California State Assembly

Committee on Banking and Finance

Hearing on "The Technology of Consumer Financial Transactions”

November 21, 2013

Prepared Statement

of

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We wanted to thank Chairman Dickinson and members of the Committee for inviting us today and for holding these hearings on math-based currencies (MBCs) and distributed payments protocols.

My name is Chris Larsen, I'm the CEO and cofounder of Ripple Labs, a 30 person San Francisco-based software company that first built the Ripple protocol. Ripple is an open-source, distributed payments protocol, math-based currency, and distributed currency exchange first launched in 2012.

The Value Web

We now live in a world completely connected by an information web. People in China, India, Africa, and anywhere else have access to a global web of information and marketplaces. As we've seen, this has transformed the world in powerful and efficient ways. Unfortunately, our payments systems have not kept up. The exchange of value (i.e. payments and transactions) is based on 40-year old, pre-Internet systems that are expensive, slow and far from global. This is costly. Approximately 1 to 2% of U.S. GDP[1] and nearly 10% of remittance volume is chewed up in fees[2]. Even today's most inspiring and innovative payments companies must ride these pre-Internet payment rails. In short, there is no Internet for value.

The emergence of the math-based currency movement is about much more than just virtual currency. It represents the first time the world can construct an Internet for value exchange.

[1] The Cost of Cash in the United States. The Institute For Business in The Global Context. Sept. 2013. Collaborating to Improve the U.S. Payments System. Federal Reserve Bank of Cleveland. Oct. 22, 2012.

[2] Migration and Development Bank. The World Bank. Oct. 2, 2013.

Until the creation of this technology in 2009, a ‘value web’ was impossible because no one had solved the double spend problem. While the information web didn’t need to worry about the double spend problem - it doesn’t matter if the same email is received over and over - the spending of value more than once matters fundamentally. Therefore, an Internet for value wasn’t possible because the Internet’s peer-to-peer distributed architecture has no central operator to ensure value wasn’t spent twice. With the launch of Bitcoin in 2009 and Ripple in 2012, the double spend problem was solved and an Internet for value exchange is now possible.

Ripple and Bitcoin operate differently. Bitcoin was designed as a math-based currency (bitcoins or BTC) and a payment system to exchange value stored in those bitcoins.

Ripple was designed as a currency-agnostic value exchange that is enabled by its own math-based currency (ripples or XRP). Using Ripple, users can exchange value in any currency (dollars, euros, yuan, game points, airline miles, loyalty points).

The key technological breakthrough is confirmation without a central clearinghouse, allowing value to move like information for the first time. Ripple uses a method called ‘consensus’ to confirm transactions without a central operator. Bitcoin uses a method called ‘mining.’

Because anything of value can be placed in the Ripple ledger, the protocol enables a distributed currency exchange. Thus, users don't have to adopt Ripple’s native currency, XRP, but rather can use whatever preferred currency they wish. For example, a user might choose to hold and pay for things in USD to avoid the volatility of other currencies.

Why a Math-based Currency Is Valuable in Ripple

XRP serves as both a security layer to protect the network from DDOS attacks and ledger spam, as well as provides an efficient exchange function among all other currencies.

For example, consider the need to exchange Mexican Peso (MXN) for Korean Won (KRW) where multiple issuers or gateways for each currency exist. Would you need a market maker for each currency from each gateway? This could require thousands of currency/issuer pairs, trapping liquidity in small market corridors. XRP solves this problem. Because XRP has no counter party, users only need to consider the current price of XRP rather than both price and counter party risk for all other currencies in the network. Thus, it is more efficient for a market maker to pair MXN to XRP, which can then be exchanged for any other currency from any other issuer. This requires only two pairings rather than possibly thousands.

For example, imagine a farmer in Nepal buying supplies from a company in Kenya. It's doubtful there would be an efficient currency market for Nepalese Rupee (NPR) to Kenyan Shilling (KES). Without a math-based currency, a possible path might be from NPR to Indian Rupee (INR), INR to British Pounds (GBP), and finally GBP to KES. This would involve multiple gateways with fees and currency spreads at each exchange. More efficient would be to establish markets in NPR to Ripple’s math-based currency (XRP), and then exchange XRP for KES.

We would be happy to answer any questions from the Committee.