GSoC 2018 - LibreMesh LibreNet6

Motivation

Mesh communities take rarely full advantage of public IPv6 due to a lack of knowledge or complicated setups. Based on **this** Freifunk project proposal I'd summarize the following two requirements of existing mesh communities:

- Public IPv6 addresses for nodes in a community mesh network
- Remote access to nodes (if desired) to help non-technical users

Optional:

- Encrypted traffic to a trusted gateway over an unencrypted wireless mesh network

The project not only pushes IPv6 in mesh networks but also makes it easier to support mesh communities in case of technical problems.

Additionally, the ability to use an encrypted connection to a trusted community gateway adds security while leaving the unencrypted WiFi mesh open.

Idea

Nodes can be pre setup with the address and credentials of a VPN server. On node boot a VPN client is configured and tries to connect to the VPN server. A simple interface let's end users control the VPN behaviour.

The VPN server should be very simple to setup and allow configuration of IPv4/6 forwarding to connected clients. Simple setup is crucial to allow communities to setup their own server with no deeper knowledge of the software.

About me

I participated last in **last years GSoC** and successfully created a sysupgrade server which already produced more then 2000 images. I'm also the creator the web frontend **Chef** enables various communities to create custom images without deeper knowledge ob ImageBuilders or the OpenWrt build root.

Beneath the sysupgrade server **I'm trying** to stabilize LibreMesh and add new features