

OpenGateway

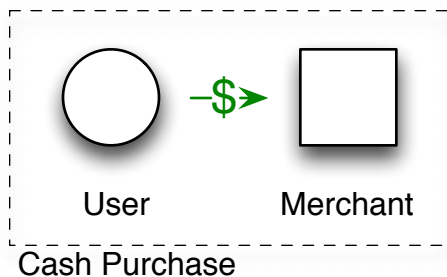
Summary

OpenGateway is an open-source modification of Ripple's client software. Its primary goals are to 1) simplify creating FinCEN compliant currency gateways, 2) assure that users of every compliant gateway can transact with users of any other compliant gateway, and 3) trivialize activating accounts for new Ripple users.

Vision

The goal of this project is to make Ripple ubiquitous. Where ubiquity means Ripple IOUs are undifferentiated from cash, except perhaps, that Ripple payments are seen as more honest. So when a stranger shows up at your door asking you to buy candy bars to support the local school. You send your money directly to the School's confirmed Ripple address. No more fear that your donation gets "lost" in transit.

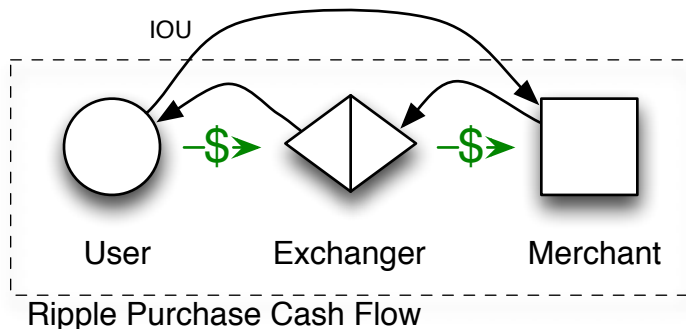
When people ask what Ripple is, I don't want to hear, "It's like free PayPal." I want to hear "it's digital cash." Cash-in-pocket is viscerally empowering. It gives you total control to make immediate decisions. There's never a bureaucracy to slow you down. Cash is local, satisfying, and makes a statement. You may pay your rent with a check, but when your friends and family need help you give them cash. Cash is honest. It never bounces. It's never charged back. It never needs days to clear. When a deal absolutely needs to get done, you do the deal in cash. Even if you can't be in the same room, Ripple is honest cash that closes the deal. Instant gratification.



But Ripple can't empower if you have to wait for banks to open, wire transfers to send, checks to clear, or credit cards to process. Users have to be able to go from cash to Ripple or Ripple to cash locally and immediately. At worst, Ripple must be as simple as an ATM. At best, you just trade Ripple with the stranger sitting next to you on the bus, so you have coins when you get to the subway. That's ubiquity.

Ripple Gateway

For this discussion, a Ripple Gateway is a LOCAL place where users can physically deposit fiat currency in exchange for an instant Ripple IOU. Conversely, Ripple users and merchants may also redeem their IOUs for fiat currency at ANY local gateway. [FinCEN calls this role virtual currency "Exchanger"]



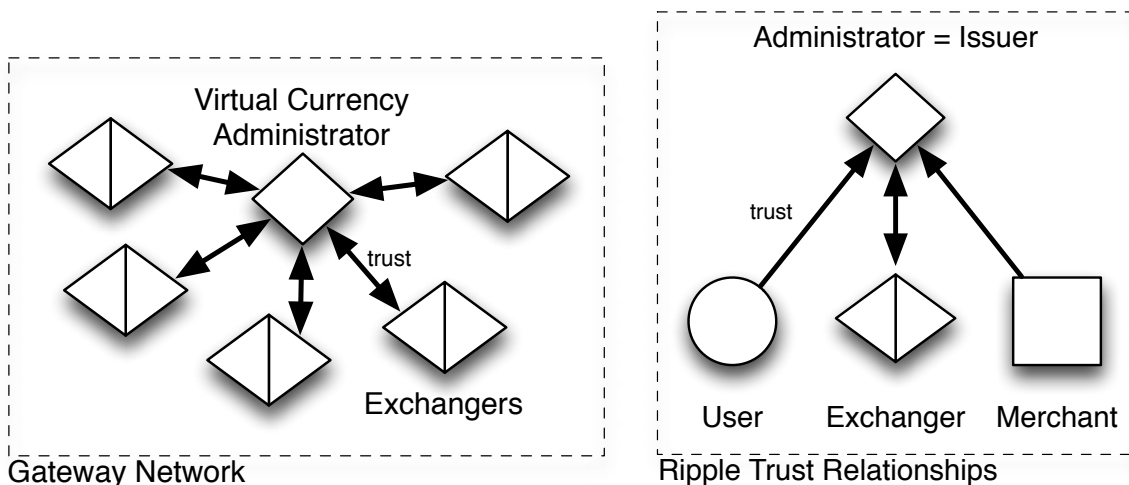
In the simplest case, you might hand \$20 to a local gateway “teller” and he would send \$20 to your personal Ripple account. The transaction would be immediately confirmed using your smart phone. Redeeming a Ripple IOU simply reverses the process. Use your smart phone to send \$20 to the Ripple address the gateway teller gives you. He confirms the transaction and hands you a crisp \$20 bill.

NOTE: Once deposited, you can easily exchange your funds for any other currency (including XRP) using Ripple’s built in exchange mechanisms. This is a feature of Ripple and is NOT provided by the gateway.

Gateway Network

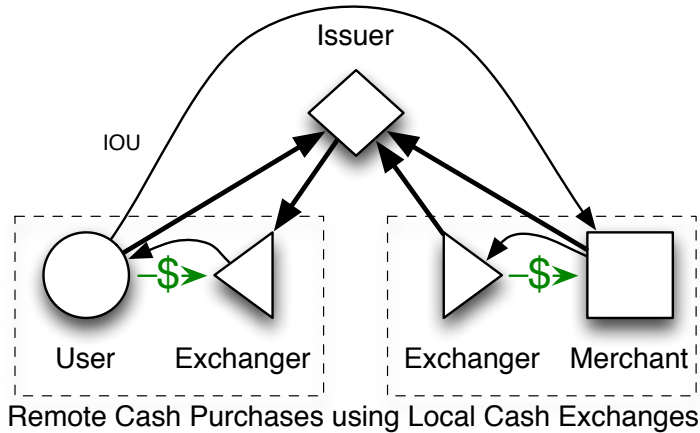
The hardest part of creating a Ripple gateway is UNDERSTANDING, creating and maintaining the necessary INTER-PERSONAL trust relationships that enable your IOUs to interchange with the IOUs of other gateways. That is not a 10 minute task, nor is it one many local merchants are likely to want to undertake.

OpenGateway delegates these responsibilities to a Gateway Network Administrator. An administrator’s serves as a risk manager and clearing house for a group of gateways. He checks the credentials of every merchant that wants to serve as a gateway, establishes a banking relationship and sets Ripple trust limits according to the risk he is willing to take.



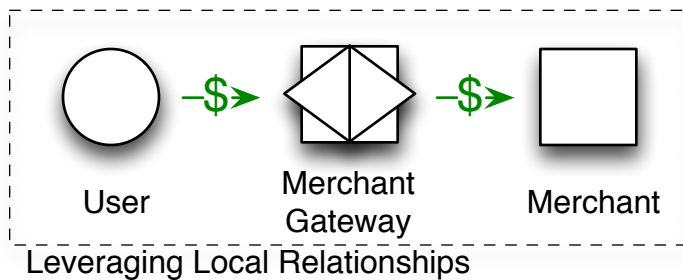
The administrator is also responsible for issuing all of the network’s Ripple IOUs. His is the address that every gateway user must trust. [FinCEN calls this role a virtual currency “Administrator”]

It is transactions “Rippling” though the administrator’s trust that makes it possible for Ripple users to make remote purchases while always managing their cash locally.



Local Gateway Requirements

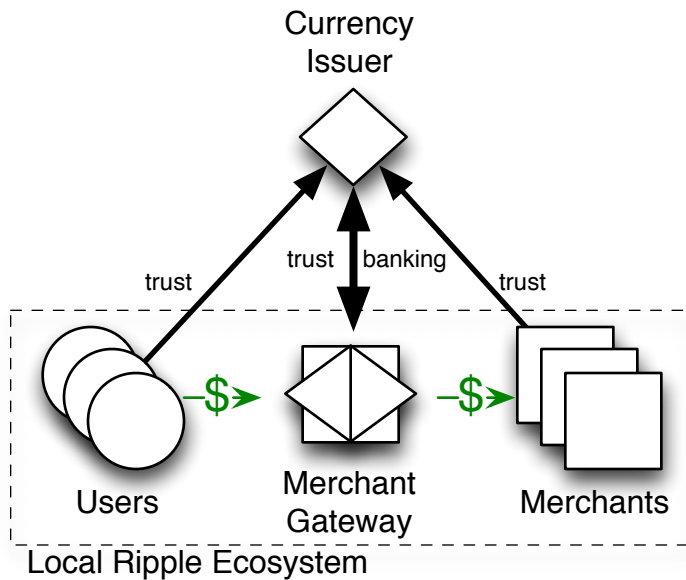
The only requirements for a local Ripple gateway are a well known location, a cash till, and a clerk with a smart phone. OpenGateway software makes the rest trivial. Ripple gateways should be as close as the corner store, grocery store or drug store. All of those locations already have bank accounts and take cash, checks, debit or credit cards for purchases. Learning to handle Gateway transactions and accept Ripple payments shouldn't take more than ten minutes.



Converting a single local merchant to a Ripple gateway, 1) makes it trivial for all of its customers to use Ripple, and 2) makes it possible for all of the surrounding business to adopt Ripple as well. These folks already know and trust each other. Adopting Ripple just removes needless overhead from their existing business relationships.

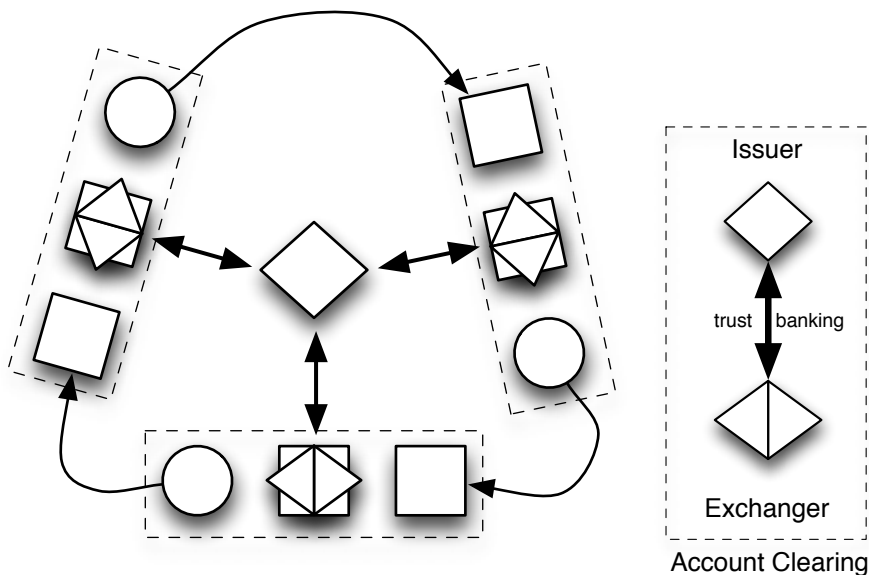
Local Gateway Ecosystem

This enables each Administrator to establish a growing Ripple ecosystem in one locale. Then quickly move on to recruit new gateway merchants in other locales. The administrator only manages the relationships between himself and gateways. Each gateway manages the rest of the local relationships.



Gateway Network Clearing Hub

Ripple users can purchase from any merchant local or remote. When trade imbalances cause cash to accumulate with one exchanger and IOUs with another, the administrator becomes responsible for “clearing” the trust lines. This is done either by physically moving cash between locations, or by wiring money between the exchangers and administrator.



Open-Source Software

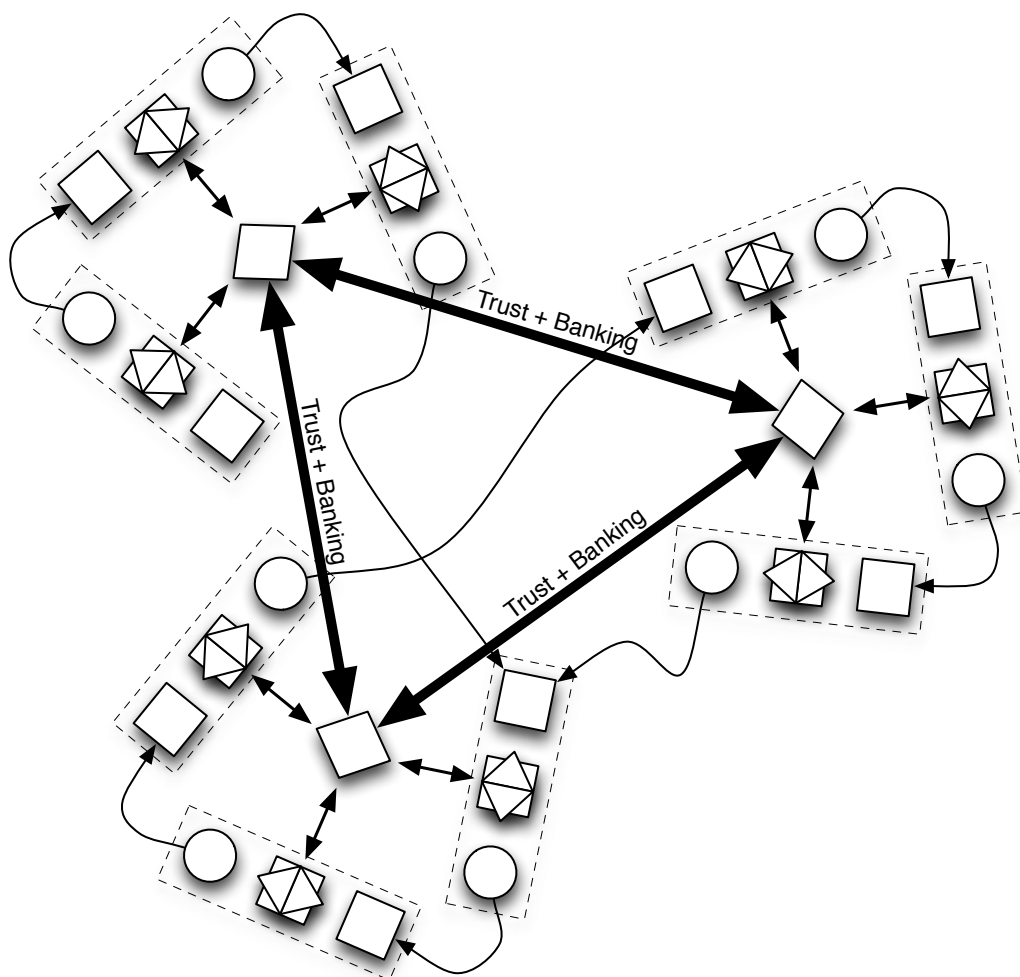
OpenGateway is basically two trivially modified Ripple clients. One customized for gateway operators. One simplified for new Ripple users. Both should run efficiently on cell phones or tablets. The full requirements will be document shortly. But in brief they amount to:

1. [Gate] Establishing trust line to Administrator.
2. [Gate] Capturing “know your customer” information for each new gateway user’s address.
3. [Gate] Encrypting and storing this KYC info on the Administrators server.
4. [Gate] Funding the new user’s Ripple account if necessary. (Reserve + trust line + 1 = 64 XRP)
5. [User] Automatically prompting new user to establish trust line.
6. [Admin] Automatically accepting trust lines with pre-stored KYC data.
7. [Both] Integrating QR code reading to simplify address swaps.

Competing Peer-to-Peer Gateway Networks

Since the barrier to entry is trivial, I expect Gateway Network Administrators to race to bring Ripple ubiquity to their respective geographic areas. As peers, each administrator is responsible for establishing trust and banking relationships with other administrators. This enables all Ripple user to transact with any other user while trusting their cash no further than their local gateway.

There are several ways built-in to Ripple that allow generating profits from your gateway network. They are documented on the Ripple wiki. I expect large network administrators pairs will find free “peering” relationships advantageous. I also expect the established peers to charge smaller startup networks “transit” fees to use their liquidity.



An open-source peer-to-peer gateway overlay-network, that uses Internet style peering and transit business models.