys this tool in a very different way than other digital currencies. XRP serves operational efficiency and security roles within the Ripple protocol. See the discussion of XRP on pp. 7–8, above.

To ensure payment systems and financial institutions can benefit from all the use cases of virtual currencies, regulators must ensure their rules and guidance take into consideration the unique characteristics, risks, and use cases of each currency.

### **Enable startups and smaller companies to contribute to payment system innovation**

One of a regulator's primary responsibilities is to ensure the safety and soundness of the system. To fulfill this role, regulators issue requirements for industry participants, service providers, and third-party vendors. These requirements help minimize systemic risk and ensure a resilient ecosystem.

In crafting and applying these rules, regulators can support innovation by issuing a flexible framework rather than proscriptive guidance. Putting forth inflexible or one-size-fits-all regulation will exclude startups and smaller companies – typically the drivers of innovation – from participating in the payments system.

To create a more competitive and innovative system, regulators can create a tiered, risk-based regulatory scheme that considers the size and unique circumstances of each participant. Holding startups and smaller companies to the same expectations as large companies may prohibit them from participating and undermine the efforts to foster an innovation and competitive system.

A tiered approach would grant greater flexibility to startups and then increase expectations as they mature or begin to serve crucial functions within the system. Ensuring rules enable firms of all sizes to participate helps foster a diverse and vibrant ecosystem necessary to create a leading payment system.

Encouragingly, the UK's new Payment System Regulator (PSR) has shown intentions of balancing safety and security with the need to create a competitive, innovative payment system. To do so, the PSR proposed taking a flexible governance approach that considers the size and circumstances of each

participant. This approach will help ensure the UK payment system can benefit from the contributions of startups and smaller companies.

In the United States, the New York Department of Financial Services (DFS) has also shown intent of balancing regulation with innovation. In crafting requirements for a digital currency license, the DFS included a 2-year transitional license for startups. Without this provision, startups would not have been able to meet the expectations for mature companies and would be excluded from contributing innovation and competition. This is an excellent example of a tiered approach to regulation that balances oversight and safety with innovation.

## 12. Reporting Requirements

Most states require money transmitter licensees to submit periodic reports of business activities.

a. For licensed virtual currency companies, what types of information and data should be included in periodic reports?

b. What technology solutions exist to mitigate regulatory reporting requirements?

Ripple Labs supports the belief that, when appropriate, existing standards set for money transmitters should apply to virtual currency companies. While Ripple Labs agrees that the monitoring and management of business risk is essential, we urge the CSBS to ensure the risks they are seeking to address are not already covered by other regulations, such as third-party vendor management requirements that may be imposed by other financial regulators.

Duplicating efforts or regulations, especially in an inconsistent way, will unnecessarily increase the cost and burden of compliance. If the CSBS feels that some business risks have not been properly addressed in existing regulations, Ripple Labs urges the CSBS to clearly define these risks so industry participants can ensure they are fully accounted for.

## 13. Technological Solutions to Improve Supervision

What technology solutions can regulators and licensees deploy to close information gaps in a manner that makes the supervisory process more efficient and “real time?”

We commend the CSBS for considering this issue of enhanced supervision. New technologies offer not only offer new opportunities to make the supervisory process more efficient, but also have to potential to give supervisors a clearer view into what is happening at institutions they oversee.

Ripple’s open ledger provides the foundation for complete transaction transparency. This capability vastly improves fund traceability, lowers the cost of compliance and enables banks to complete more-complex transactions in a compliant manner. The open ledger also offers the potential for supervisors to view all transactions happening in real time, as they occur. This creates the possibility for more proactive supervision, especially in times of crisis. For example, bank supervisors could have the ability to view directly and in real time which institutions were losing liquidity, rather than having to wait for reports from the institutions themselves.

As adoption of Ripple increases, there is an ability and opportunity to build tools for a more enhanced and real time supervisory process. Ripple Labs looks forward to building tools with regulators and financial institutions that will support a more efficient and safer ecosystem.

## 14. Cyber Risk Insurance

**Companies have begun looking to insurance to help manage cyber risks, and there are a growing number of companies offering cyber liability insurance. What role should cyber risk insurance have in a licensed virtual currency entity's approach to managing cyber risks? Please discuss the potential costs and benefits for virtual currency companies securing cyber risk insurance?**

The concept of cyber risk insurance is new and emerging. As there is little precedent for risk and loss assumptions, policies are expensive and terms may be uncertain.

However, as cyber risk insurance matures, this may become a viable risk management tool that financial services providers can use to mitigate risk and loss. We urge the CSBS to monitor and revisit the idea of cyber security as both it and virtual currencies evolve.

## 15. Commercial Fund Transfer Liability

**Article 4A of the Uniform Commercial Code establishes liability for wire transfers, relying on definitions strictly applicable to banks. Are provisions like those in Article 4A necessary for commercial transfers denominated in virtual currencies? If so, is the Article 4A construct an appropriate model to be adapted in a manner that is not bank-centric?**

First, it is important to highlight that Article 4A specifically applies to bank-to-bank transfers. Currently, there is little need for regulators to prioritize the creation of a non bank-centric model of the article, as there are very few commercial transactions taking place in virtual currency. Instead, participants involved in those transactions can define rules that apply to them via contract.

While Article 4A addresses wire transfers sent from an account held by one third party to an account held by another third party, state regulators must consider that technologies such as Ripple can support transactions in which there may be no intermediaries or central clearing agent involved. In the case of direct transfers such as these, state regulators may eventually wish to adopt a new, default set of rules which could draw from contract law as well as payments law. In developing any such rule set, state regulators would also need to consider appropriate standards of proof.

## 16. Banking Services for Virtual Currency Companies

Banking arrangement information is necessary for evaluating the safety and soundness of a licensee. However, virtual currency businesses are not immediately understood by most banks that provide traditional money services accounts. What are the risks facing banks that consider banking virtual currency companies, and how can those risks be mitigated?

The risks that a company related to virtual currency poses to a bank are unique to each business' operations. For instance, some companies run consumer-facing operations that issue and custody virtual currencies as an alternative to fiat currencies. These companies have vastly different risk profiles from enterprise-focused technology companies and software companies that are not custodians of others' fiat or virtual assets.

However, in the approach taken by banks evaluating potential banking relationships, these clear differences have at times been overshadowed by the fact that each company in question doing business that is related in some way to a virtual currency. Applying blanket policies to all companies related to virtual currencies, regardless of the nature of their operations, is an ineffective way to assess risk and suitability for a banking relationship. As this is an emerging technology, Ripple Labs will continue educating the ecosystem on the different types of virtual currency-related companies and uses for virtual currencies.

As an infrastructure and software developer, Ripple Labs has identified, quantified and properly mitigated its major risk types. Following is a high-level summary of risk considerations for Ripple Labs.

**Market Risk:** Ripple Labs holds a substantial amount of XRP, which it sells from time to time, to financial institutions and entities seeking to be market makers. Through these sales, Ripple Labs is able to monetize these assets to fund its operations, specifically the development and adoption of the protocol.

This exposes Ripple Labs to the market risk of XRP's value. Ripple Labs has taken numerous steps to identify, monitor and mitigate sources of market risk. Ripple Labs has established legally-binding agreements with insiders and owners of large amounts of XRP that protect against a large scale sell off of the asset. Ripple Labs has tracking tools that ensure these participants abide by the agreements.

Further, Ripple Labs has taken steps to diversify its revenue sources to minimize the reliance on XRP sales. Ripple is also backed by several established investors that provide an additional layer of financial stability.

**Operational Risk:** Incorrect information or a security breach could jeopardize the trust and viability of the Ripple ecosystem. Ensuring the Ripple protocol and related technology function properly and securely is crucial. There are several means of detecting and addressing operational risks, including (1) code certifications and third-party audits of risk vulnerabilities, (2) the development of anti-fraud programs, and (3) the creation of emergency crisis response procedures. Through these means, Ripple Labs is monitoring and addressing operational risk.

It is important to note that the Ripple protocol (referred to as REX) is an open standard. With scaled adoption, it can be fully utilized without reliance on Ripple Labs. In other words, the Ripple protocol will continue to function should Ripple Labs cease operating. This is similar to SMTP, the open standard that underpins email. Users are not reliant on the original creators of SMTP for email to function. Thus broad adoption of the Ripple protocol reduces participants' reliance and risk consideration of Ripple Labs.

## 17. Merchant–Acquirer Activities

**Is this activity akin to the activities of traditional Merchant-Acquirers, or is it the exchange and subsequent transmission of value that is typically regulated by the states?**

The comparison of virtual currency activities to the activities of traditional merchant–acquirers wholly depends on the use case of the virtual currency. Regulators must consider the unique characteristics, governance, users and use cases of each virtual currency to accurately make this comparison. As XRP’s primary functions are those of security and currency liquidity, traditional merchant–acquirer activities do not apply to XRP or the Ripple protocol.

## 18. Cost

**State regulators are cognizant of the costs associated with licensure and ongoing compliance. What processes can be implemented to reduce these costs, including any shared services or technology-based reporting.**

As a general matter, Ripple Labs supports the idea of national standards and tiered requirements to reduce the high cost of licensure and ongoing compliance. See our responses to questions 1,3, 5 and 11 above for further discussion of these points.

An interesting example of a tiered regulatory requirement exists in the area of KYC. Tiered KYC requirements that designate specific transaction threshold amounts can reduce the cost of verifying identity for low–value transactions, which can have significant implications for innovation.

The Financial Action Task Force (FATF) standards, for instance, outline tiered KYC thresholds so that regulators can adopt a risk–based approach. It is a logical approach to permit entrepreneurial companies to create simple applications that enable low value transactions without requiring users to interact with complex systems and processes. Regulators can promote innovation by asking for additional controls and processes only when transactions go beyond a designated amount, or a product has reached a certain size.

On a global scale, Peru has created a Simplified Electronic Money account (also known as a Simplified e–money account) that sets a maximum transaction amount. These account limits permit a more automated and simplified KYC process for low value transactions. While the main purpose of the e–money account is to promote financial inclusion in the country of Peru, it also stimulates technological innovation. Regulators like the CSBS can look to this tiered model as an example of how thoughtful standard–setting can promote multiple valuable goals.

## 19. Escheatment

### How should virtual currency be treated under state escheatment laws?

We see no reason that escheatment laws be treated differently for virtual currency.

Ripple Labs appreciates the opportunity to submit this letter. We are pleased to assist with any questions and look forward to future participation in the CSBS' efforts.

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