

Submission to the Payment Systems Regulator
Consultation (CP 14/1)

Submission by:

Ripple Labs Inc.
San Francisco, CA USA



11 January 2015

Submission to:
UK Financial Conduct Authority
Payment Systems Regulator
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300 Montgomery Street, 12th Floor
San Francisco, CA 94105

11 January 2015

Financial Conduct Authority
Payment Systems Regulator
Submitted via: psrconsultations@psr.org.uk

Dear Madam/Sir:

I am pleased to submit a response to PSR CP14/1 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 PSR's transparency, thoughtfulness, and inclusion in its approach to regulation, and are grateful for the opportunity to submit this letter.

Ripple Labs fully supports and shares the PSR's objectives of fostering a competitive, innovative, and inclusive payments system. As the Ripple protocol embodies many of the PSR's goals, Ripple Labs writes to ensure that it and other emerging technologies are accounted for in the PSR's approach to oversight.

We respond to your questions from the perspective of an infrastructure provider. The Ripple protocol is not currently designated for oversight by the PSR; however, as an emerging technology with interest in UK payment systems, Ripple Labs aims to proactively engage with the PSR and other regulators.

We discuss four primary points that we believe will be essential to the PSR's success:

- 1. Ensure regulations account for the new technologies that will be necessary for creating a more competitive, innovative, and inclusive payment system.**
- 2. Enable startups and smaller companies to contribute to payment system innovation.**
- 3. Take a holistic view of risk and consider the cumulative impact of regulations.**

4. Consider how new infrastructure technology can minimize payment, operational, and systemic risks while improving anti-money laundering (AML) efforts.

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

Understanding Ripple and Its Benefits

Opportunities to improve today's payment systems

Today, banks largely rely on a patchwork of intermediaries to clear, net and settle transactions for domestic and cross-border currency payments.

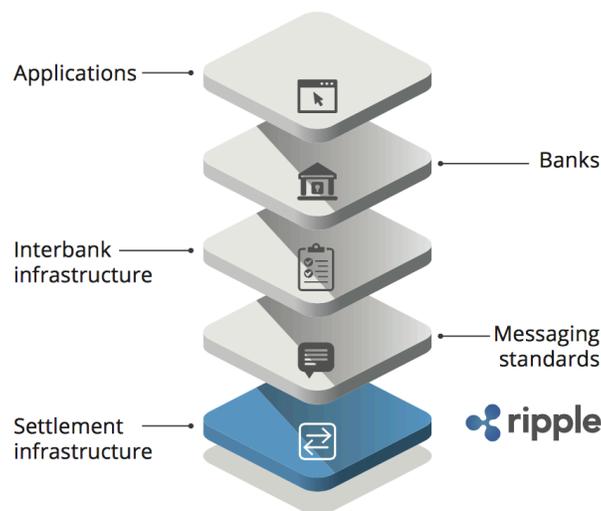
The reliance on intermediaries concentrates risk and control in a handful of large institutions while adding costs, delays and inefficiencies to funds exchange for the entire ecosystem (operators, participants, administrators).

The increased demand for faster and more global payments has highlighted structural inefficiencies and inherent risk in today's system. There's an opportunity to build a safer, faster and more efficient system.

Ripple: Infrastructure to minimize or eliminate structural inefficiencies

Ripple is infrastructure technology that is the foundational layer for a payments system. Ripple is designed to be a neutral settlement layer, meaning it incorporates the existing messaging standards, governance, and rules of the networks that adopt the protocol. As an infrastructure technology, Ripple does not replace existing networks, rather it aims to increase efficiency and connect separate networks.

Ripple: The Foundational Layer of an Interbank Payments Network



As basic infrastructure, Ripple is a technology can be used by payment networks, banks, central banks, and clearing houses. Similar to today's existing payment rails, Ripple is not intended to be used directly by consumers.

What makes Ripple different?

The first neutral payments protocol

Ripple is an Internet protocol-based technology, meaning it is a set of standards to enable connectivity and interoperability between financial institutions. The standard is formally referred to as the Ripple Transaction Protocol (RTXP).

Payments today are made in manner that is akin to the early days of email. Each email domain was siloed, restricting communication between users belonging to separate domains. To resolve these structural barriers, email providers adopted the SMTP Internet protocol, which underpins the interoperable email system we know and use today.

The Ripple protocol is an open standard that enables systems and banks to connect seamlessly, much like SMTP has done for email.

A record of balances without a central counterparty

Ripple features a ledger that clears and settles payments between banks and payment systems bilaterally - without intermediaries - in real-time. Unlike today's networks which typically rely on a central counterparty, Ripple transactions are cleared via consensus, the process (native to Ripple) by which a collection of authorized counterparties validate transactions.

Having many parties engage in consensus on the distributed network maximizes operational redundancy, thereby minimizing risk of systemic downtime and the concentration of control within any one party. No longer are network participants restricted to the technical capabilities and settlement hours of the one central counterparty.

A competitive market for funds exchange and delivery

When making cross-border transactions today, a bank is subject to the FX rate dictated by its correspondent. This lack of competition adds significant costs to cross-border payments.

Ripple rethinks funds-exchange by hosting a competitive market of authorized liquidity providers to post FX bids. Ripple routes transactions through the lowest FX rate, reducing a material cost and minimizing a bank's risk associated with having only one FX provider.

Benefits of Ripple

Ripple's unique characteristics and capabilities provide numerous benefits for network operators, payment service providers, end users, and regulators. Below are some benefits we feel are of particular interest to the PSR. The Ripple protocol:

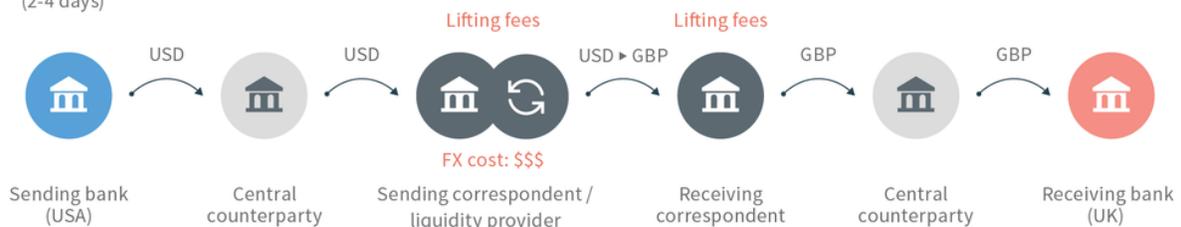
1. Reduces fragmentation and concentration risk; increases competition

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.

Today

Relay processing
(2-4 days)

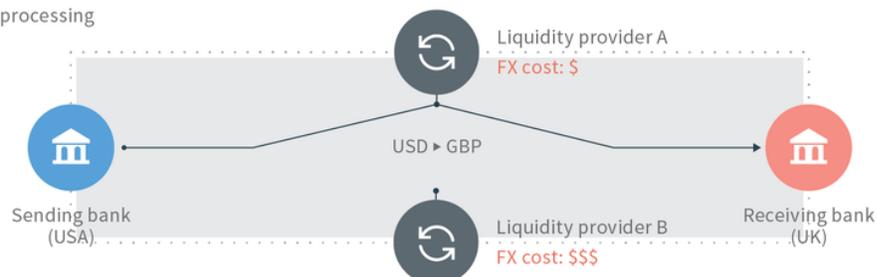


The Ripple protocol enables bilateral payments in real-time, circumventing the chain of intermediaries along with their costs, delays, and risks. As a result, Ripple can vastly broaden access to cross border payments, lowering barriers for banks (and their customers) who previously lacked the size or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



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. Eliminates conflicts of interest as a neutral infrastructure layer

Ripple is designed to be a neutral payments infrastructure, meaning it is currency agnostic and, like email and other standards, shows no preference to any country, jurisdiction, or system.

Ripple leverages the governance and messaging standards of the payment networks that adopt the protocol, making it flexible infrastructure without conflicting interests.

5. Improves capital efficiency and liquidity management

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

Ripple's bilateral settlement obviates the need for correspondents, minimizing the costly reserve requirements and allowing banks to more efficiently deploy their capital. Instead of holding reserves with each correspondent, banks only have to hold one reserve on Ripple and can access all the currencies and market makers on the protocol.

Instead of FX provision limited to a single correspondent, the competitive market of currency providers bid on transactions, minimizing costs and maximizing currency liquidity.

6. Decreases operational and settlement risk

On Ripple, payments are either fully settled and completed in real-time or they do not occur at all -- a process called atomic payments. This process eliminates or reduces many of the risks that plague today's reliance on intermediaries for cross-border payments, including:

- Principal risk (*also called Herstatt Risk*) - since payments settle bilaterally, in real-time, Ripple eliminates the risk of failure along the chain of intermediaries
- Replacement cost risk - since payments cannot fail as they pass through the intermediaries, sending institutions do not have to account for replacing a failed transaction with a new intermediary and a new market price
- FX risk - with the FX conversion and settlement occurring in real-time, Ripple minimizes the foreign currency risk arising from the timing gap between the agreement of the rate and the actual conversion of currency
- Operational risk - the sending and receiving institution having a direct connection provides real-time transaction confirmation and minimizes the cost and time of error resolution. Today banks rely on intervention from their correspondent to resolve errors, a process that results in costs and can take several days.

The reduction in risk on Ripple lowers the cost of sending payments and improves the safety of the system.

7. Enables new products and improved consumer experience

Because Ripple enables banks to offer faster payments at a lower cost, the benefits of Ripple's payments infrastructure can flow through to the end user via access to new products and services.

Ripple enables banks to introduce new payment products, specifically low-value payments that aren't feasible today and more efficient interbank payment products. Banks can offer their customers increased geographic reach for remittances, faster payment confirmation and additional transparency not possible today.

8. Improves information security and reduces cyber threats

Cyber security is a top priority for the financial services industry. Today, personal information is sent through a chain of intermediaries, each of which could compromise the security of the information to either bad actors or governments that require visibility into bank transactions.

Ripple's bilateral payments - direct from sender to receiver - eliminate the intermediaries and many opportunities for data breach. Ripple helps safeguard information and improve information security within payments.

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 create 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. Regulatory Approach

SP1-Q1: Do you agree with our regulatory approach? If you disagree with our proposed approach, please give your reasons.

The PSR's regulations will apply to payment system operators, infrastructure providers and payment service providers within each designated entity.

Ripple is a settlement infrastructure that can be used by system operators and service providers. Ripple is not currently designated for PSR's oversight; yet, as an emerging technology that can underpin future payment systems, we strive to be an active participant in regulatory and industry discussions.

Our goal in responding to the PSR's request is to ensure the regulatory approach takes into consideration the emerging technologies that will enable a competitive, innovative and inclusive payment system.

We share several points that we believe are essential to the PSR's regulatory approach:

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

The PSR is building on the UK's history of being an innovation leader in banking, as demonstrated in its implementation of the Faster Payments initiative. To continue this important effort, we urge the PSR to ensure its rules accommodate the new technologies and governance models that can underpin a more efficient, inclusive, and safer payments system.

The PSR's proposal and supporting papers describe regulatory efforts in the context of the existing system, which assumes the continued use of a centralized operator. Certain new technologies, such as open protocols and distributed networks, may not rely on a central operator.

This alternative governance model offers many benefits to payment systems. A distributed network eliminates the systemic risk of relying on one central operator. Ripple's distributed network maximizes operational redundancy, meaning a large majority of independent participants would need to fail before operations are interrupted. This model improves resiliency, while making it impossible for any one party to acquire dominant control over the system.

Another emerging technology that could drive greater efficiency and connectivity within UK payment systems is digital currencies. The Ripple protocol includes a native digital currency (referred to as XRP) to serve operational and security functions.¹ Ripple Labs recently submitted

¹Specifically, XRP acts as a bridge between illiquid currencies so banks can easily and efficiently make cross-border payments to areas not feasible today. Importantly, banks do not have to use XRP as a bridge currency and have full control to only send payments with traditional fiat currencies. Additionally, XRP acts as a "postage stamp" when sending payments across the protocol. This process attaches a small cost to each payment, making it unfeasible and costly to spam the protocol. (continued on next page)

a letter in response to HM Treasury's request for information on digital currencies, a copy of which is attached to this document.

To advance the UK's payment system, the PSR should ensure its rules and guidance accommodate the alternative governance structures and new technologies that will drive innovation.

2. Enable startups and smaller companies to contribute to payment system innovation.

We commend the PSR's effort to build a flexible regulatory framework, rather than issuing 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, we stress the need for a tiered, risk-based regulatory scheme that considers the size and unique circumstances of each participant.

We are encouraged by regulators' recent acknowledgment of this concern. In December 2014, the New York Department of Financial Services announced revisions to its BitLicense proposal to include a 2-year transitional operating license for startups and small companies. 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. We applaud such efforts to balance inclusion and innovation with oversight and consumer protection.

3. Take a holistic view of risk and the cumulative impact of regulations.

We acknowledge that new technologies present new risks and deserve careful consideration before implementation. However, many of these risks are known and can be mitigated.

We urge the PSR to take a holistic view, also considering the risks from continued reliance on antiquated infrastructure. The risks of not modernizing one's infrastructure and capabilities are not always as apparent as the risks that come with a new technology. Yet, the risks of outdated technology increase over time and pose real threats to a system's operational resiliency.

Further, we urge the PSR to be mindful of the cumulative impact that regulations will have on network operators, infrastructure providers, and end users. As regulations may create unintended consequences, the PSR should strive for coordination between rules and weigh the aggregate effects of its guidance.

The cost increases exponentially if a user attempts to attack or overwhelm the network, essentially bankrupting the bad actor of its reserves. This feature protects the network from denial of service attacks and bolsters the resiliency and security of the protocol.

4. Consider how new infrastructure technology can minimize payment, operational, and systemic risks while improving anti-money laundering (AML) efforts.

We support and share the PSR objectives of creating a more competitive, innovative and inclusive system. However, we urge the PSR to also consider how to build a safer system with greater risk monitoring capabilities.

The distributed network created by the Ripple protocol can reduce certain systemic risks and can help ensure that no one party will gain dominant control and suppress competition. Ripple further supports increased competition by replacing one FX provider with a marketplace of providers bidding on FX spreads. This arrangement incentivizes the most efficient management of FX liquidity and minimizes transaction costs.

Specifically, the Ripple protocol:

- Increases network connectivity and interoperability while lowering liquidity costs;
- Enables more-complex transactions via higher visibility and funds traceability; and
- Increases transaction speed and volume while lowering credit, operational, and systemic risk.

Minimizing risk, enabling greater AML capabilities and reducing compliance costs

We fully support and contribute to the PSR's three objectives, yet we also urge the PSR to consider how to create a safer system with greater risk management capabilities. With the global economy becoming increasingly interconnected and new payment services extending the reach of payments, greater risk management and transaction monitoring capabilities will be critical aspects of a modern payment system. The failure to adopt enhanced risk management tools becomes a risk itself.

Unlike payments sent through correspondent banks today - which are opaque at best - Ripple's ledger provides complete end-to-end transaction traceability, greatly improving banks' visibility into payments and their AML monitoring capabilities.

At present, banks must pay correspondents for audit and account balance reports. Ripple's transparent ledger is updated in real-time and available 24/7/365. This functionality offers the possibility of significantly lower compliance and operational costs while empowering management and regulators with greater information.

2. Payments industry strategy

SP2-Q1: Do you agree with our proposed approach of Option 1: (Option 1) set up a Payments Strategy Forum to establish the industry strategy; (Option 2) maintain the Payments Council's or a successor body's role in setting industry strategy; (Option 3) PSR develop high-level priorities for the industry ourselves.

Ripple Labs applauds the PSR's efforts to build consensus around industry strategy, drive forward change, and spur innovation. In considering which approach to pursue, we encourage the PSR to take into account the need to make discussions of industry strategy transparent. Creating an open environment that welcomes new or alternative perspectives will be key in driving innovation.

Discussions of industry strategy should be inclusive of both existing payment industry entities and firms outside of the payments industry and outside the UK who are developing innovative technology. An interested party's inability to access discussions and share ideas will stifle the PSR's innovation efforts. Ripple Labs fully supports the PSR's intention to increase service-user representation in discussion of industry strategy.

While we offer these overarching themes and support for PSR's general direction, we opt to leave the decision on how best to incorporate these points to UK firms and those designated for oversight.

SP2-Q4: Are there any additional infrastructure-related themes you believe we, or the Payments Strategy Forum, should consider? If yes, please provide a description of why the additional themes are important to you.

The PSR has proposed a series of well-informed infrastructure themes for the industry to address. Ripple Labs offers these additional themes for consideration:

- 1. Improving interoperability through infrastructure** - The retail and commercial market is increasingly demanding the ability to move funds between payment systems more seamlessly and swiftly. The success of a future payment system hinges on its ability to meet this demand and enable more efficient funds movement.

We would like to emphasize the role of infrastructure in setting standards for enabling interoperability between payment systems domestically as well as internationally. Investing in infrastructure that is designed to maximize interoperability will establish the UK as a leader in payments innovation.

- 2. Improving information security and personal data privacy**

We are developing the Ripple technology with compatibility with messaging standards and information security standards in mind. In light of the recent escalation of database

breaches and compromised identity information, we have given serious thought to addressing and integrating measures to include digital security on an infrastructure level.

Bilateral payments via Ripple means that banks no longer have to send private customer information through a chain of intermediaries who each increase the risk of a breach. End-to-end payments via Ripple gives banks and investigators greater visibility and control over funds information, and allows individuals to have agency over their personal information, minimizing the risk of a data breach.

3. Improving compliance and risk management

Ripple's ledger operated via a distributed network brings complete transaction transparency for sending and receiving banks, whereas today visibility is opaque at best.

The ledger provides opportunities to collect richer data and vastly improves banks' and regulators' AML capabilities while lowering cost of compliance. Transaction data will be more visible and stored in a common ledger, improving the process of conducting audits and investigations. Rather than tracking funds through each intermediary's own books, investigators can simply reference the Ripple ledger for funds traceability.

Focusing on ways to improve risk management capabilities while lowering compliance costs can create significant advantages for UK payments systems and regulators.

4. Identity portability and privacy

Ripple technology supports the principle of individual identity ownership. Ripple Labs is developing the protocol with a framework to give users control over how their personal identity data is used and shared. We applaud the PSR's initiative to take number portability into account. However, we believe that efforts to build an effective digital payment structure must include digital identity standards on an infrastructure level. Such a system would also protect individual privacy, ensure user authenticity and provide transparency capabilities.

Furthermore, this identity framework enables tiered Know-Your-Customer standards and provides possibilities for greater financial inclusion. Integrating secure digital identity standards at the infrastructure level reduces anonymity and ensures greater AML compliance and technical access to participation in the payments system.

3. Ownership, governance and control of payment systems

(see Supporting Paper 3: Ownership, governance and control of payment systems for more details)

The PSR has voiced concern that the effective control of today's payment systems is concentrated in a small number of participants. This concentration has limited openness, innovation, and the representation of service-users in industry discussions.

Ripple Labs urges the PSR to consider how alternative governance models - like open architecture and distributed networks - can directly address concerns of control and limited access.

Distributed networks vastly decrease concentration of effective control

Unlike network governance today, which relies on one central operator, distributed networks rely on the individual participants in the network to facilitate primary functions.

For instance, today all the payment service providers within a network rely on one central counterparty to clear and settle transactions. However, distributed networks like Ripple decentralize these primary functions to participants in a process called consensus.

Having multiple, individual parties facilitate the primary functions maximizes redundancy across the network, minimizing the systemic risk of relying on one central operator. A large majority of the individual members on a distributed network would each have to stop working to disrupt the network's operations.

As processes are decentralized across many participants, it is inherently impossible for any one party to gain effective control over the network.

As a neutral architecture, Ripple enables inclusiveness and accessibility

The Ripple protocol is designed to be a neutral settlement architecture, meaning it supports and treats all currencies equally. This structure enables accessibility and promotes inclusiveness globally.

As an open standard, the Ripple protocol is not owned or controlled by any one party. (Ripple Labs exists to promote the use of the protocol but does not own it.) Just as no one owns the protocol that underpins email (SMTP), no single entity owns or controls the Ripple protocol. It exists to increase interoperability and reduce friction between its users.

Structuring the Ripple protocol as a distributed network and an open standard minimizes the possibility of vested or conflicting interests exerting undue influence over its use. This allows networks and payment service providers to use the protocol with confidence that it will remain a neutral standard for connecting payment systems.

Success of other open protocols in and beyond payments

The accessibility, utility, and neutrality of open protocols are already being used to improve payments and banking globally. One primary example is the development and adoption of the Advanced Message Queuing Protocol (AMQP), a standard used to order, translate and route payment messages across diverse programming languages that were not previously interoperable.

AMQP was started and developed by the banking industry as an alternative to proprietary standards that did not allow connectivity across systems. J.P. Morgan Chase led the development of AMQP in 2003, organizing a working group of international banks including Bank of America, Credit Suisse, Deutsche Bank, Barclays, and Goldman Sachs.

AMQP has been adopted globally to enable connectivity in banking. J.P. Morgan Chase sends one billion messages using AMQP each day.² The Deutsche Borse became the first financial exchange to adopt AMQP, enabling users to better monitor positions and risks.

Being an open standard has allowed non-banking sectors to adopt and benefit from the protocol as well. AMQP is currently being used by the defense, telecommunication, and manufacturing sectors at organizations including Google, NASA, the Government of India, AT&T, and the U.S. National Science Foundation.

The adoption of open protocols has proven them to be a successful way to enable connectivity and interoperability between participants.

Ensuring consumer safety and security on the protocol

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

Although Ripple Labs does not control gateway activity, we are implementing a program through which gateway risk is ranked and monitored. We also engage with gateways on topics related to technical development, risk and compliance. Ripple Labs promotes gateways that implement best practices around consumer protection and KYC, among others. Generally, established banks already implement best practices consistent with the regulatory requirements in the countries in which they operate.

Gateways using the Ripple protocol to settle transactions are encouraged to adhere to best practices around consumer protection. This includes full disclosure of terms of service, pricing

² Source: Advanced Message Queuing Protocol. <http://www.amqp.org/product/realworld>

information and fees. We encourage gateways to audit their financials and disclose to customers their dispute resolution rights and policies around accessibility of funds.

As part of this program, we monitor whether gateways are registered with the proper authorities as money service businesses, as applicable, and if they implement an anti-money laundering program and onboarding procedures (i.e. Know-Your-Customer rules) as required by law.

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

4. Access to payment systems

Increasing Access

While Supporting Paper 4 is primarily focused on network operators, Ripple Labs would like to take the opportunity to discuss how modern infrastructure technology can further the PSR's goal of increasing access to payment systems.

Integration of Ripple does not impact a network operator's rules or governance. However, the benefits of using Ripple as payment infrastructure enables more banks to participate directly in payment networks.

Ripple's bilateral settlement eliminates the costs and risks of relying on intermediaries to facilitate payments. Atomic transactions via real-time settlement on Ripple's ledger minimize settlement and counterparty risk, while the competitive marketplace of FX providers reduces the cost of exchanging currencies.

Altogether these benefits can lower the marginal costs of transacting and participating in a payment network, making direct integration economical for payment service providers who may lack the volumes to justify direct participation today.

6. Regulatory tools

SP6-Q1: Do you agree with our three proposed high-level PSR Principles on Relations with regulators, Compliance and Financial Prudence?

SP6-Q2: Do you agree with our proposed approach that our PSR Principles on Relations with regulators and on Compliance should apply to all participants?

SP6-Q3: Do you agree with our proposed approach that our PSR Principle of Financial Prudence should apply to Operators and Central Infrastructure Providers?

SP6-Q5: Do you agree with the anticipated costs and benefits identified for our three proposed high-level Principles?

Ripple Labs supports the PSR's efforts to set high-level behavioral standards, rather than issuing prescriptive rules. This approach takes into consideration the unique circumstances and size of a variety of companies that contribute innovation and competition.

Ripple Labs agrees with the expectation that all participants pursue a clear and cooperative relationship with regulators, keeping them apprised of developments in a timely manner.

Further, Ripple Labs supports the expectation that companies who are designated for oversight fully observe and comply with rules, regulations, and standards of conduct.

Ripple Labs recognizes the importance of a strong compliance program. We have invested in a team of risk and compliance analysts led by Karen Gifford, Chief Compliance Officer. Gifford previously served as an AML prosecutor at the Federal Reserve Bank of New York and worked as a regulatory and compliance consultant at Promontory Financial Group. Greg Kidd, the Chief Risk Officer of Ripple Labs, covered payments systems at the Federal Reserve Board and also served as a risk consultant at Promontory Financial Group.

Ripple Labs applauds the PSR for considering systemic risk in its proposal, evident in the third principal: financial prudence. Ensuring the safety and soundness of the system itself is a product of safe and sound participants. ***However, we underscore the need for flexibility in applying this principle and ask the PSR to define the particular risks that the regulation is aiming to address.***

Ensuring companies have sufficient funds to meet their liabilities and properly carry out their functions is vital, yet we urge a tiered approach that acknowledges the size, age, and growth stage of companies, particularly startups and smaller entities. Holding startups and smaller companies to the same expectations as large companies may prohibit them from participating and undermine the PSR's 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 for the UK to develop a leading payment system.

As previously mentioned, the New York Department of Financial Services' recent decision to allow a transitional digital currency license for startups is a great example of a tiered approach to regulation that balances oversight and safety with innovation.

The PSR's proposal calls for operators and infrastructure providers to identify, monitor and manage their business risk. While Ripple Labs agrees that managing business risk is essential, we urge the PSR 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 PSR feels that some business risks have not been properly addressed in existing regulations, Ripple Labs urges the PSR to clearly define these risks so industry participants can ensure they are fully accounted for.

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 PSR's efforts.

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