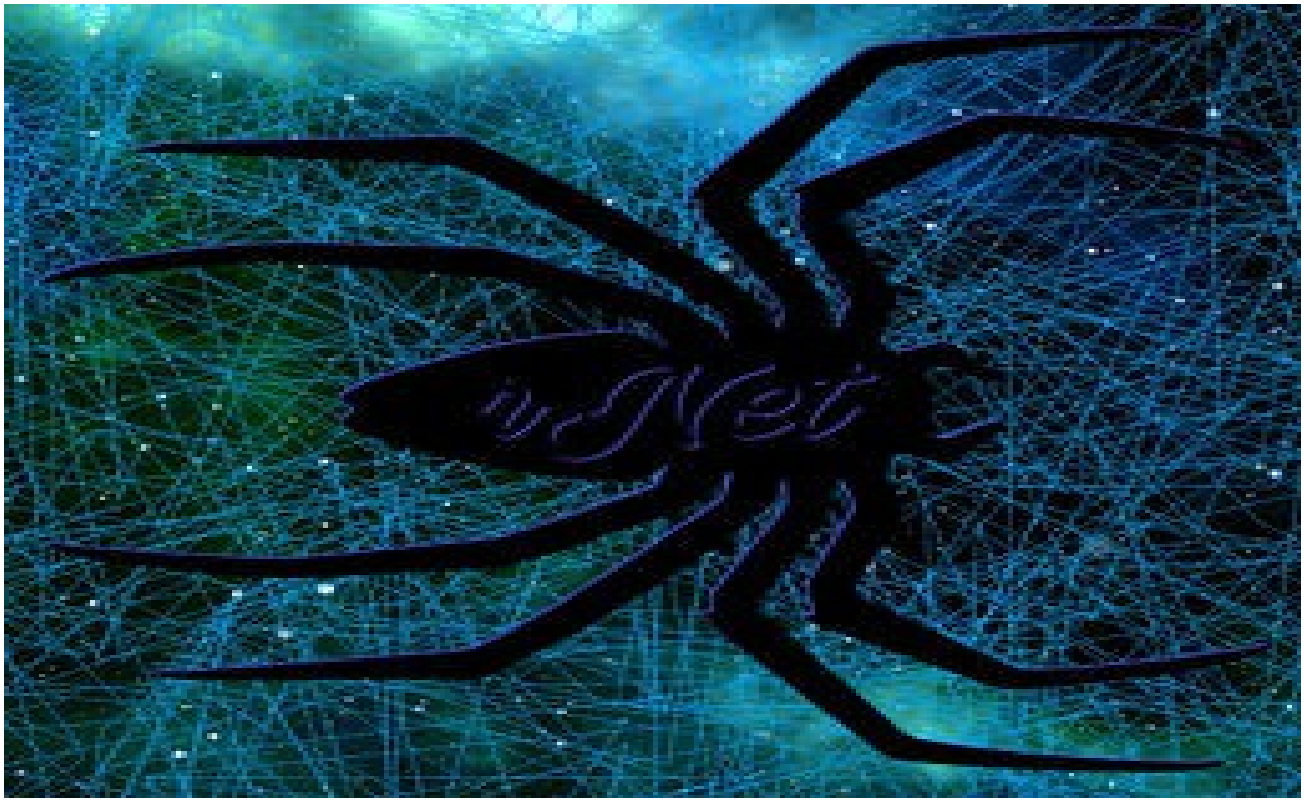
The Project Recluse White Paper



November 28, 2017

1) Executive Summary

In this white paper we will show you the real world implementation of Project Recluse and why there is such an urgency for this kind of network. We are excited to offer this opportunity and we are working hard to make it a reality.

2) The Problem

The Internet is a hierarchic network managed by multinational companies and organizations supported by governments.

Each single bit of Internet data passes through proprietary backbones, routers and fiber optic cables. The Internet Service Providers gives connectivity to the users, many of which who are in the lowest

rank of this hierarchic pyramid. There is no way to share the ownership of the Internet and people can only join the network, in compliance and conditions with the terms imposed by their ISPs. Today, the Internet represents the means to access information, knowledge, entertainment, e-commerce and communication. In 2015 an estimated 3.2 billion people can connect to this great proprietary network, but the estimated remaining 4 billion people still don't have enough economic resources, and are still waiting for the multinationals to supply them an internet service provider within their reach.

The Internet was born with the intent of warranting a secure and un-attackable communication between the various nodes of the network, but now, paradox-ally, when an ISP decides to stop providing its service, entire nations are immediately cut out of the Internet.

Beside that, Internet is not anonymous: the ISP and the multinationals can trace back and analyze the traffic of data going through their servers, without any limits.

The centralized and hierarchical structure of Internet creates, as a consequence, other identical systems, based on it.

Example: DNS. The servers of the Domain Name System are managed by different ISPs, as well and the domains are literally sold through a similar centralized system. This kind of structures allows, in a very simple and efficient way, to physically localize any computers connected to the network, which is the Internet, in a very short time and without any particular efforts.

As long as all the efforts to bring more freedom, privacy and accessibility in the Internet face aversions, fears, contrary interests of governments and private companies, the very alternative solution to this problem is to let the users migrate toward a distributed, decentralized and fully efficient network, in which all the users interact at the same level, with no privilege and no conditioning means, as authentic citizens of a free world wide community.

Common issues with the internet:

- Lack of privacy and security.
- Censorship from Governments and Corporations abroad.
- Centralized servers can be unstable.
- Always demanding a faster connection and faster hardware.
- The bottom line is, something has to change.

3) The History

Before you can understand what we are developing, you will have to know the history of the Internet and how it became what it is now.

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We're not going to copy and paste the entire Wikipedia page so please goto https://en.wikipedia.org/wiki/History_of_the_Internet.

But to make it simple the internet was suppose to be a free, free speech network totally void of censorship, propaganda and tyranny.

Since then you don't have the privacy to send an email. So tools have been created such as, TOR, VPN and PROXY SERVERS. But they truthfully offer nothing that can't be truly secure and anonymous.

4) The Solution

Introducing Project Recluse or r(NET) for short. r(NET) aims to be a **mesh network** and a **peer to peer protocol** that generates and sustains itself autonomously. It is designed to handle an unlimited number of nodes with minimal CPU and memory resources. Thanks to this feature it can be easily used to build a worldwide distributed, anonymous and uncontrolled network, separated from the Internet, without the support of any servers, ISPs or authority controls.

Such a network is composed by computers physically linked each other, therefore it isn't build upon any existing network. r(NET) builds only the routes which connects all the computers of the network. In other words, **r(NET) replaces the level 3 of the ISO/OSI model with another routing protocol**.

Because r(NET) a distributed and decentralized network, it is possible to implement real distributed systems on it.

5) The Benefits

r(NET) is self-managed. It generates itself and can stand alone. When a node hooks to r(NET), the network automatically rewrites itself and all the other nodes known, and calculates which are the fastest and more efficient routes to communicate with the newly arrived node. The nodes don't have privileges or limitations, when compared with other nodes, they are part of the network and give their contribution to its expansion and efficiency. The more they increase in number the more the network grows and becomes more efficient. In r(NET) there isn't any differences among private and public networks and talking about "local networks" becomes meaningless.

It can not be controlled or destroyed because it is totally decentralized and distributed. The only way to control or destroy r(NET) is by physically knocking down each individual node that is connected to it.

No name, no identity!

Inside r(NET) everyone, anywhere, at any moment, can immediately connect to the network without coming through any bureaucratic or legal compliance. Most of all, every element of the network is extremely dynamic and it never stays the same. The IP address which identifies a device is chosen randomly, therefore it is impossible to associate a particular IP address to a particular physical device, and the routes themselves, have been composed by a huge number of nodes. So the tendency to have such a high complexity and density will make tracing of a node a titanic task.

Since there are not any contracts with any organizations, the speed of the data transfer is uniquely limited by the actual technology of the devices network speed.

6) What is r(NET)

Project Recluse is an open mathematical algorithm whose solution consists in finding a scheme of dynamic compact routing methods in realtime.

Currently there is wide number of protocols and algorithms for dynamic routing, but they differ from r(NET) because they are solely utilized to create small and medium networks.

The Internet routers are also managed by different protocols as OSPF, RIP, or BGP, based on different original algorithms, which enables them to find out the best path to reach a node on the network.

These protocols require a very high cpu and memory, which in essence are a waste, this is the reason why the Internet routers are computers specifically dedicated to this purpose. It would be impossible to implement one these protocols in order to create and maintain such a network as r(NET) is, where each and every node is a router in itself, because the map of all the routes would require a space, on each device connected to the network, of about 25GB.

r(NET) structures the entire network as a fractal, and in order to calculate all the needed routes which are necessary to connect a node to all the other nodes, it makes use of a particular algorithm.

A fractal is a mathematical structure which can be compressed up to infinity, because inside it, every part itself is composed by the same fractal. This is why there is a high compression of a structure which can be infinitely expanded. This means that we need just a few KBPS to keep the whole r(NET) network mapped.

The map structure of r(NET) can be also defined more precisely, by calling it a highly clustered graph of nodes for which is not always true that a determined packet will be sent before another one.

7) Software and Hardware

r(NET) is currently under development and it is only available under the Linux operating system, we are still deeply editing the source code and making changes and handling bug fixes.

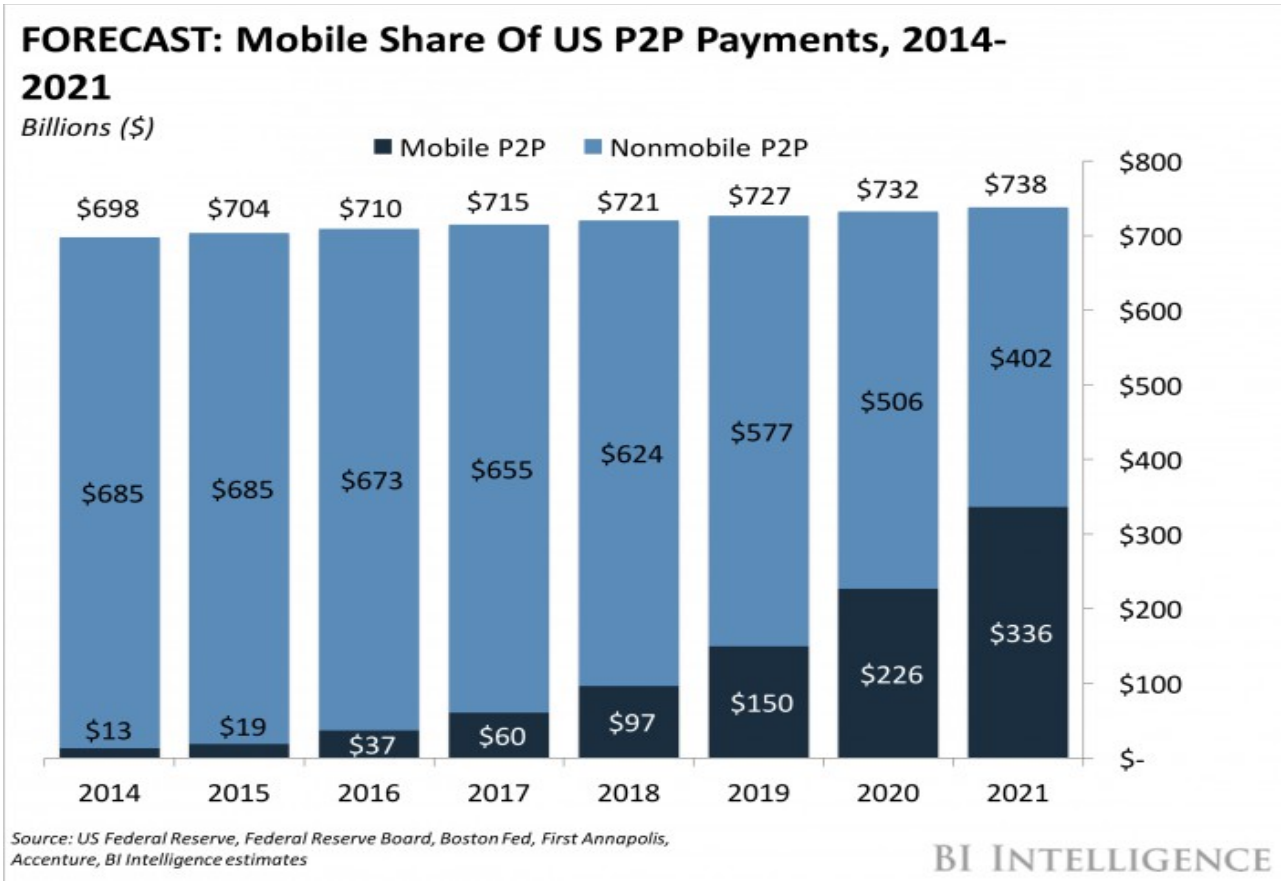
In early 2018 r(NET) will be available on Linux, Windows, Mac, Android, IOS and a custom OpenWRT firmware for Wireless AC & AD routers will be available.

Developers are welcome, on our website https://recluse.network and sign-up for our newsletter. To develop websites and applications to be used with r(NET) there are some differences, but not many. It is mainly the TRANSPORT, r(NET) does not use “http”, more documentation will be available in the future.

8) About “Project Recluse”

We a group of coders, hackers and entrepreneurs trying to change the way we connect. The internet is broken and there is no fixing it. In the United States the FCC is trying to ban Net Neutrality and completely destroy the internet. We say let them do it. Project Recluse is non-profit shell corporation, and the reason it is a shell corp is so we can remain anonymous. But with that being said it does cost money to exist. So we are seeking supporters and those who can invest into Project Recluse.

Projections for Peer to Peer based services and technology



P2P Payments Projections

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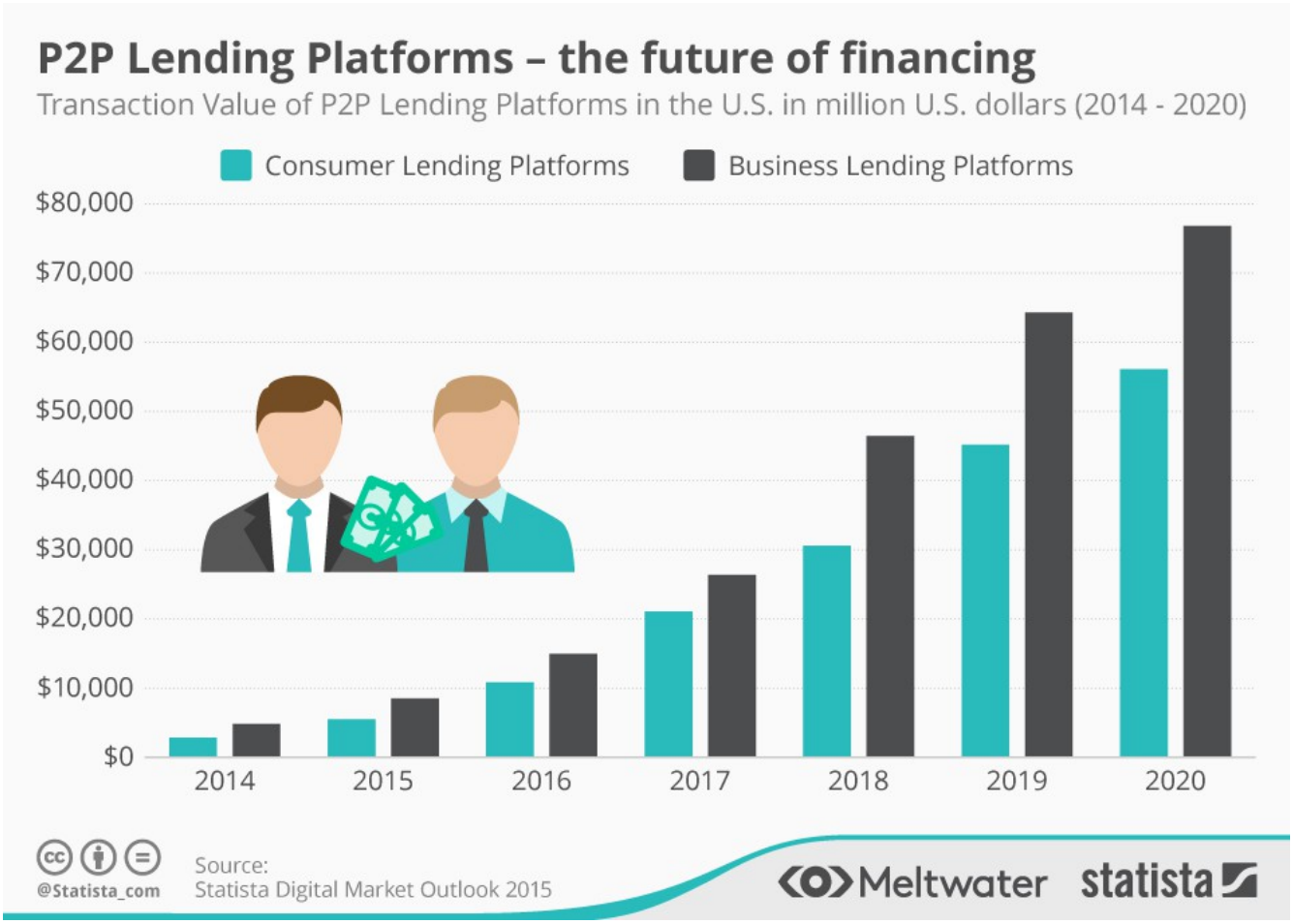

P2P Based Lending Projections

Project Recluse Economy

With r(NET) come a whole new economy.

New opportunities, new jobs, new services, and new currency.

With the huge success of Bitcoin, r(NET) will include Bitcoin, Ethereum and many other crypto-currencies ported to be usable on the network. We are even considering creating a crypto-currency for the r(NET) network, to help kick start this new economy.

The options and opportunities for users and developers alike are unlimited.

Future developments for Project Recluse

We will be selling custom wireless AC/AD routers to be used with r(NET), not to mention community kits so rural communities can setup relay nodes for connecting to r(NET). We also are in communications with data satellite providers to make Project Recluse available virtually anywhere in the world. We will fork various open source operating systems such as Linux and Android and design them specifically to run on r(NET).

Thanks for reading our white paper, we appreciate it.

Project Recluse