



March 14, 2016

Re: Disrupter Series: Digital Currency and Blockchain Technology

Chairman Upton and Members of the House Energy and Commerce Committee:

My name is Ryan Zagone, the Director of Regulatory Relations at Ripple, a technology company that delivers distributed technology (broadly referred to as “blockchain technology”) to financial institutions. Ripple aims to enable a more transparent and efficient payment system, to reduce friction between currencies, and to broaden access to financial services.

I applaud the Committee for its leadership in exploring virtual currencies and blockchain technology and am grateful for the opportunity to submit this statement.

I write to highlight a pivotal shift in the application of these new technologies – from a direct-to-consumer offering within Bitcoin to an enterprise solution within the traditional financial services sector. The enterprise use of these tools takes advantage of their benefits, without creating consumer risk or the likelihood for misuse, as seen within Bitcoin.

With this shift to an enterprise tool in mind, this statement focuses on four themes:

- 1. While Bitcoin was a technological breakthrough, it is not a realistic solution for financial infrastructure.** The underlying technology has evolved and is taking root as a tool within the financial services sector where consumer protections remain fully in tact.
- 2. Public policy should recognize the various use cases of the technology.**
- 3. A workable regulatory framework is needed to keep the United States competitive.**
- 4. International coordination is key for effective policy.**

I thank you for considering my comments and am happy to assist with any questions.

Sincerely,

A handwritten signature in black ink that reads 'Ryan Zagone'.

Ryan Zagone

Director of Regulatory Relations, Ripple  
zagone@ripple.com



# 1. While Bitcoin was a breakthrough, enterprise use cases of blockchain technologies are taking root.

The development of Bitcoin – both the virtual currency and blockchain (the database that records transactions within the system) – were breakthroughs in payments technology. This new technology was initially applied in a direct-to-consumer model. Consumers directly engaged with the technology while assuming the risk of holding a volatile currency with no recourse in the event of a problem.

This model created a host of consumer protection concerns which have been the focus of regulatory attention to date. Further, “mining” – the process central to Bitcoin’s operations – has proven highly inefficient and energy-intensive, requiring a dependency on unknown third parties that are concentrated in foreign and often sanctioned countries.

For these reasons, new approaches have emerged that leverage lessons from Bitcoin yet greatly improve upon the underlying technology. Often, it takes several iterations of a technological breakthrough before a realistic solution is developed and takes root.

Over the past year, there has been a shift from direct-to-consumer uses of the technology to enterprise approaches where traditional financial services firms leverage the tools for new products and improved services. The enterprise approach utilizes the benefits of the technology without creating consumer risk or other vulnerabilities.

Ripple is one such enterprise solution: it is a platform for financial institutions to facilitate real-time, cross-border payments on behalf of their customers. Financial institutions are using Ripple to underpin low-value remittance products for consumers and real-time cross-border payments for corporations and small to medium-sized businesses.

## **The Ripple solution**

Ripple enables financial institutions to make cross-border payments in five to ten seconds, as opposed to four to five days using today’s systems. Ripple provides visibility into fees and delivery times of the payment before the payment is initiated, thereby giving financial institutions the ability to more clearly communicate the terms of the payment to consumers. Further, Ripple offers end-to-end tracking of the payment. None of these features are available in today’s system for making cross border payments.<sup>1</sup>

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<sup>1</sup> Today, a patchwork of large, global financial institutions utilize correspondent relationships to facilitate cross-border transactions for other institutions.



Ripple is a modern payment solution for financial institutions. Unlike Bitcoin, Ripple is designed for payments in fiat (government-issued) currency, which we see continuing to play a central and pivotal role in financial services well into the future. Ripple is distinct and separate from Bitcoin. Ripple is operated by the financial institutions that use the system and other delegated firms, instead of unknown “miners”. It uses more efficient and less energy-intensive processes.

Ripple and enterprise use cases of distributed payment tools:

### **Preserve existing consumer protections**

Unlike direct-to-consumer models where consumers assume currency risk and have no recourse if something goes wrong, enterprise use cases eliminate consumer exposure; financial institutions directly use the technology on behalf of the consumer as currently done with payment solutions like ACH and wires. With the enterprise use of these technologies, existing consumer protection rules remain applicable and unaltered, making this a safer application of distributed payment solutions.

### **Enable enhanced funds traceability and transaction visibility**

Cross-border payments today are facilitated through correspondent relationships between large banks. This system provides little transaction visibility for financial institutions and regulators. Fees, counterparties, and transaction paths are opaque at best, complicating payment confirmations, audits and investigations. Today, an originating financial institution would have better tracking and receipt confirmation by sending a box of cash overseas through FedEx than by sending a payment through the banking system.

Ripple gives financial institutions – from community banks up to the largest correspondent banks – the ability to trace payments in real-time. Further, Ripple enables financial institutions to exchange more payment information (e.g., fees, balance validation, and confirmation) before and after settlement – a significant improvement over today’s system.

The transparency afforded by Ripple offers the ability to improve transaction monitoring capabilities at a lower cost to the system overall. Unlike the challenge of identifying users within Bitcoin, financial institutions utilizing Ripple have a continuing obligation to “Know Their Customers” and comply with anti-money laundering, counter terrorist financing laws and sanctions screening obligations. Importantly, their customers’ personally identifiable information such as account numbers or unique identifiers are not stored on Ripple’s ledger.

### **Reduce systemic risk: no single point of failure**

Unlike existing payment systems, Ripple has no central operator. Ripple is jointly operated by the participants in the network and other delegated firms. Through this approach, Ripple eliminates the single point of failure that exists within today’s systems.



While the failure of a central processor would disrupt the operation of one of today's networks, a large majority of independent financial institutions using Ripple would need to fail in unison for the system to cease operating. This design improves Ripple's operational resiliency and minimizes the risk of a system failure.

## 2. Public policy should recognize the various use cases of the technology.

The advent of Bitcoin brought attention to digital currencies as tools used directly by consumers to replace fiat (government-issued) currency. Policy makers around the world have responded with regulations or limitations on digital currencies largely to address consumer risks that stem from this approach.

As the technology turned the corner from a direct-to-consumer offering to an enterprise tool, the use case of digital currencies evolved beyond only acting as a consumer-facing tool to replace fiat currency. For instance, Ripple's native asset, XRP, is used by financial institutions as (1) a security mechanism and (2) a liquidity tool.

### **Security Mechanism**

From a security perspective, XRP acts as a "postage stamp" for payments made on Ripple. Financial institutions using Ripple hold a small reserve of XRP. With each payment made through Ripple, a portion of an XRP is destroyed. Under normal payment volume that portion destroyed is roughly one millionth of a cent.

However, if a bad actor were to penetrate a bank's defenses and attempt to overwhelm Ripple with traffic – possibly a denial of service attack – Ripple will automatically increase the XRP cost per transaction. This process will bankrupt the institution of its XRP reserve and freeze its ability to carry out an attack. This security feature protects the Ripple network from attacks and abuse thereby maximizing Ripple's reliability and operational resiliency.

### **Liquidity Tool**

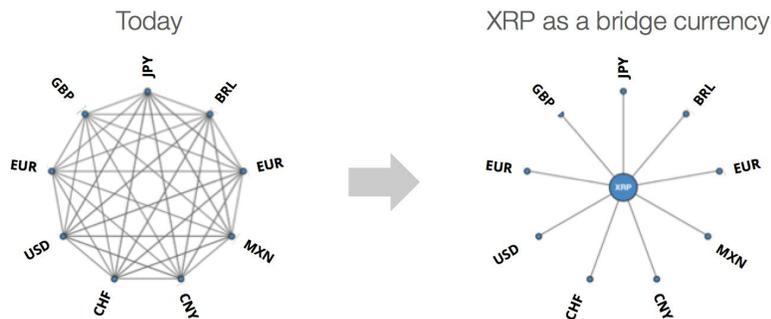
Ripple is designed for payments utilizing fiat (government-issued) currency. Due to the large number of government currencies and counterparties, quoting the conversion between every possible currency pair can be burdensome and especially difficult when dealing with rarely traded currencies. See Figure 1 below.



To make this process more efficient, financial institutions on Ripple can use XRP as a bridge, or common denominator, between fiat currencies. Used in this way, XRP maximizes currency liquidity and geographic reach of payments in an efficient way.

Importantly, use of XRP as a liquidity tool is entirely optional. Financial institutions can freely opt to quote and facilitate payments solely in fiat currencies.

**Figure 1: XRP Improves Efficiency as a Bridge Currency**



XRP serves operational functions within Ripple and is not designed to be a consumer-facing tool to replace fiat currency. For these reasons we consider XRP a digital asset rather than a currency.

Because of XRP's unique use cases, it carries a different risk profile than a consumer tool like bitcoin or other digital currencies. Ripple urges regulators to recognize the various use cases of the technology and reflect these differences in regulation. We ask policy makers to identify the risks they seek to address and tailor regulations to the tools and use cases that create those specific risks. The regulation that exists in some states today fails to recognize the various use cases and risk profiles of the technology.

While the security mechanism and liquidity tool are alternative use cases that exist today, we firmly believe additional use cases will emerge. Regulation should consider each use case separately. Broad application of one regulatory framework will not effectively identify or mitigate risks. Such an approach will unnecessarily restrain the use of technology and would restrict what would otherwise be a positive innovation in financial services.

In fact, this use case approach is how regulation is written today. Mortgages, swaps, and commodities are all financial assets, but are each regulated differently given their unique uses and risks. We urge policy makers to continue this approach to regulation.



### 3. A workable regulatory framework is needed to keep the United States competitive.

The current regulatory regime in the United States is highly fragmented, making licensing very cumbersome for start-ups, small companies, and businesses with broad reach. We believe that this fragmentation poses a competitive disadvantage for the United States and undermines our position as a leader in payments.

To keep the United States competitive and a driver of innovation, policy makers should develop a coordinated, national standard for products and services that have national or global reach.

It is imperative that the United States create an environment that supports innovation in a safe and compliant manner. Streamlining balkanized registration requirements via national standards would remove many unnecessary inefficiencies and inconsistencies in our regulatory system.

Other countries have already taken steps to modernize their regulatory and economic policies to support innovation and accommodate these solutions.

For instance, the United Kingdom's Government Office for Science issued a report on blockchain technology, asserting that it, "...provides the framework for government to reduce fraud, corruption, error and...has the potential to redefine the relationship between government and the citizen in terms of data sharing, transparency and trust."<sup>2</sup>

Further, a deputy governor at the Bank of England acknowledged blockchain technologies' security and consumer protection benefits stating, "[t]he emergence of various forms of distributed ledger technology...may reshape the mechanisms for making secured payments."<sup>3</sup> The UK is aware that these technologies are means to a more efficient and prosperous economy.

The United Kingdom's primary regulator, the Financial Conduct Authority ("FCA"), recently launched Project Innovate: an initiative to help start-ups (1) understand the regulatory framework and how it applies to new technology and (2) provide assistance in preparing applications for authorization.<sup>4</sup> The FCA's leadership is creating an environment that supports innovation while ensuring compliance and safety of their financial system.

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<sup>2</sup> Distributed Ledger Technology: beyond block chain, UK Government Office for Science, January 2016, [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/492972/gs-16-1-distributed-ledger-technology.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/492972/gs-16-1-distributed-ledger-technology.pdf)

<sup>3</sup> "Bank of England to develop blueprint for overhaul of UK payments system," Finextra, 27 January 2016, [http://www.finextra.com/news/fullstory.aspx?newsitemid=28391&utm\\_medium=DailyNewsletter&utm\\_source=2016-1-28](http://www.finextra.com/news/fullstory.aspx?newsitemid=28391&utm_medium=DailyNewsletter&utm_source=2016-1-28)

<sup>4</sup> Financial Conduct Authority, "Project Innovate," <http://www.fca.org.uk/firms/firm-types/project-innovate>.



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 all other European Economic Areas. Passporting streamlines registration processes and creates a supportive environment for safe, compliant innovation.<sup>5</sup> Investments and future growth for many technology companies is beginning to shift to countries with a more competitive and supportive stance on innovation.

This is in stark contrast to the United States where licenses are needed in nearly every state before a company can begin operating broadly. In light of global efforts to support innovation, the United States must address its fragmented regulatory system if it aims to remain competitive globally. Otherwise, the United States will not be home to future innovation.

## 4. International coordination is key for effective policy.

While the promise of blockchain technologies is being widely acknowledged, global coordination on how these technologies are implemented and treated by regulators is crucial to ensuring their benefits can be fully realized. Building a consistent, coordinated framework will enable broad adoption of these technologies in safe and prudent ways.

Global coordination has a successful track record of enabling other technology breakthroughs to develop safely. In the early 1990s, the Internet emerged as a promising new tool. Like virtual currencies and blockchain, the Internet offered great potential for economic growth, innovation and inclusion; yet its newness and global scope caused uncertainty and concern about risks.

Policy makers responded to the emergence of the Internet by developing a framework for electronic commerce that recognized the Internet’s great potential while balancing its new risks. In 1997, the United States issued a Presidential Directive acknowledging the promise of new technology and setting expectations for safety and risk.<sup>6</sup>

That same year the European Commission followed suit and adopted the Bonn Declaration, a similar framework on global information networks.<sup>7</sup> These frameworks established clear, predictable, and globally-coordinated rules for electronic commerce that ensured security and

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<sup>5</sup> Bank of England, Prudential Regulation Authority,

<http://www.bankofengland.co.uk/pru/Pages/authorisations/passporting/default.aspx>.

<sup>6</sup> The United States White House, Presidential Directive - Electronic Commerce, 1 July 1997

<http://clinton4.nara.gov/WH/New/Commerce/directive.html>

<sup>7</sup> “European Ministers Adopt Declaration on Global Information Networks, July 1997,

<http://merlin.obs.coe.int/iris/1997/8/article1.en.html>



privacy. This crucial step recognized the Internet’s potential, allowing positive uses of these technologies to take root, and questionable uses to be identified and resolved.

This same approach should be taken with emerging payment technologies today. While we do not know exactly what the future of payments holds, we do know new technology has great potential to improve financial inclusion globally. Yet, without a coordinated regulatory framework, innovation in financial services cannot successfully take root.

In 2015, the Reserve Bank of Australia (“RBA”) noted, “[d]igital currencies represent an interesting development in the payments and financial system landscape. The concept of a decentralised ledger is an innovation with potentially broad applications for a modern economy.” However, because these technologies are global in scope the RBA stated that regulation should be coordinated globally to effectively identify and address risks. “One vehicle for coordination would be through the Committee on Payments and Market Infrastructure (“CPMI”) at the Bank for International Settlements.”<sup>8</sup>

The International Monetary Fund stated similar viewpoints in 2016. “The establishment of international standards that take into account the specific features of [virtual currency systems and distributed financial technologies] may promote harmonization in regulation across jurisdictions, and facilitate cooperation and coordination across countries over questions such as the sharing of information and the investigation and prosecution of cross-border offenses.”<sup>9</sup>

It is evident that the benefits of these technologies are global in scope. Yet coordinated frameworks play a pivotal role in bringing them to fruition. While it may seem a daunting task, regulatory coordination will ensure risks are effectively identified and managed while the benefits of efficiency, speed, financial inclusion are fully realized. Our legacy of successfully addressing the Internet is promising evidence of our ability to address today’s new payment solutions.

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<sup>8</sup> “Bank for International Settlements cast as digital currency regulator,” Finextra, 7 April 2015, <http://www.finextra.com/news/fullstory.aspx?newsitemid=27202>

<sup>9</sup> “Virtual Currencies and Beyond: Initial Considerations” International Monetary Fund, January 2016, <http://www.imf.org/external/pubs/ft/sdn/2016/sdn1603.pdf>



# Conclusion

The financial services sector along with many central banks have noted the transformative potential of distributed payment technology. Greater speed, improved transparency, and bolstered resiliency offer great promise for the next generation of payments.

The shift from a direct-to-consumer tool within Bitcoin to an enterprise solution within the traditional financial services sector was crucial in leveraging the benefits of the technology while minimizing consumer risk.

For these solutions to take root in the United States, Ripple urges regulators to identify the specific risks they aim to address and acknowledge the various use cases of the tools. Painting all use cases of the technology with one broad regulatory brush will fail to properly mitigate risks.

In light of steps taken in several other countries to support payment innovation, the United States must address its fragmented regulatory regime and licensing requirements if it seeks to remain competitive globally. Ripple urges one standard license within the U.S. and global coordination given the activity enabled by these tools is global in scope.

Distributed payment solutions lay the foundation for an Internet of Value – a network that moves value the same way the Internet moves data. The Internet of Value is a platform on which new innovation, business models, and services can be built. Much like the transformative impact the Internet has had on our lives, the Internet of Value has the potential to transform our financial lives and spur global growth.

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