Citizen Community Clouds in Guifi.net

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Citizen Community Cloud?

Community cloud. The cloud infrastructure is provisioned for exclusive use by a **specific community** of consumers from organizations that have **shared concerns** (e.g., mission, security requirements, policy, and compliance considerations). It may be owned, managed, and operated by one or more of the organizations in the community, a third party, or some combination of them, and it may exist on or off premises. [NIST Definition]

Community network clouds

- built in community network

- hosted on community-owned computing and communication resources

- providing services of local interest

- deployment and maintenance by citizens for citizens
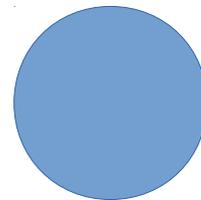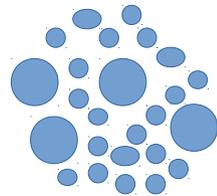
Community Network
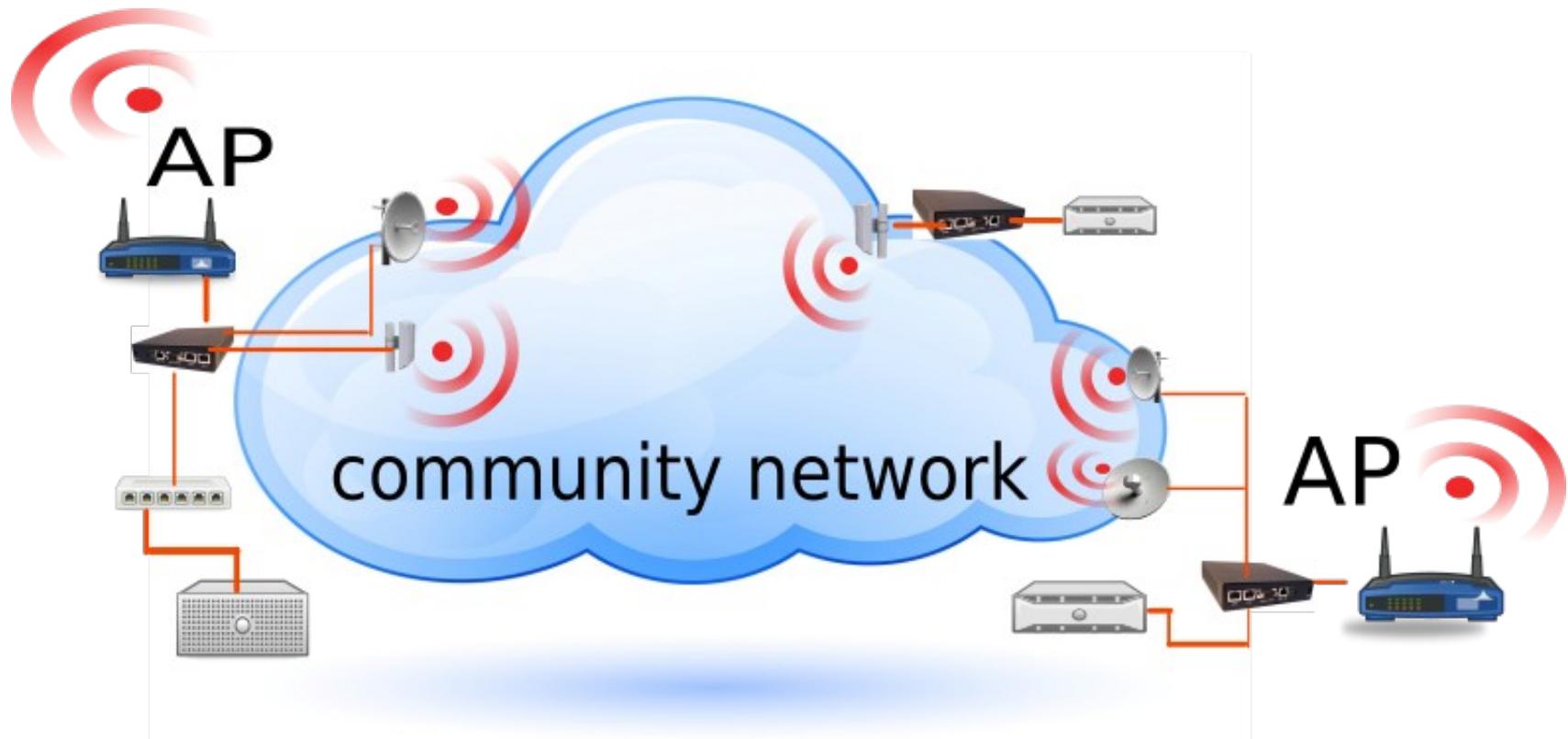
Community Network Cloud Ingredients

Software distribution

- Cloudy (IaaS, SaaS, PaaS)

- > 2 years R&D,
  developers from CN,
  experimental deployment

Participation tools

- Cloudy user & dev maining list
  (since March 2015)

- Code repository

- Website
  (since January 2015)

Heterogeneous hardware
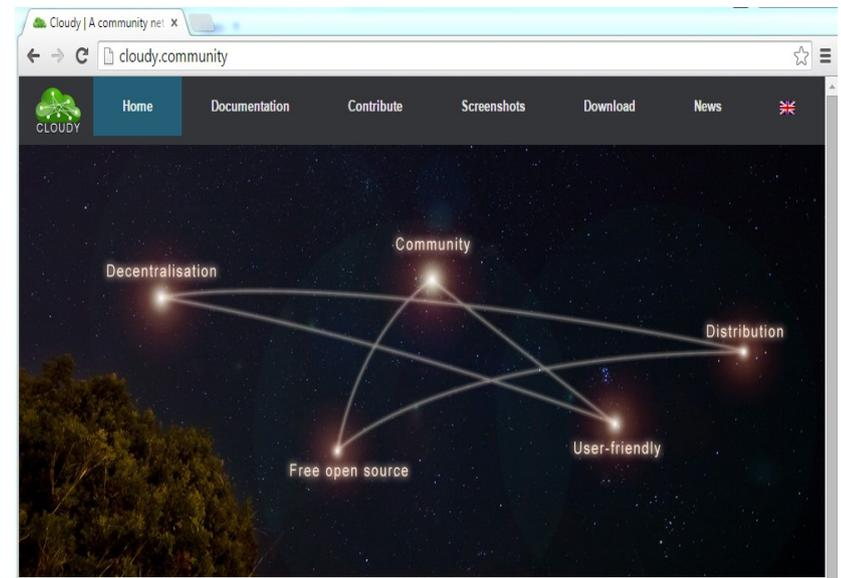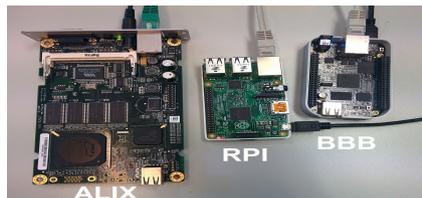
Cloudy:
community network cloud distribution

Debian-based

Web interface

- open & extensible

- user-friendly

- common services

- heterogenous hardware

Clommunity distro
i386 686-pae

09 abr 2014 23:00 UTC
master@39aebe9db53c

Boot menu

Live (686-pae)
Live (686-pae failsafe)
Install
Graphical install
Advanced options

Press ENTER to boot or TAB to edit a menu entry

Cloudy - cloudydem...

84.88.85.42

Cloudy

Login

Username:

Password:

Login

Active services:

serf, tincvpn
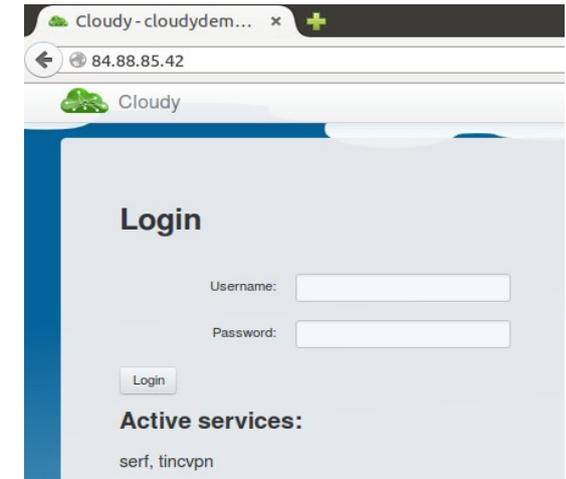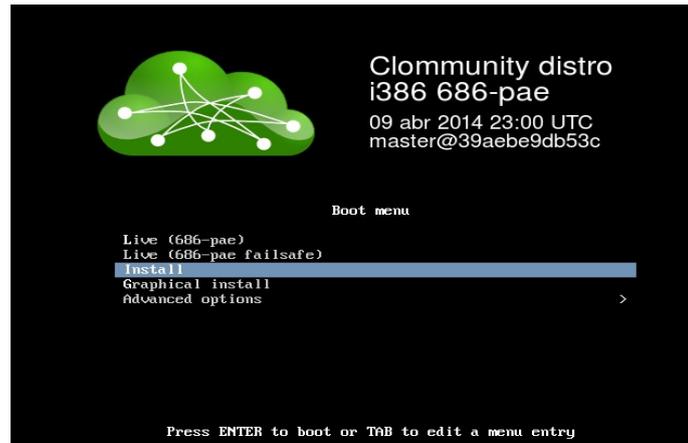
### Search service
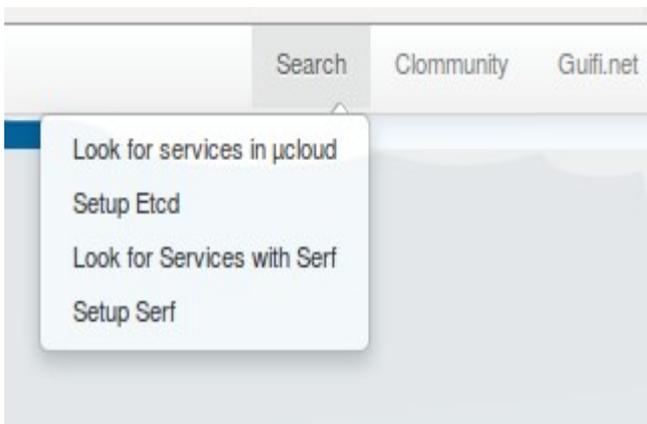
Community services

Network services

Search   Clommunity   Guifi.net

Look for services in μcloud
Setup Etcd
Look for Services with Serf
Setup Serf

Search   Clommunity   Guifi.net

Getinconf
OpenVZ Web Panel
PeerStreamer
Syncthing
Tahoe-LAFS
WebDAV server



Search   Community   Guifi.net

Proxy3
SNPServices
DNSServices
Guifi.net integration
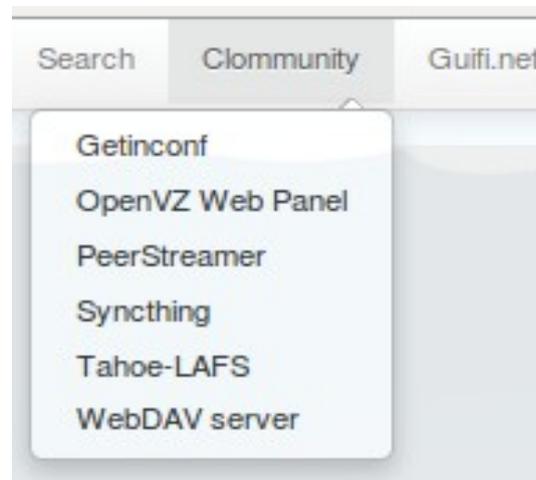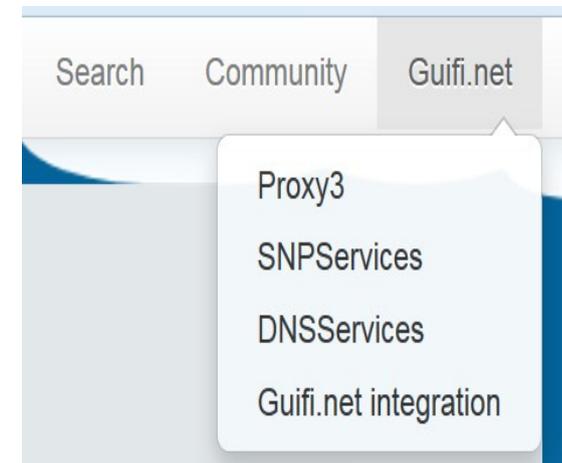
Cloud in the Guifi Community Network

Community Network Cloud in Guifi.net
User participation (snapshot July 2015)

	Indicator	Amount
Hosts	No. of Clommunity hosts	19
	No. of third-party contributed hosts	11
Cloudy distro	No. of Cloudy instances	30
Services	No. of dnsservice	4
	No. of owp	1
	No. of peerstreamer	4
	No. of guifi-proxy3	4
	No. of serf	30
	No. of snpservice	4
	No. of syncthing	7
	No. of tahoe-lafs	3

	Indicator	Amount
Mailing lists	user's list subscribers	42
	developer's list subscribers	22

Sustainability model

- Basic cloud services as a **CPR (Common Pool Resource).** Apply E. Ostrom's *"Governing the commons: the evolution of institutions for collective action"*.

- Plus SME/citizen added value services over commons infrastructure.

Component	Materialization
Software tools	Cloudy. Integration in Guifi.
Participation tools	Cloudy-users, cloudy-dev. Cloudy Web. Cloudy developer tools
Licence	Develop CCL licence.
Reference authority	Guifi Foundation
Collaboration agreement	Agreement for operators with the commons.
Conflict resolution system	Apply existing system.
Economic compensation system	Apply principles of network level for service level.

References

guifi·net *Telecommunications Network*

Open, Free and Neutral: **https://guifi.net/en**

Cloudy demo: http://84.88.85.42

Cloudy Web: http://cloudy.community
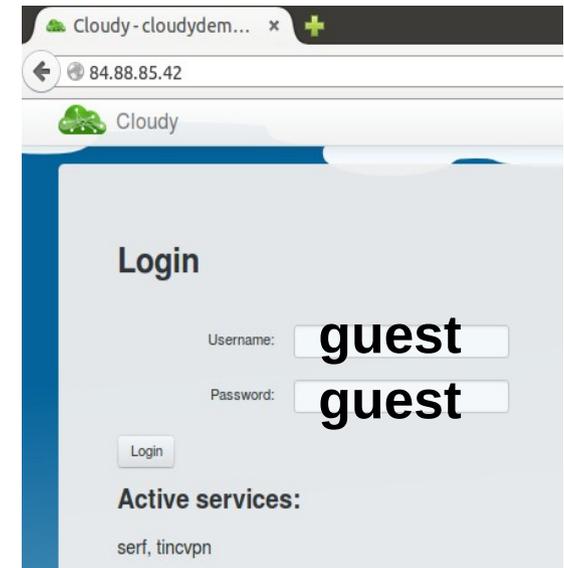
Research paper: *A case for research with and on community networks,* Bart Braem et al. SIGCOMM Computer Communication Review, July 2013.

Questions?

Comments?