Roger Baig Viñas
Understanding Community Networks to Explore Collaborations with Libraries

Leading the Way: Libraries as Motors of Change
guifi.net

Building a COLLABORATIVE ECOSYSTEM over Networks held in COMMON

Understanding Community Networks through the case of guifi.net
to explore collaborations between these initiatives and libraries

IFLA President's Meeting 2018

March 19th 2018
guifi.net Foundation
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• Introduction
  – Community Networks
  – Problem statement
  – Guifi.net response
• Theoretical framework
• guifi.net experience
• Collaboration opportunities
• Community Networks (CNs)
  - Community networks are networks built by citizens and organisations who pool their resources and coordinate their efforts to build network infrastructures
  - Traits: open, free, neutral
  - Examples: FreiFunk (Germany), FunkFeuer (Austria), wlan Slovenia, etc.

• Problem / challenge
  - Frequently based on voluntary efforts and non-refundable contributions
    • How to make them sustainable and scalable?

• Guifi.net response
  - Network as a commons
  - Enable a multistakeholder ecosystem
  - Enable professional activity
  - Ensure reinvestment of a fraction of the benefits of this professional activity
  - Ensure diversity in participation
  - Etc.
• Introduction
• Theoretical framework
  – Bringing the commons to the telecoms sector
• guifi.net experience
• Collaboration opportunities
Access network layers

- End users
- Retail services (residential, public & business)
- Active network (network equipment, business & operation support)
- Passive infrastructure (trenches, ducts and fibre)

Supply chain models

- PIP – Physical Infrastructure Provider
- NP – Network Provider
- SP – Service Provider
- LLUB – Local Loop Unbundling

Forzati 2010

CPR – Common Pool Resource
CS – Community service
• Increases the efficiency *(better performance or wider coverage for the same investment)*
  - Stimulates cooperation
  - Prevents duplication of infrastructure/efforts
  - Facilitates economies of scale
• Maximises freedom choice
  - Coexistence of DIY and professional options
  - Equalises business opportunities
    - Lowers entry barriers
    - Expands the market
• Professional activity
  - Involves dependency on the infrastructure (to meet SLAs with customers)
    - Reinvestment needed
• Well aligned with CNs principles

**Benefits of the network as a commons**
• CPR $\Rightarrow$ **Depletion** (& others)
  
  – Well-known problems in other fields
  
  • E. Ostrom works, etc.
• Introduction
• Theoretical framework
• guifi.net experience
• Collaboration opportunities
- Sustainability by design
- Based on the commons collaborative economy
  - E. Ostrom (2009 Nobel Prize in Economics) principles
- Based on supply-demand pricing, but
  - Non-speculative
  - Fair trade
  - Prevent externalities
- A win-win ecosystem
  - Rises funding
  - Enables economies of scale
- Accountable
- Implemented through
  - Written consensus rules (license)
  - Signed agreements

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**Principles – Self-Governance stack**

- Resilience, scalability, sustainability
- Expenditures declaration
- Cost compensation
- Collaboration agreements
- Conflict resolution
- Monitoring
- License
- Communication

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**Open, Transparent & Participative Self-Governance**
A Collaborative Economy with ...

guifi.net
Network as a Commons

Smart Citizens (Volunteers)  Smart Governments  Smart SME's & Orgs

Ecosystem: Participants & Stakeholders
• Foundation
  - Common Pool Resource (CPR) Governance
• Public Administrations
  - Manage Public Domains
• Professionals
  - Provide services
  - Generate Income from customers
• Volunteers
  - Contribute to the CPR
Expenditures declaration
- Public
  - Criteria
  - Information
- Economic compensation
  - Balances
    - Contributions
      - CAPEX
      - OPEX
  - Resources usage
    - Bandwidth, # of fibre connections, ...
  - Clear return of investment & fair business models

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\[ \text{Totals mensuals per l'any 2014} \]

\[ \Sigma = 0 \]

Expenses & Contributions (e.g.: = 100€) Resource Usage (%)

- Orange Operator 30 - 45 = -15€
- Green Operator 25 - 10 = +15€
- Blue Operator 15 - 15 = 0€
- Installer/Maintainer 25 - 0 = +25€
- Yellow Operator 0 - 30 = -30€
- System operation 5 - 0 = +5€

\[ \sum = 0 \]
Compensation tables
- Establish the territorial compensation criteria
- Monthly periodicity

Operators/Service providers

Rights
- Voice and vote
- To receive compensations
- To make proposals

Duties
- To settle the compensations
- To provide the data to calculate the compensations

Public Admin. or Investors

Rights (optional)
- Voice i vote
- Quality vote & veto on issues related to benefits or administration of public resources
- To Make proposals

Duties
- To stick to criteria of non-discrimination & equality

Fundació guifi.net

Rights
- Voice
- Quality vote & veto on issues related to the Commons

Duties
- To make proposals targeting the consensus
- Accounting
- Execute the compensations

Implementation of the Compensations Settlements: the Cleaning houses
Local Telecom

Invoice

March 2016

Contribution to the Network as in Commons (Commons Pool Resource/CPR):
- Deployment of Infrastructure ........................................... 17.00 €
- Maintenance ................................................................. 6.00 €
- Total Contribution ....................................................... 23.00 €

Internet Service:
- 1 Gbps Symmetric Internet Bandwidth over Fibre Optics 12.00 €
- Residential Use & Service Level (8h•8h, 8h•labour days) 0.00 €
- Tax (VAT) ........................................................................ 2.52 €

TOTAL: 37.52 €

Commons Pool Resource (CPR)

Governance Accounting

- CAPEX
- OPEX

Local Telecom

PROFIT

CAPEX & OPEX

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Unified billing system + Revenue split
- Acknowledgement of the investment
- Deployment of the network as a commons
- Connection of users
- Billing
- Bill split (parts):
  - Exploitation by the service provider
  - Infrastructure maintenance
  - Return of investment
• Introduction
• Theoretical framework
• guifi.net experience
• Collaboration opportunities
• What you have
  – Leadership
    • Reference point for the citizenship
  – Capacity building
    • Centre of knowledge
    • Experience in training
  – Social network
    • Public authorities
    • International relationships
  – Facilities
    • Internet connection
    • Electricity
    • Security
- What you can do
  - Leadership
    - Lead the initiative – *be the seed*
  - Capacity building
    - Training materials
    - Workshops
  - Social network
    - Public authorities – *make the contacts, support the initiatives*
    - International relationships – *international coordination, mutual support*
  - Facilities
    - Electricity, Security – *Initial location*
    - Internet connection – *initial uplink*
• Potential partnerships
  - Internet Society (ISOC)
    • e.g. Beyond the net initiative
  - Institute of Electrical and Electronics Engineers (IEEE)
    • Connectivity coalition
  - Internet Research Task Force (IRTF)
    • GAIA WG
  - Internet Governance Forum (IGF)
    • Dynamic Coalition on Community Connectivity
  - Existing communities
    • Guifi.net
  - ? Find more
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