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## **Digital Currencies: Call for Information**

Submission to:  
Digital Currencies – Call for Information  
Banking & Credit Team  
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3 December 2014

**VIA EMAIL [DigitalCurrencies@HMTreasury.gsi.gov.uk](mailto:DigitalCurrencies@HMTreasury.gsi.gov.uk)**

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Sub: Digital Currencies: Call for Information

Dear Madam/Sir:

Ripple Labs, Inc. (“Ripple Labs”) submits the following comments in response to your Call for Information on Digital Currencies.

Ripple Labs is the parent company that created and supports the Ripple protocol—an open-source, distributed payment protocol for accounting for financial balances held within and moved between ledgers. The Ripple protocol enables payment in any fiat or virtual currency, including the math-based virtual currency developed by Ripple Labs, XRP.

Ripple Labs appreciates HM Treasury’s collaborative approach to exploring digital currencies and look forward to future discussions as this important topic evolves within and beyond the UK. Ripple Labs would welcome further engagement with UK regulators, to improve transaction banking in a compliant way.

Ripple Labs is engaging with financial institutions around the world, including the UK, to implement an open, free, and universally acceptable global protocol for funds settlements. Being a transformative technology, especially for cross-border transactions, we believe this can enable UK institutions, small and large businesses and individuals to prosper in global markets.

In the short term, the government can support constructive innovation in this area by clarifying how existing rules and frameworks apply to virtual currency businesses. In the long term, the government should consider devising a tiered, risk-based regulatory scheme. Regulation around using a distributed ledger as a new/free payment rail is unclear and is a barrier to innovation.

Banks see value in Ripple but are hesitant to move forward without clarity from regulators to test the new technology in a pilot phase.

Digital currency is an enabling component of the Ripple protocol, but is not intended as a replacement for fiat currencies like the pound sterling. Our proposed use of digital currency is as a component of a protocol that can reduce friction between financial institutions and accelerate the velocity of financial transactions through cheap and plentiful liquidity.

We believe an effective regulatory framework can provide a foundation for fostering innovation in this potentially transformative area of technology. The goal is to provide clarity without stifling the promise of these technologies. Instead, smart regulations can level the playing field, legitimize a burgeoning industry, and empower entrepreneurs.

Attached are our responses to your questions. We are happy to provide further information if you have additional questions or would like clarification of any of our responses.

Sincerely,

Chris Larsen  
CEO  
Ripple Labs Inc.

# Executive Summary

## Regulatory approach

- We believe that the government *should* create standards for digital currency businesses that address risks posed to consumers. In devising a regulatory regime, regulators should tailor requirements that specifically apply to digital currency businesses based on the specific risks they pose.
- In the short term, the government should clarify which existing rules and frameworks apply to virtual currency businesses (i.e., MSB under HM Revenue and Customs, or e-money license from the Financial Conduct Authority, etc.).
- To support innovation, regulators may consider a tiered regulatory scheme in the long run. Under such a scheme, smaller entrepreneurial companies could operate under a registration system, with lighter requirements than more established and larger players. Businesses operating above a certain threshold (in terms of risk and volume) could be required to obtain licenses to operate.
- Harmonizing a global standard for digital currencies could provide clarity and an even playing field for technologists and companies that innovate using digital currencies.
- The various virtual currencies that are assets and the protocols that have been built around them (Bitcoin, XRP, Litecoin and others) present a relatively consistent set of issues that can be addressed by a single regulatory framework.
- As pure technologies, these protocols cannot themselves be regulated. However, the entities that make use of the protocols to buy, sell, or exchange those virtual or fiat currencies can be subject to regulation.

## Benefits of digital currencies

- Ripple Labs does not share the view that digital currencies should replace fiat currencies. For many reasons, including geo-political considerations, it is highly unlikely that any digital currency could pose a meaningful threat to monetary or fiscal stability for the foreseeable future.
- Utilizing digital currencies could be particularly attractive for both lowering the cost and substantially increasing the speed of cross-border payments, where values are linked to stable national currencies and quickly exchanged.
- Protocols utilizing digital currencies have the potential to significantly lower transaction costs. Real-time payment systems offer tangible benefits to national economies through increasing efficiency and liquidity, which has an impact on GDP growth.
- At the consumer level, Ripple has the ability to reduce the marginal cost of payments to zero.
- By significantly lowering the cost of cross-border payments, protocols like Ripple allow small business owners to reach out to markets that were previously inaccessible.
- Small and Mid-Sized Banks can benefit by having direct access to international payments without tying up large amounts of capital.
- By significantly reducing settlement time (the Ripple protocol provides funds settlement in approximately five seconds), payments-related protocols can free up corporate capital for more productive uses.
- At the regulatory level, the visibility of the decentralized ledger system facilitates efficient regulatory inquiries. Ledger transparency provides visibility into customer activity and reduces compliance costs.

# Background

## About Ripple

Ripple is an Internet protocol that has the ability to interconnect all disparate payment systems to enable the secure transfer of funds in any currency in real time – it can be analogized to an Internet for money.

Ripple is not a payment system, but rather provides an important component of a payment system: it is technology that permits funds settlement in real time. Ripple does not contain the messaging standards or rule sets which are necessary parts of a payment system; rather, the protocol may be integrated compatibly with established standards and rules.<sup>1</sup>

As a settlement infrastructure, Ripple has the power to transform and enhance today's financial systems. For domestic payments, Ripple is currently used for clearing, with settlement happening on the central bank ledger. Central bank participation in the future could enable real time good funds settlement. Ripple unlocks assets and provides access to payment systems for everyone, empowering the world to move value like information moves today.

## About Ripple Labs

Ripple Labs developed the Ripple protocol, which enables the free and instant exchange of anything of value. The San Francisco-based startup is funded by Google Ventures, Andreessen Horowitz, IDG Capital Partners, FF Angel, Lightspeed Venture Partners, The Bitcoin Opportunity Fund and Vast Ventures.

The software company's team of 75 is comprised of deeply experienced cryptographers, security experts, distributed network developers, Silicon Valley and Wall Street veterans. They contribute code to the protocol and create tools to enable businesses of any size to easily build payment solutions and accelerate the movement of money globally. The team shepherds a movement to evolve finance so that payment systems are open, secure, constructive and globally inclusive.

More information about Ripple Labs and the Ripple protocol can be found in the Ripple Deep Dive White paper, which can be downloaded [here](#).

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<sup>1</sup> The [Bank of England](#) defines a payment system as follows: “[A] payment system requires: agreed technical standards for, and methods of transmitting, payment messages between members (ie agreement on the infrastructure to be used); an agreed means of settling claims amongst members, normally a ‘settlement asset’, sometimes central bank money; and a set of common operating procedures and rules (on participation, charging, etc).” Under this definition, Ripple is an infrastructure for settlement.

# Responses

**Question 1: What are the benefits of digital currencies? How significant are these benefits? How do these benefits fall to different groups e.g. consumers, businesses, government, the wider economy? How do these benefits vary according to different digital currencies?**

In considering the benefits of digital currencies, regulators need to take into account the various uses that can be made of these new technologies. There is a growing recognition that while digital currencies can be used as an asset or store of value, their greater promise lies in the protocols that can be built around them.<sup>2</sup>

The Ripple protocol is one example of a protocol that incorporates a digital currency. It is a settlement technology that can be used for low-cost, real time transactions in traditional currencies (i.e., GBP, USD) without touching virtual currency. Ripple Labs is working with top 20 banks globally to pilot both domestic and international funds transfer via a distributed ledger. While digital currency is part of the protocol that enables real time settlement, most of the banks that use Ripple will never use virtual currency themselves: they will simply send fiat currencies from one institution to another.

By permitting faster and cheaper payments and allowing point-to-point settlement, protocols like Ripple that make use of digital currency have the potential to benefit many different participants in the financial ecosystem:

- **Consumers** can benefit from significantly lowered costs for making payments, particularly in the cross border setting. Consumers currently pay significant fees to banks for effecting payments, and when sending money across borders, are subject to uncompetitive and often exorbitantly high foreign exchange rates. By enabling point-to-point payments and more competitive exchange rates, protocols like Ripple lower the cost of providing payment services. These cost savings can be passed on to consumers.
- **Small businesses** can benefit by gaining access to new markets. Small businesses are generally built around a stream of relatively small value payments. Because of the costs associated with cross-border payments, many small business owners cannot even consider expanding their businesses beyond the borders of their country. For example, the fees associated with a payment of 100 GBP generally range around 20 GBP, and

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<sup>2</sup> See Boston Federal Reserve, "Nevertheless, there is growing recognition that the lasting legacy of Bitcoin most likely lies in the technological advances made possible by its protocol for computation and communication that facilitates payments and transfers. The revolution in payments technology pioneered by Bitcoin helps to accelerate the development of better technologies for making payments and transfers cheaper, faster, and more secure. For instance, a new technology called Ripple, essentially a protocol that allows disparate systems to communicate in order to transfer funds and make payments, has recently been developed. One notable point, made clear by Ripple, is that the development of new technologies for making payments does not need to be accompanied by a new financial claim." <http://www.bostonfed.org/economic/current-policy-perspectives/2014/cpp1404.htm>

often small businesses cannot access the favorable exchange rates available to larger corporations. This cost structure cuts small businesses off from access to the global economy and the vibrant and growing markets, which have spurred the growth of larger corporations around the world. By significantly lowering the cost of cross-border payments, protocols like Ripple allow small business owners to reach out to markets that were previously inaccessible.

- **Corporations** can benefit by having greater access to their own capital. Currently corporate treasurers must take into account the fact that a significant portion of their working capital is tied up in the payments process, particularly when funds are moving overseas. In the international context, funds settlement typically requires at least two days, and can take as much as eight to complete. By significantly reducing settlement time (the Ripple protocol provides funds settlement in approximately five seconds), payments-related protocols can free up corporate capital for more productive uses.
- **Small and Mid-Sized Banks** can benefit by having direct access to international payments without tying up large amounts of capital. Currently only the largest global banks have the infrastructure - known as the correspondent banking network - that permits them to send funds around the world. These banks require smaller banks to post significant amounts of capital in “nostro” and “vostro” accounts in order to have access to this global payments network. By permitting point-to-point settlement, protocols like Ripple permit smaller banks to make international payments directly, and without posting capital. Allowing more banks to participate in the international payments system should have the effect of increasing competition in this area of finance, lowering costs and potentially increasing economic activity generally.
- **Financial regulators** can benefit from the increased security and transparency provided by protocols like Ripple.

With respect to security, Ripple and similar protocols represent a significant advance over current systems. At their core, these protocols are a means of maintaining a ledger (or spreadsheet) that tracks ownership of funds. That ledger is maintained in a decentralized fashion, so copies of the ledger are maintained all over the world. This decentralization substantially enhances the security of the ledger in that there is no single computer - or even a single back-up system - that could be hacked in a way that would compromise the ledger's integrity.

With respect to transparency, point-to-point settlement means that payments can be traced directly, without the opacity of the current payment system, where payments may travel through a number of institutions before arriving at their destination. This opacity is particularly problematic in the context of international payments, where both sender and receiver may be unaware of how a payment is routed or even where it is at any given time in a payment process that stretches for several days. The existing opacity in international financial transactions has contributed to criminality globally. The friction in the existing system and difficulties associated

with information sharing has made the fight against global crime a burden. By contrast, anyone can view the Ripple ledger and see a record of all activity historically, including exchanges and payments. This level of transparency makes it difficult to conceal illicit activities on the network, such as fraudulent payments and accounts that are hacked.

**Question 2: Should the government intervene to support the development and usage of digital currencies and related businesses and technologies in the UK, or maintain the status quo? If the government were to intervene, what action should it take?**

Our experience is that regulation around using a distributed ledger as a new, low cost payment rail is unclear and is a barrier to innovation. Banks see value in Ripple but are hesitant to move forward without clarity from regulators to test the new technology in a pilot phase.

Our view is that regulators could provide useful clarity and certainty by issuing specific guidance on how digital currency business should be regulated under existing regulations and should clearly distinguish between the various types of digital currency-related businesses. For example, businesses that hold funds for consumers or facilitate exchanges should be regulated far differently than those that simply build on or integrate digital currency technology. Banks and other financial services providers that already have a rigorous framework of systems and controls should be able to integrate a new settlement technology without the concern that doing so will subject them to additional regulation.

Moving forward, regulators should tailor any additional regulatory requirements for digital currency-related businesses to the specific risks they pose. While digital currencies do present specific risks, regulators should also take into account the risks that can be alleviated by using digital currency technology. For example, the Ripple protocol is a point-to-point technology that reduces counterparty risk and removes the settlement risk that is inherent in the current correspondent banking system.

The Ripple Ledger and other modern settlement technologies have significant advantages over the technologies on which banks, insurance companies and traditional money transmitters rely to move and track money. The definitions that the government ultimately adopts should not dissuade financial institutions from incorporating these technologies to reduce the risk and speed the movement of money.

An additional suggestion we have is that to support innovation, regulators consider a tiered regulatory scheme for digital currencies, which is in alignment with the government's current approach to risk based systems and beneficial to small service providers. Under such a scheme, smaller entrepreneurial companies could operate under a registration system, with lighter requirements than more established and larger players. Businesses operating above a certain threshold (in terms of risk and volume) could be required to obtain licenses to operate, with the full panoply of regulatory requirements, regular examinations and permissions.



**Question 3: If the government were to regulate digital currencies, which types of digital currency should be covered? Should it create a bespoke regulatory regime, or regulate through an existing national, European or international regime? For each option: what are the advantages and disadvantages? What are the possible unintended consequences (for instance, creating a barrier to entry due to compliance costs)?**

Ripple Labs believes that regulatory attention should be directed towards those virtual currencies that are digital assets, and that do not create a corresponding liability. Until the development of the Bitcoin technology, all other electronic forms of value were liabilities that required a counterparty to confirm their existence. The primary innovation that Bitcoin introduced was the ability to have an asset that could exist entirely in electronic form. The various virtual currencies that are assets and the protocols that have been built around them (Bitcoin, XRP, Litecoin and others) present a relatively consistent set of issues that can be addressed by a single regulatory framework.

Another consideration for governments seeking to regulate digital currencies is the fact that payments protocols have been built around these technologies. These protocols are essentially algorithms that enable digital or fiat currencies to change hands, electronically. They operate similarly to other Internet protocols, such as SMTP, which is the electronic standard for email transmission. As pure technologies, these protocols cannot themselves be regulated. However, the entities that make use of the protocols to buy, sell, or exchange those virtual or fiat currencies can be subject to regulation.

Harmonizing a global standard for digital currencies could provide clarity and an even playing field for technologists and companies that innovate using digital currencies. The current variation and lack of uniformity across jurisdictions creates significant uncertainty for digital currency businesses. In addition, as noted above, establishing a materiality threshold beneath which no regulation is needed would create a two-step regime with the first step having little friction.

**Question 4: Are there currently barriers to digital currency businesses setting up in the UK? If so, what are they?**

Two significant barriers have emerged for digital currency businesses. While there has been significant interest around digital currencies, the lack of clarity in the existing regulatory regime on its applications to digital currency businesses has caused hesitation on the part of companies looking to develop innovative technologies.

For example, some companies that build on the Ripple Protocol (also known as *gateways*) may apply for registration as a Money Services Business (MSB) with HM Revenue and Customs, while others may seek an e-money license from the Financial Conduct Authority (FCA) even though they provide similar consumer-facing services. The deciding factor in which license is required for such a business may be determined by which activities regulators are interested in overseeing. A customer may make a GBP deposit at a Ripple gateway and be issued a

corresponding balance in a digital wallet; there appears to be overlap with the definition of e-money issuance in such a scenario. That balance may then be converted into EUR through the Ripple protocol; conceivably the GBP issuing gateway may be viewed as a money exchanger. Ripple Labs would like to see the government clarify the applications of an MSB or e-money issuer to a virtual currency business as described in the example above. Because the Ripple ecosystem is strongly integrated with the fiat currency system, regulators may choose to view such businesses as e-money businesses.

Second, digital currency companies struggle to open business bank accounts due to the general lack of understanding and widespread risk sentiment shared by many banks. Regulators could do much to alleviate these concerns by articulating clear guidelines that would permit banks to assess the risks associated with particular digital currency businesses.

See also our response to Question 2, above.

**Question 5: What are the potential benefits of this distributed ledger technology? How significant are these benefits?**

The Ripple Ledger, the BlockChain and other modern settlement technologies have significant advantages over the technologies on which banks, insurance companies and traditional money transmitters rely to move and track money. Many digital currency technologies, including Ripple, have publicly available ledgers and other methods that make digital currency transactions more traceable than transactions occurring over conventional networks.

The Ripple ledger is interoperable, which permits closed systems to talk to each other, and allows visibility in to previously siloed information. A distributed ledger between two existing systems such as SEPA and Direct Entry (or the New Payments Platform), can facilitate seamless payment processing between the two systems and enable more efficient information sharing.

Adding efficiency to the global payment system improves commerce and reduces costs. Cryptocurrency technology has the ability to expand commerce and financial services to the people in the world who as of today are not able to access these services locally, let alone have access to international financial and commercial markets.

See also our response to Question 1, above.

**Question 6: What risks do digital currencies pose to users? How significant are these risks? How do these risks vary according to different digital currencies?**

It should be noted that many of the most significant risks posed by digital currencies arise when consumers engage with digital currencies as means of speculation. Digital currencies are not suitable as vehicles of speculation for consumers. Digital currencies can be subject to wide price fluctuations which means that short term losses as well as short term gains are likely to occur at times. Consumers can also be targets for scams which fraudsters take advantage along with the hype surrounding digital currencies to cheat people with fake opportunities. We

think the best way for consumers to interact with digital currencies as a means of effecting payments. Consumers can have a wide variety of ways to do so, both within the traditional financial infrastructure and by making use of new financial products and services built on top of digital currency technology.

With respect to other risks posed by digital currencies that have been identified globally, account security, lack of fee disclosures and price volatility seem to be the most prominent. Some of the risks posed to consumers who buy and store digital currencies would also apply to users who store fiat currency digitally in a PayPal or bank account. Most of these concerns can be addressed by the businesses that interact directly with consumers, often through disclosure. In this regard, Ripple Labs has issued [gateway bulletins](#) notifying entrepreneurial businesses that incorporate the Ripple technology of consumer risks and how they can educate their users on these various risks.

A final and important risk factor presented by digital currencies is anonymity. Digital currencies have at times been promoted as a means of transacting anonymously. The fact that these currencies exist electronically and are quite traceable limits the extent to which they are genuinely anonymous; however, the risks posed by unchecked, anonymous transactions are clear, and represent another reason for regulatory engagement in this area.

**Question 7: Should the government intervene to address these risks, or maintain the status quo? What are the outcomes of taking no action? Would the market be able to address these risks itself?**

We believe that the government *should* create standards for digital currency businesses that address risks posed to consumers. As noted above, in devising a regulatory regime, regulators should tailor requirements to the specific risks posed by digital currencies. We believe that the government should seek to clarify the actual risks and opportunities presented by different digital currency businesses.

We also believe that digital currency businesses should implement best practices and be transparent about their terms of use and the protections they may provide its users. Suggested terms of use may include, as appropriate: (1) any fees charged to consumers, (2) contact information and address, (3) the business's dispute resolution process, (4) description of protection against unauthorized transactions, (5) efforts around privacy and security, (6) customer services, and (7) chargeback policy.

Eventually, we believe that the good actors will be distinguished from the bad actors in this space and it will be easier for users to detect fraudulent scams. A clear regulatory framework can support this process.

**Question 8: Should the government regulate digital currencies to protect users? If so, should it create a bespoke regime, or regulate through an existing national, European or international regime? For each option: what are the advantages and disadvantages? What are possible unintended consequences (for instance, creating a barrier to entry due to compliance costs)? What other means could the government use to mitigate user detriment apart from regulation?**

Please see our responses to questions 3, 4 and 7 above.

**Question 9: What are the crime risks associated with digital currencies? How significant are these risks? How do these risks vary according to different digital currencies?**

There is the concern that digital currencies such as XRP or Bitcoin can be targets for hackers or money laundering activities. These same concerns are present for any digital store of value. As technology evolves, companies will be able to advance their security measures to meet security threats. Ripple Labs has created risk tools that facilitate investigations related to suspicious activity. These tools assist us in detecting activity that is abnormal, investigating various activities, and filing reports with the appropriate agencies.

As noted above, the risk of anonymity also poses threats to the digital currency ecosystem. We believe that users buying, selling, sending or receiving digital currencies should be required to undergo KYC procedures if they trigger a pre-defined threshold.

**Question 10: Should the government intervene to address these risks, or maintain the status quo? What are the outcomes of taking no action?**

We believe that the government should take action to address the risks of financial crime by applying existing rules to digital currency businesses. For example, the rules on anti-money laundering and counter-terrorist financing (AML/CTF) can be applied to digital currency businesses based on the specific products they offer to ensure that companies are implementing policies to combat money laundering. We believe that these rules can apply to businesses without the need to undergo an expensive licensing process with the appropriate agency.

**Question 11: If the government were to take action to address the risks of financial crime, should it introduce regulation, or use other powers? If the government were to introduce regulation, should it create a bespoke regime, or regulate through an existing national, European or international regime?**

**For each option: what are the advantages and disadvantages? What are possible unintended consequences (for instance, creating a barrier to entry due to compliance costs)? What has been the impact of FinCEN's decision in the USA on digital currencies?**

Please see our response to question 11 above.

**Question 12: What difficulties could occur with digital currencies and financial sanctions?**

Some have argued that a sanctioned entity could use digital currencies to transact anonymously, and in this way subvert government-imposed sanctions regimes. In this regard, it must be recognized that current financial systems can and do allow substantial payments to be made to sanctioned individuals and countries. The recent BNP settlement with FinCEN in the United States provides just one recent example of how this occurs: financial actors manipulate messaging or in other ways take advantage of the opacity of the current correspondent banking network to divert funds to forbidden counterparties.

While not a panacea, distributed ledger technology can substantially increase transparency in cross-border funds transfers. This is particularly true of the Ripple distributed ledger system, which permits visibility of all transactions taking place through the protocol, and in which transaction histories of all accounts are available.

**Question 13: What risks do digital currencies pose to monetary and financial stability? How significant are these risks?**

In our view, digital currencies should be regarded as “complementary currencies” rather than currencies that compete with government-issued currencies. While we believe that utilizing digital currencies could be particularly attractive for facilitating cross-border payments, Ripple Labs does not share the view that digital currencies should replace fiat currencies. For many reasons, including geo-political considerations, it is highly unlikely that any digital currency could pose a meaningful threat to monetary or fiscal stability for the foreseeable future.