

# Experiences with Distributed Heterogeneous Clouds over Community Networks

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CONNECTED COMMUNITIES

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# Community Networks

**What's this ?** A cooperative development of a network

**Where ?** Local, community (city, region, area)

**Who?** You, and your neighbors, ...

**“Don't buy the network, be the network!”**

Scalable, self-organized and decentralized IP networks  
and services built and operated by citizens for citizens

**But what services are in the network?**

**What do you use it for?**



# Community Clouds

The vision of cloud-based services in community networks

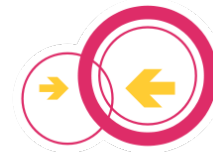
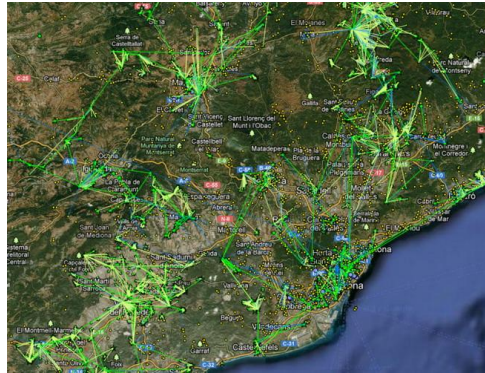
We are talking about a *specific* **community cloud**:

- built in community network
- hosted on community-owned computing and communication resources
- providing services of local interest

Cooperative deployment and maintenance of clouds by citizens for citizens

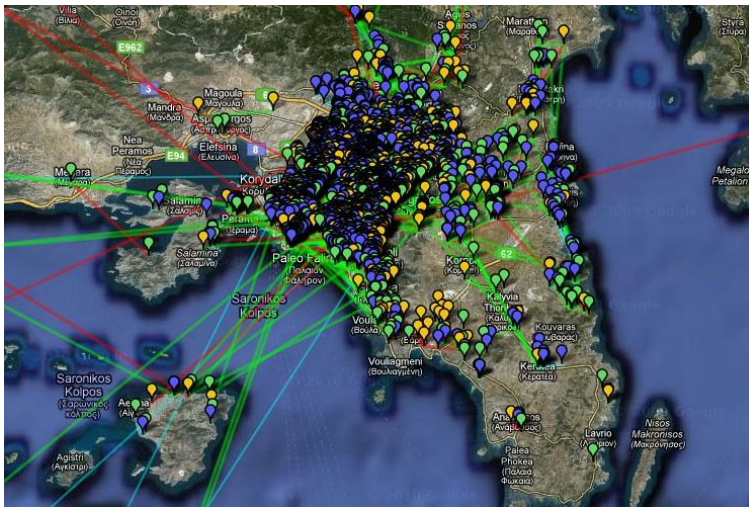
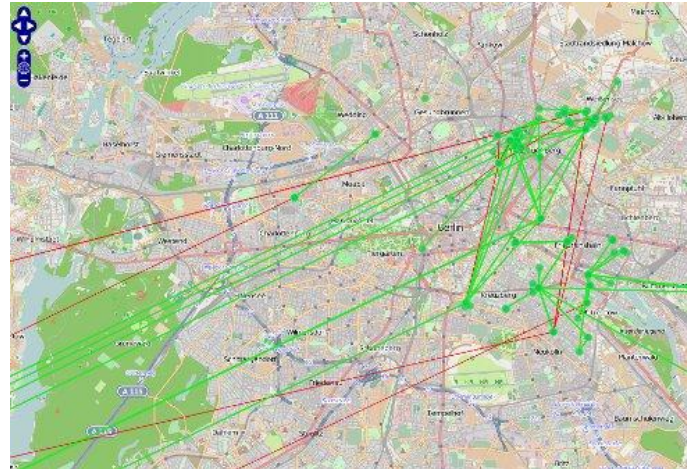
# guifi.net

Barcelona

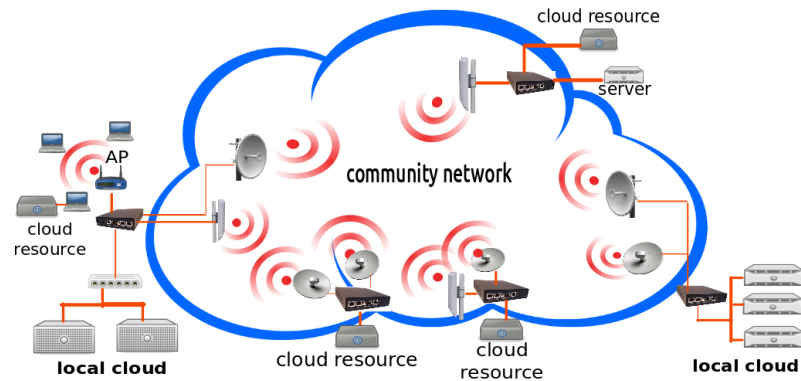


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# Applications in Community Networks

- **Tahoe-LAFS**

- Open source, secure, decentralized, fault-tolerant file-system
- <https://www.tahoe-lafs.org>
- Security model is provider-independent
- Does not rely on cloud storage vendor for keeping data safe
- Encryption/Decryption occurs at the client
- Erasure coding generalized to K-of-N nodes ( 3-of-10 )

- **ownCloud**

- Open source cloud Storage as a Service (SaaS) application
- Tahoe-LAFS is used as storage backend of ownCloud

- **BitTorrent**

- Open source file sharing application



