Landscape of Community Networks in France

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Fédération FDN

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Plan

Free Software

April

- Association for Free Software promotion
- Created in 1996
- A few employees, lots of members and volunteers

FSF France

- Local representation of the Free Software Foundation
- Created in 2001

RMLL

- Big conference on everything related to Free Software
- Organized since 2000
- Often in France, but also once in Genève and in Brussels

Framasoft

Framasoft

- Popular education association around free software, created in 2001
- More involved with diffusion and ease of use, free software services, free culture
- 9 employees, 100 volunteers
- Lots of "Frama-" services: Framapad, Framadate, Framagit...
- Big campaigns: "Degooglize Internet", "Contributopia"
- Funded developement of PeerTube, the self-hosted P2P Youtube replacement
- New project: Mobilizon, a tool to help organize events outside of Facebook and Meetup

La Quadrature du Net

LA QUADRATURE DU NET

LQDN

- Promotion and defence of fundamental freedoms in the digital world: fights against censorship, surveillance
- Similar to EFF and Bits of Freedom
- Created in 2008, legal structure more recently, 6 employees
- Some victories at the European level: battle against ACTA, Network neutrality
- Also tries to push a positive agenda towards a free, decentralized and emancipatory Internet

You can donate to support their work! https://soutien.laquadrature.net/

RAN: Rural Area Network

RAN / France Wireless

- Started around 2000-2004 (takeoff of cheap Wi-Fi hardware)
- Small wireless networks in very rural areas, backhaul on DSL
- Mostly servicing areas with no connection, little political interest (no neutrality...)
- Now: just a few networks still active, some changed to small companies
- Not a lot of relationships with Fédération FDN

FDN

- Created in 1992, oldest ISP still alive in France
- Internet access through RTC, newsgroups. Switched to DSL around 2005
- Similar to IN-Berlin in Germany
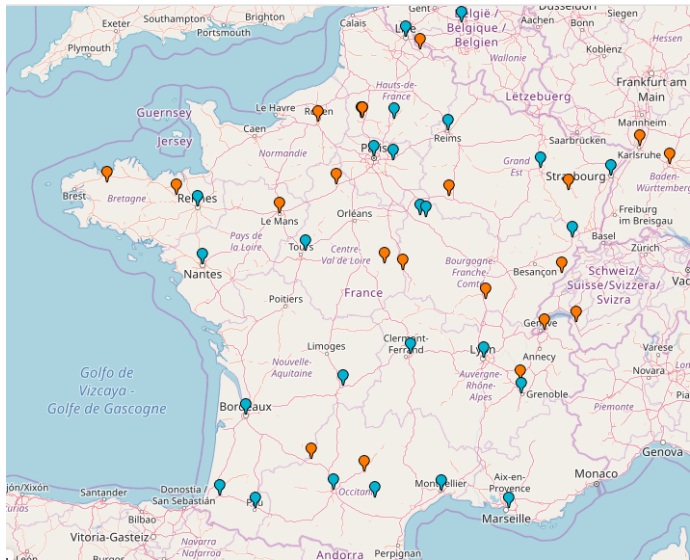- Specific services: multiple IP addresses, mail relay, etc

Too much concentration: infrastructural, geographical (Paris), too few volunteer time to handle things like support.

Decentralisation effort

- **Swarming** started at RMLL 2009!
- About 9 founding associations

30 member ISPs, 4000 people

tetaneutral.net

tetaneutral.net

- Toulouse city and surrounding areas
- Mostly **radio** (130 subscribers in Toulouse, 100 elsewhere)
- **Fiber** for a collaborative housing project (55 subscribers out of 80 appartments in the building)
- Hosting in DIY datacenter: 100 physical machines (Raspberry Pi, laptop, NUC, PC...), 200 VM
- Helps hosting projects: GCC compile farm, mirrors (OpenStreetMap, Tails, Tor, LineageOS...)

Some Fédération FDN members

SCANI

- Bourgogne (Burgundy), mostly rural areas
- Legal form: **cooperative** instead of association
- Several fiber backhaul, then mostly radio and self-deployed fiber: 700 connected people
- Open Wi-Fi access points "SCANiFi", mostly funded by local public authority: 1k users every day
- Well structured: general assemblies for big decisions, working groups for day-to-day decision, local community enpowerment to maintain and deploy the network…

Aquilenet

Aquilenet

- Bordeaux city in the South-East of France
- Provides server hosting in a local datacenter (Cogent), and also small servers in the meeting space of the association
- DSL access through FDN
- Collaboration with local projects:
  - independent cinemas "Utopia": distribute movies using Bittorrent ("The DCP Bay" project)
  - share the meeting space with other associations

Ilico

- Rural area (Corrèze)
- Small association
- 10-20 people connected with radio
- Lobbying to force Orange to bring a fiber to the central office of a remote village (Tarnac), Ilico now provides VDSL in the village
- Additional services: email, website hosting

What binds us together?

Common values

- defend basic principles of the Internet: **neutrality**, symmetry (public IP addresses, IPv6)
- **democratic** governance model: all subscribers can have a voice, board/leader must be elected
- **reinvest** benefits instead of distributing them
- **solidarity**

Formalized in our **charter** that members have to agree with.
https://www.ffdn.org/fr/charte

Members' actions

Example of political actions

- **FAImaison:** lots of conferences, help setting up network in Notre-Dame-des-Landes (ZAD)
- **tetaneutral.net:** connect squats for free
- **Many:** movie screenings, like Nothing to Hide or Hackers 1-O
- **Some:** Pay-what-you-want schemes, social prices

Figure: Internet Cube project, based on Olimex hardware and Yunohost software

Common actions

- Lobby ARCEP / BEREC on Net neutrality, terminals, access to radio frequencies, access to fiber infrastrcture, regulation rules for small telecom actors.
- Fight against mass surveillance (from GAFAM or governments), data retention, etc. With friends LQDN! Repealed some laws, some actions at the European level (CJUE).
- Ensure access to fiber infrastructure
- Documentation, "transmission" of knowledge and political values (for members and for people outside)

Technical side

Interconnection point: mutualisation

Network operator

- Becoming operator, with dedicated interconnection point: necessary for independence (choose your transit provider, peer locally, lease fibers or circuits. . .)
- But historically, being operator costs lots of money!
- Gitoyen: founded in early 2000 in Paris, mutualisation of the costs
- Grenode: founded in 2008 in Lyon/Grenoble, mutualisation of the costs
- Larger members can sustain this cost alone: Faimaison, Aquilenet, tetaneutral.net. . .
- Bigger members help smaller members (tetaneutral.net)

Now it is easier to become operator with a PoP in a datacenter and transit (starting from around 400 € / month in Europe).
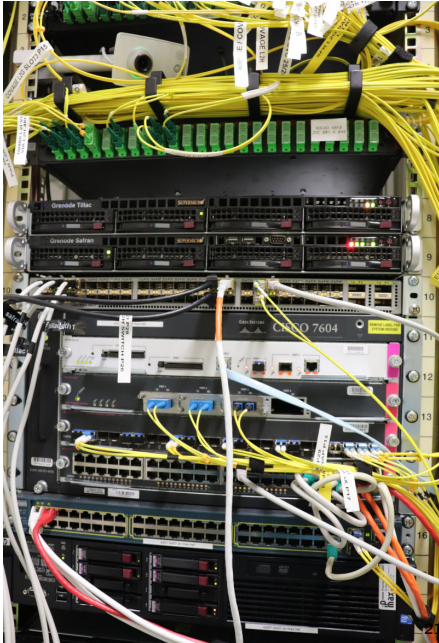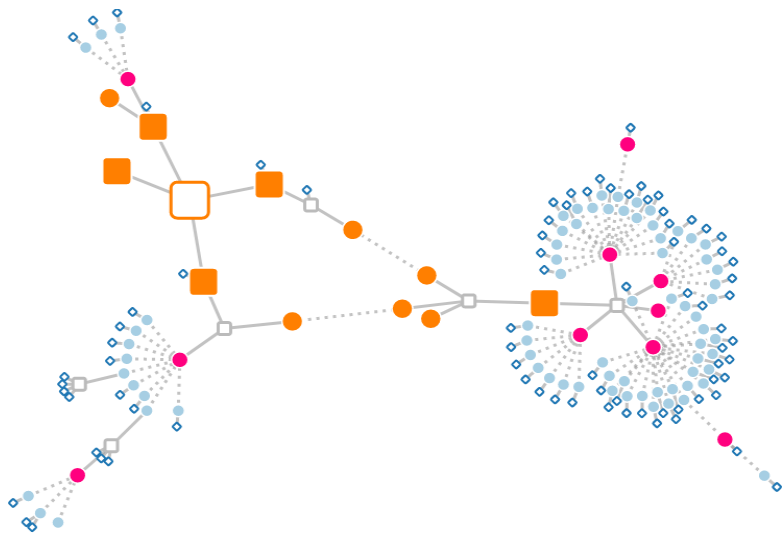
Figure: Schematic view of the network.
https://www.rezine.org/documentation/plan_reseau_radio/
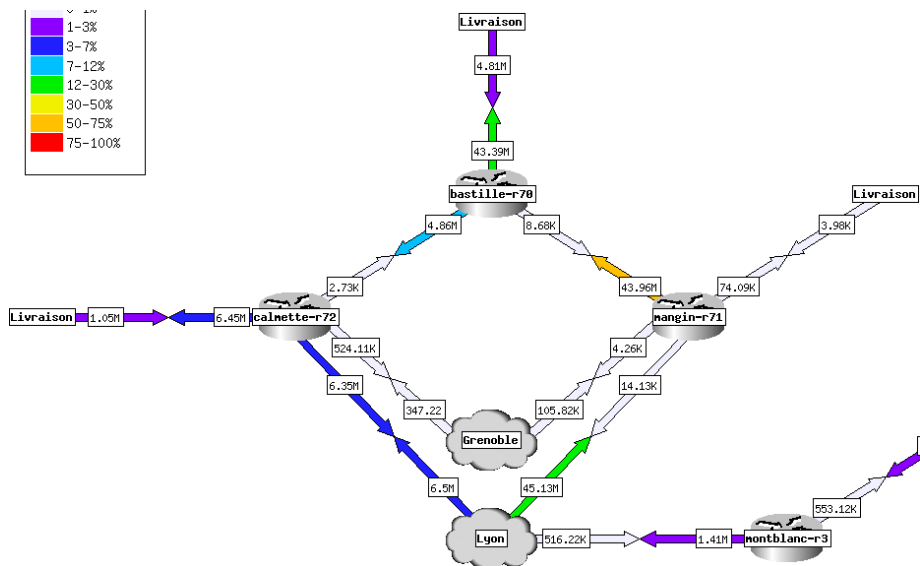
Figure: Weathermap: backbone/backhaul, radio local loop

Figure: SCANI's network map

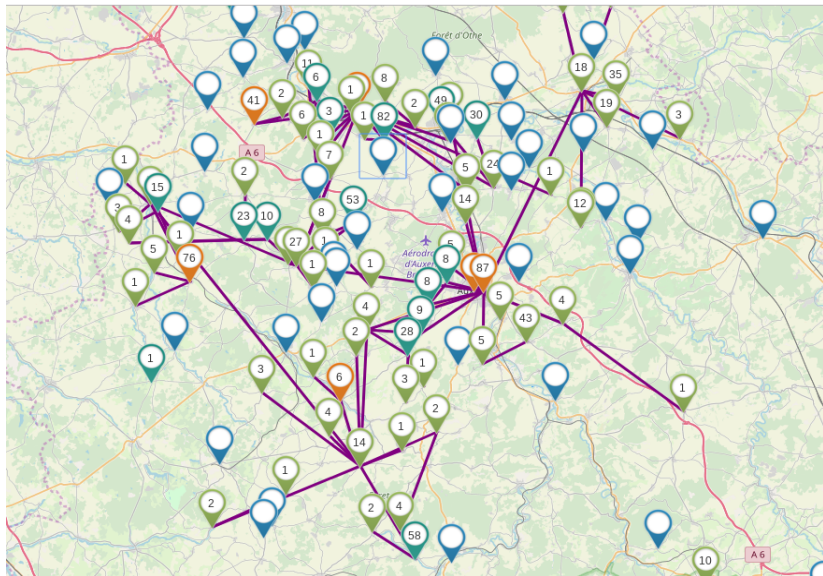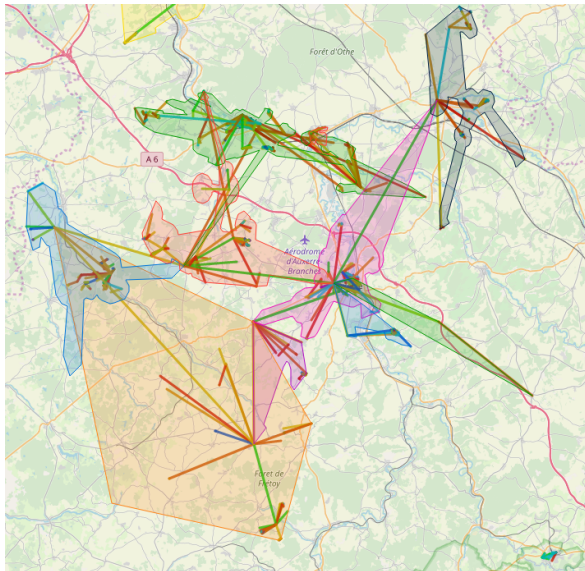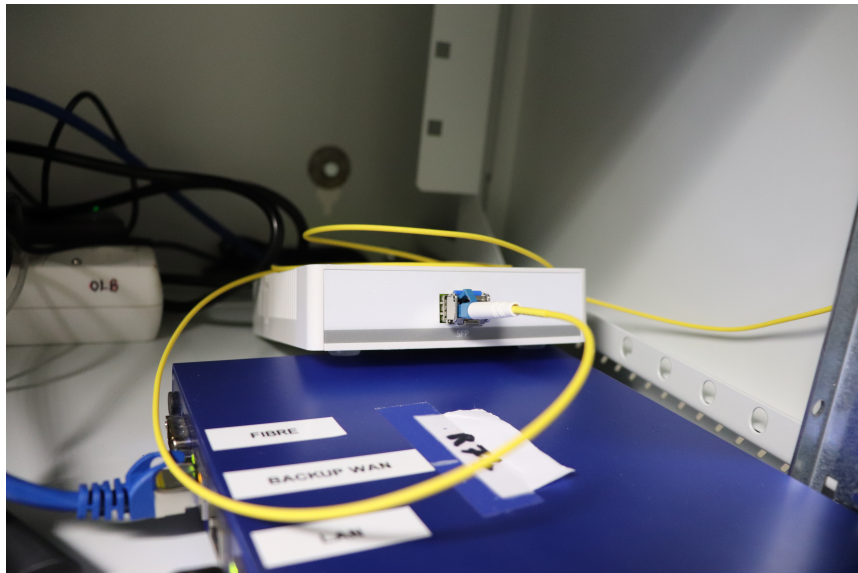Figure: SCANI's network map with layer-2 zones

Figure: First dedicated fiber for Rézine!

FTTH: the French model

FTTH model in France: Plan France Très Haut Débit

- Dense areas (cities): private investment, impossible to access for small or medium ISPs
- Rural areas: public investment in "public initiative" networks

"Public initiative" networks

- Funded by local authorities + France + Europe
- Physical infrastructure: almost always built and operated by private companies (6 companies are bidding for these public contracts)
- Separation between infrastructure and service: all ISPs are (supposed to be) welcome and can lease the infrastructure in the same conditions
- Two models: **passive** (ISPs have to install their own equipments/OLT in central offices + have backhaul) or **active** / **bitstream** (the infrastructure provider handles all equipments/OLT, and backhauls the traffic to ISPs in a central location)

FTTH: action of Fédération FDN

In practice. . .

- For us (very small ISPs), **bitstream** is interesting: provide service in large areas with few and scattered subscribers, with low upfront cost
- Some of the infrastructure providers are also ISPs (Orange, SFR): **conflict of interest**. Very difficult interaction with them, no bitstream offer unless forced by local authority (since 2019, bitstream is now mandatory by law for public networks).
- Discussion with other infrastructure providers: not always easy (they think we are too small) but better
- FFDN members are starting to operate on some of these public networks

Analysis of public FTTH infrastructure in France

We collected data on public FTTH infrastructure contracts and built this website: **https://fibre.ffdn.org**