Rome Wireless Community Network

ninux.org

Why “ninux.org”?

- The founder of the project is Nino
- nino+linux=ninux
- He read about Seattlewireless, liked that and just put a page on his homesite (www.ninux.org) to realize something similar in Rome
- Many different people (techies, engineers, radio amateurs) joined

A snapshot

- The philosophy:
  - politically neutral, non-profit oriented and decentralized
  - have fun (in the Torvalds' way)
- Actually ninux.org has:
  - About 400 web-registered users
  - 17 active nodes
- We know only about another italian active network community: napoliwireless.net
- There are many people interested in these projects but setting up a wireless link in Italy is not always legal

Not legal?

In Italy:

- The 2.4 Ghz frequency is free
- You can use 802.11 devices in your house or your office

but...

- If you don't have a radio-amateur license and you set up a link over a public space (say a street or a park) you have to pay a tax and declare position and direction of the link

So why don't you all get a radio-amateur license?

- To get a radio-amateur license you must pay, study and pass a written (hard) exam
- Paying to join a free community is not fair
- We want to involve everybody, not only techies!

Do something!

- We would like to be like the rest of Europe, but we don't know how to deal with the laws and the government, so we don't really have a plan
- Maybe we should wait for the upcoming elections and ask the new government to change the law. In case of denial, ask the European parliament, maybe with a Europe-wide signature collection...
- We don't know even if founding a legally approved association could help or damage us

But what about the fun(k)?

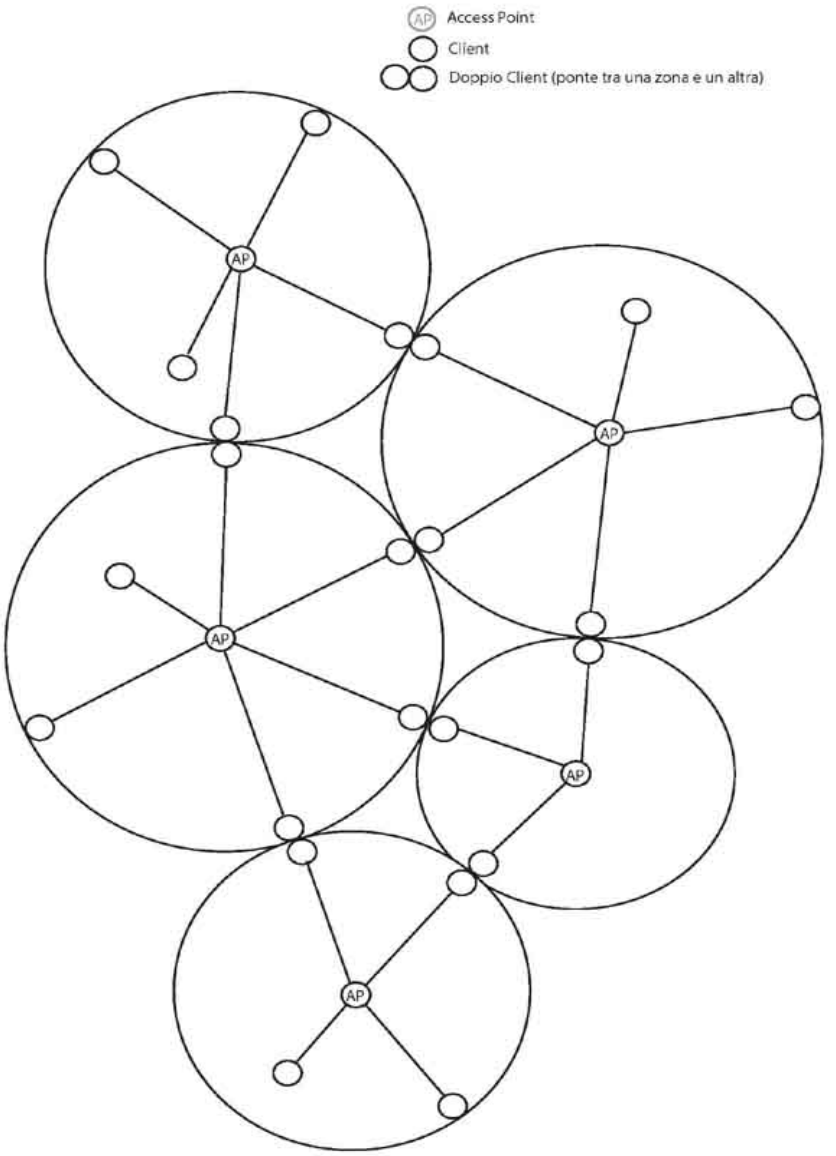
- At the beginning the ninux.org network was made up of 4 nodes using d-link's DWL-900ap+ access points

but...

- The devices:
  - Had low radio power
  - Worked at level 2 only
  - Powering them on the roof was not simple

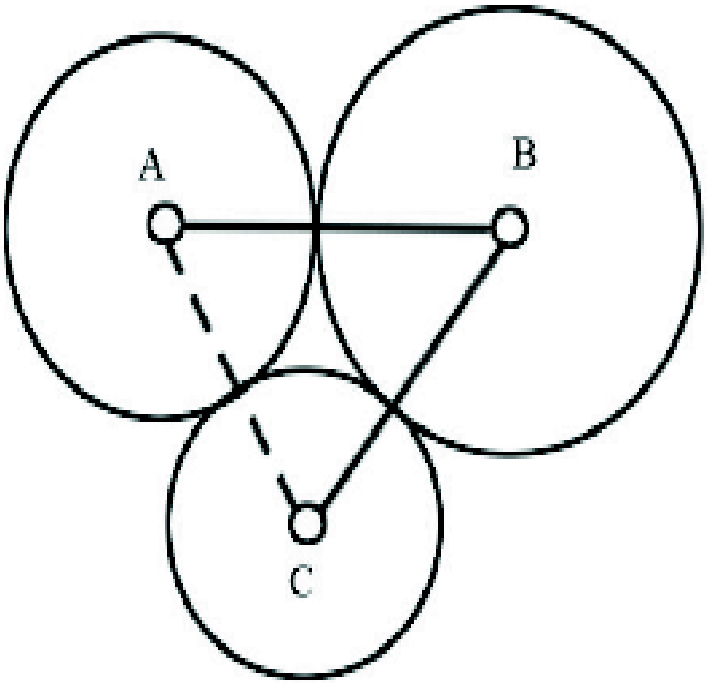
And then came the WRT...

- After the discovery of the Linksys WRT54GS access points, the network was built using the WDS system
- But this had some limits



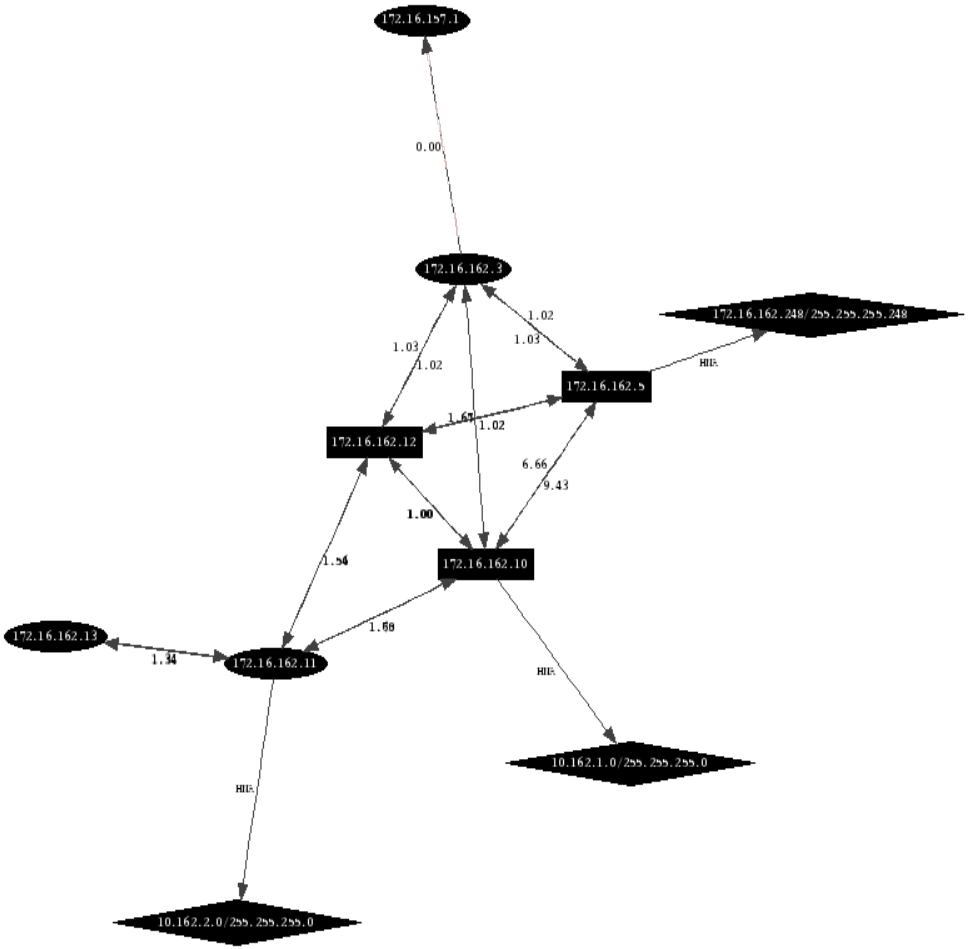
WDS limitations

- Networking protocols are thought for wired networks
- They make no distinction between perfect links and links that not always work
- For example: the A-B link and the B-C links are stable, the A-C link works but it is slow. If you set up the A-C link, the protocol can choose it, decreasing the performance. If you don't set it up, if A-B breaks, C is isolated



The solution: OLSR

- Nino read about it on the freifunk website and a part of the network migrated to OLSR.
- We now use the ninux-freifunk firmware on our devices!



Rome's funk

- Rome's irregular topography can sometimes be an obstacle to radio links
- Sometimes people on the roofs are regarded as criminals :'(
- Because of the legislation:
  - the few people willing to create nodes are most of the times distant from one another
  - looking for facilities to place antennas becomes impossible

What's next?

- Write down a manifesto to make clear that the political neutrality and economical independence of the community must be preserved
- Find a legal way for our project to achieve larger support
- Fix the website's CSS :P