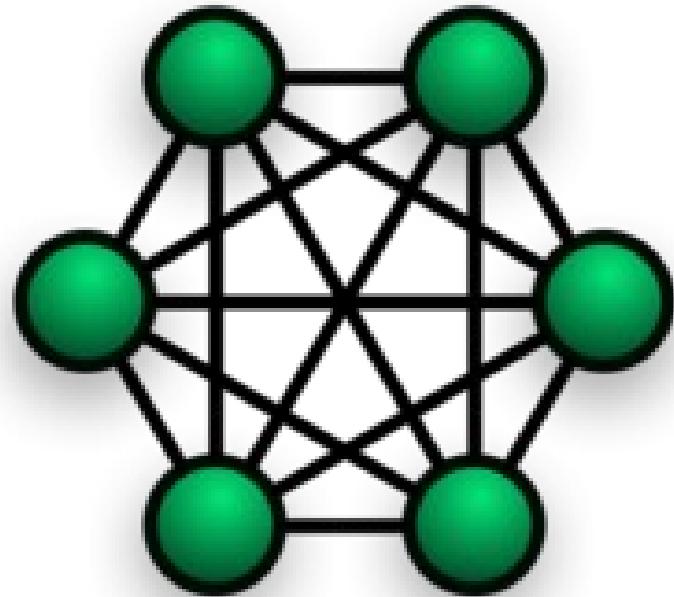


Why mesh networks are rad:



1. Decentralized.
2. Resilient.
3. Community-owned communications rooted in the commons.



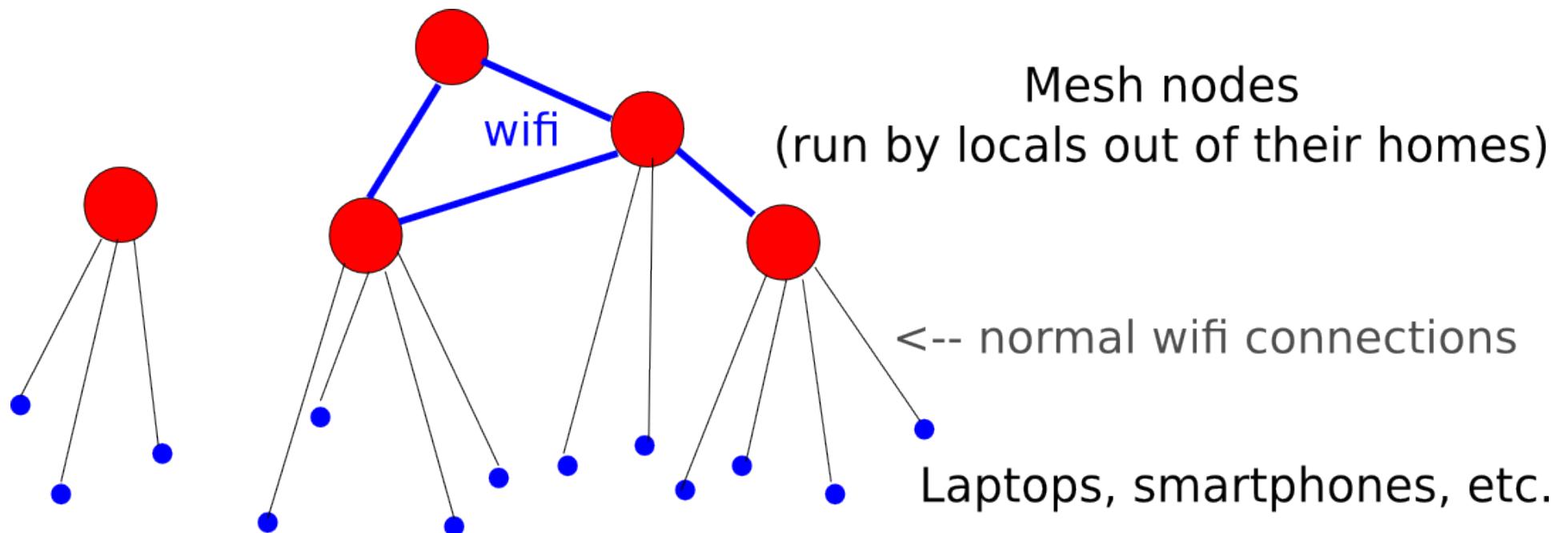
We are building a network of point-to-point connections between rooftops, dispersing the signal out to public spaces and community centers to build our own network commons infrastructure.

Our current challenge lies in developing the software for running the network, and in building a larger community of participants, supporters, and team members.

How does it work?

- Get off-the-shelf wifi routers
- Replace operating system with an open one
- Install mesh protocol made by german hackers
- Get people to buy/adopt routers and put them on their rooftops, outside walls and inside their homes.
- Get people to donate internet bandwidth

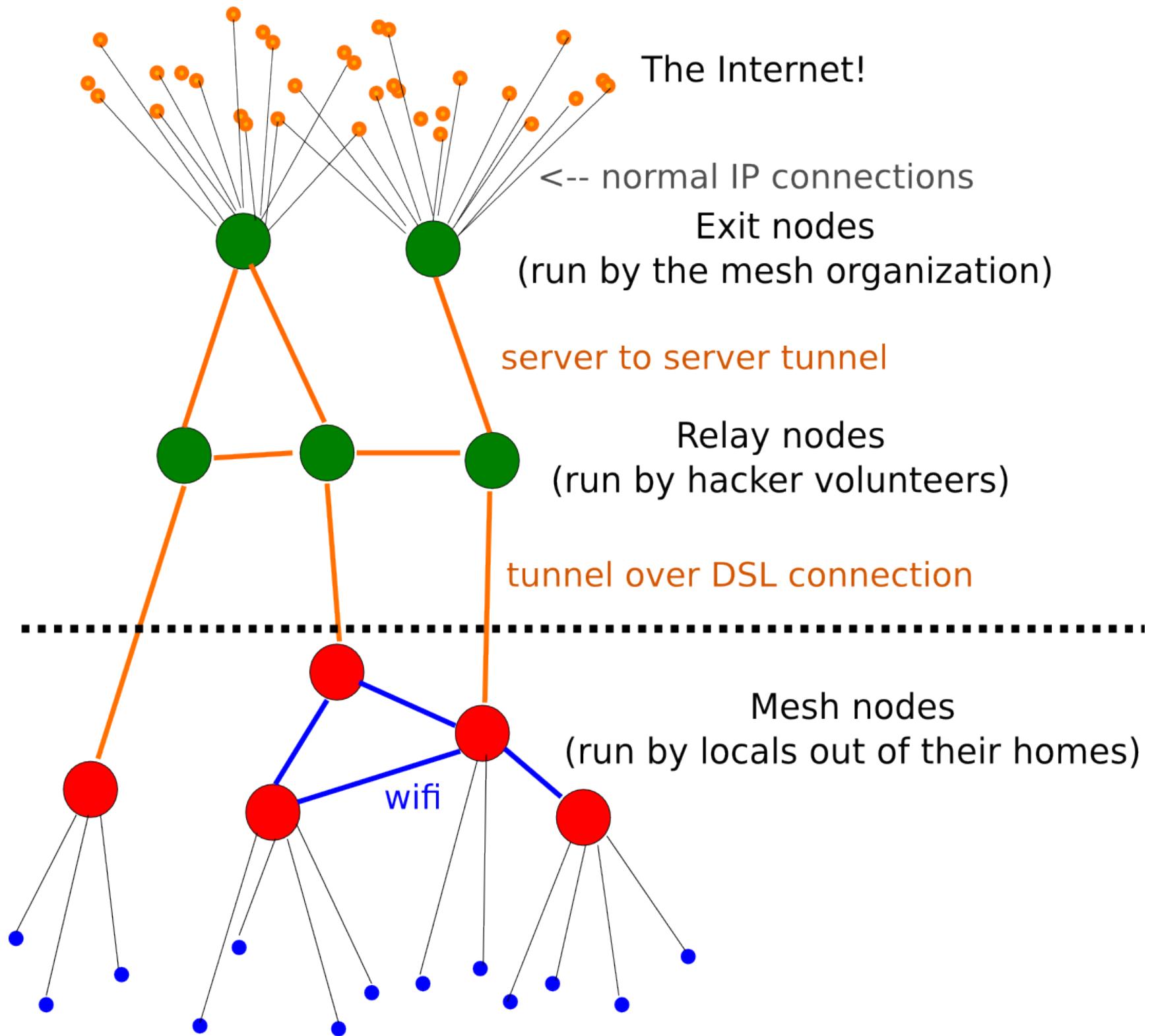
Mesh network diagram



Three types of mesh nodes

- Rooftop / mast nodes.
 - These form the high-speed backbone of the mesh
 - High power. High speed. 5 Ghz.
- Outdoor routers
 - Street-level connection points for phones / laptops
 - High power. Medium speed. 2.4 Ghz.
- Indoor routers
 - Extending the mesh into buildings.
 - Low power. Medium or high speed. 2.4 Ghz.

Internet?



Hardware!

Hardware

- Ubiquiti gear
 - Atheros chipsets
 - Many models. Proprietary. Closed.
- Cheap home routers (e.g. TP-Link)
 - Atheros chipsets
 - Cheaper than Ubiquiti. Less powerful. Closed.
- Open-mesh.com routers:
 - Atheros chipsets
 - Same price as Ubiquiti. Few models. More open.

Software!

OpenWRT

```
| .---.---.---. | | | | | .---. | | | | | | | | | | | |
| - || - | - | | | | | - || - | |  
| | | | | | | | | | | | | | | | | |  
| | WIRELESS FREEDOM  
ATTITUDE ADJUSTMENT (bleeding edge, r28941) -----  
* 1/4 oz Vodka      Pour all ingredients into mixing  
* 1/4 oz Gin        tin with ice, strain into glass.  
* 1/4 oz Amaretto  
* 1/4 oz Triple sec  
* 1/4 oz Peach schnapps  
* 1/4 oz Sour mix  
* 1 splash Cranberry juice
```

root@OpenWrt:~#

B.A.T.M.A.N. Advanced



Organization

- Local 501(c)3 non-profit
 - Volunteers maintaining local network
 - Classes / Workshops
 - We're working on sustainable business models
- Network separate from non-profit
 - Peering-agreements with other networks
 - Anyone can join if they sign the peering agreement
 - No need to be part of non-profit.

Oakland Community Mesh Network

[CONTACT ORGANIZER](#)

[!\[\]\(8c38bcc0fae4558cd7ebc6fc44ec565d_img.jpg\) Like](#) 303 [!\[\]\(7771747e02f20799a335f95035e4a9cc_img.jpg\) Send](#) [!\[\]\(f8216c828f4272bfa3f86d32bd5044a0_img.jpg\) 15](#) [!\[\]\(c1c303c29defbb9b3ead74ac9bcc3356_img.jpg\) Tweet](#) 136

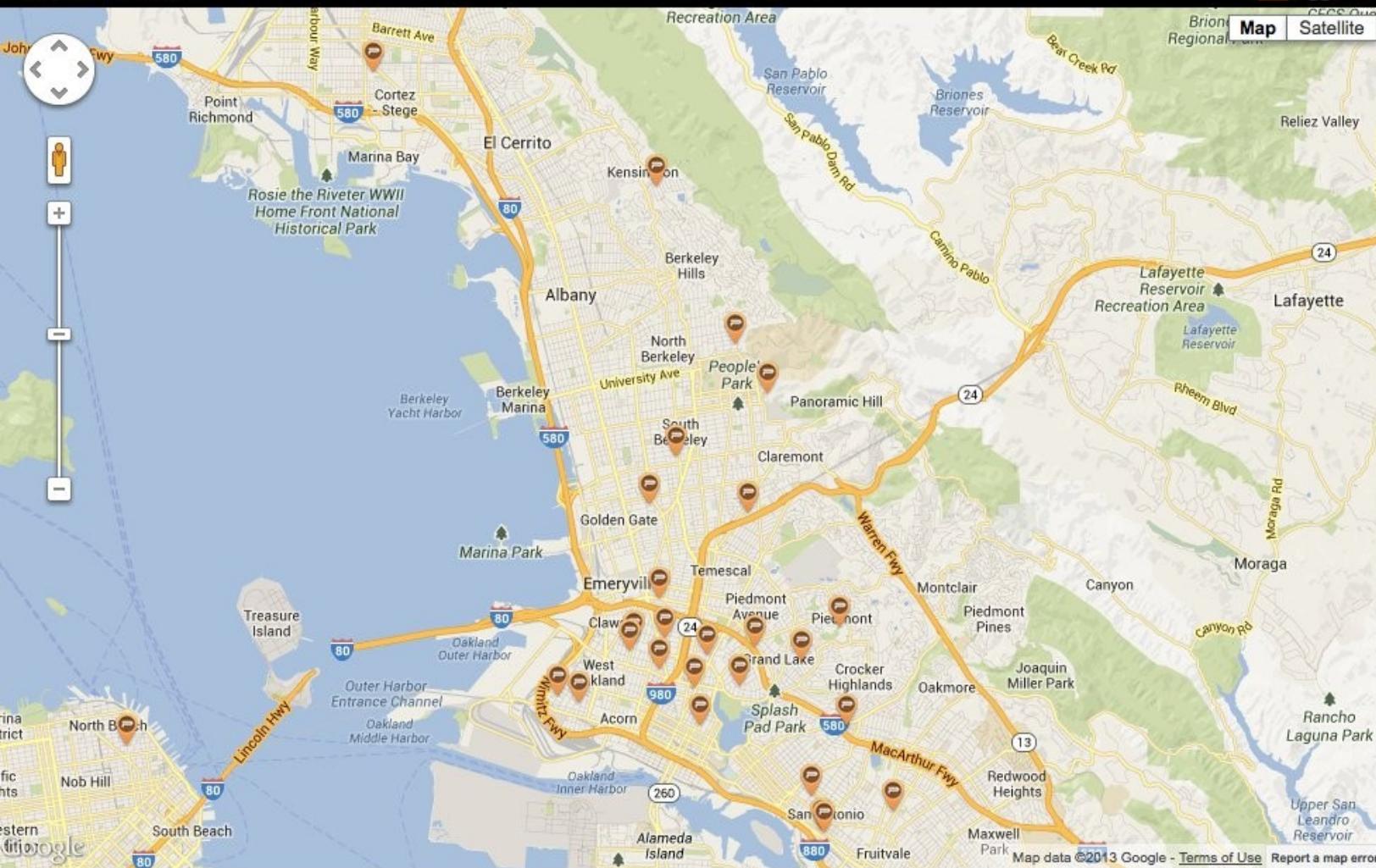


Donations are no longer being accepted.
Thank you for your support!

Donor List

63 donors

Micah Daigle	Lucas Guilkey
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Susan T Dayton	Christian Riis Sørensen
Per Frederiksen	Marc Christoffersen



Map Info OLSR VPN

Yay maps!

+ Add a new node

Hide this column

Search for an address

Show potential nodes

Link quality calculation:

Disabled

Lost packets (ETX)

Received signal (DBm)

Node list

Potential Nodes

- Adeline Livelabs
- Ahnonimity
- ChrisJX
- Cycles Bikery
- Excelsior
- Fantastica Co-op
- Globalize
- Hackistan
- Hearth
- Hol

We currently only have two experimental mesh nodes in west oakland. Using this map you can add your home as a potential location for new mesh nodes! We currently have 29 potential nodes on our map.
<http://meshmap.sudoroom.org/>

Experimenting □ Learning □ Doing







How to Help!

- **Come to our Thursday hacknights**
 - 7:30 pm here at sudo room!
- **Community outreach!**: Make a flier, upload the design to our wiki, and post it up in your neighborhood.
- Do **research** on other mesh projects and city policies.
- **Technical**: Work on firmware, and learn more about networks!
- **User research**: Designing use cases, and sketching UIs for local applications.
- Organize **finances**, tweak our **bylaws**, research **legal** issues, and come up with **business** models.

Wiki: <http://sudoroom.org/wiki/Mesh>

Mailing List: <http://lists.sudoroom.org/listinfo/mesh>

Freenode IRC: #510pen