

Bitcoin Relay League

A Global Bitcoin Telecommunications Network

Justin Smith

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1 Overview

Today nearly all Bitcoin transactions are broadcast via an internet service provider. This is very efficient and works well most of the time. But how can you use Bitcoin without an internet connection? What happens if an internet service provider begins blocking Bitcoin transactions? Or internet access is lost entirely? The Bitcoin Relay League (BRL) provides a reliable and economic solution to these issues.

The Bitcoin Relay League (BRL) is an international network of internet-connected terrestrial radio Receivers which listen for Bitcoin transactions broadcast over the airwaves. When a Receiver hears a transaction, it automatically relays it to the Bitcoin network using its own Bitcoin Core full node and internet connection.

2 Benefits for Bitcoin Users

Why should a Bitcoin user bother with setting up a radio and antenna, and broadcast their transactions over radio?

- There is no internet service provider or telecommunications company required; submit transactions from anywhere in the world using low cost, portable, and highly efficient amateur radio equipment. Transactions can be submitted from ships at sea, aircraft, etc. enabling new possibilities for commerce in transit.
- Learn more about both radio communication technology and Bitcoin
- Make new friends abroad and strengthen international relations
- Voluntarily support Relays by including a donation for them in your transaction (provide a "Relay Reward")

3 Benefits for the Relay Operator

Why should anyone bother to operate a relay? A relay operator leaves their radio turned on and connected to a computer all the time. This has a cost in terms of equipment, depreciation, and power consumption.

- Ensure uninterrupted service for the Bitcoin network; support users in regions who have limited internet access
- Prevent sybil attacks on the Bitcoin network
- Learn more about both radio communication technology and Bitcoin
- Make new friends abroad and strengthen international relations
- Earn Bitcoin from users who trust you to broadcast their transactions for them (receive a "Relay Reward")

4 Benefits for Sponsors of the BRL

Your sponsorship will enable the BRL to launch with multiple Relays in Europe, and then expand into the Middle East and North Africa. In addition to strengthening the Bitcoin Network, sponsors:

- Attract and retain fresh talent; this is interesting project for technologists and student interns alike who are interested in computer science, mathematics, economics, digital communications, wireless technologies, and law
- Strengthen your reputation as a leader in next-generation finance and money technology
- Promote international friendship and goodwill
- have the opportunity to be the first to establish a Relay in a given region, and the first to benefit commercially

5 Example 1

A cargo ship has become disabled and needs to be towed to the nearest port. The local authorities require advance payment for a tow service. The ship can pay the invoice immediately by broadcasting a Bitcoin transaction using the ship's radio equipment. The authorities can verify the payment has been completed successfully by checking any block explorer.

6 Example 2

A small community in Finland needs to make a timely payment to a foreign creditor to service municipal debt. Unfortunately the fibre optic cable which provides internet connectivity to the village has been accidentally cut during routine maintenance, and due to weather conditions and backordered materials it may take weeks to repair the cable. To make the payment immediately, the comptroller creates and signs a Bitcoin transaction on a laptop. The resulting transaction hash is broadcast, via Morse code, with a simple amateur radio and antenna. A BRL Receiver in Switzerland, which does have an internet connection, hears the transmission from Finland and submits the transaction to the Bitcoin network.

7 Software

The software will be written in C++ and will be free and open source (MIT License). Binaries will be made available for POSIX compatible systems (UNIX).

8 Team

- Principal Engineer: OPEN
- Electrical Engineer (C++ Programming): OPEN
- Programmer (GTK/Qt): OPEN
- Media Relations: OPEN
- Graphic Design: OPEN

9 Supporters of the BRL

- Radio Hardware: TBD
- Antenna: TBD
- SDR: TBD
- Computer Hardware: TBD
- Servers: TBD
- Software: TBD
- Rooftops/Towers: TBD
- General Financial Support: TBD

10 Timeline

2021: First Relays go live.

11 About the BRL

The BRL is presently unincorporated.

12 Contact

noreply.brl@hotfix.site

13 References

<http://kryptoradio.koodilehto.fi/>