

# **Saving Democracy with the Web's Infrastructure**

Danny Haidar  
Vice President for Product & Development,  
FreedomBox Foundation



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**We are at a decisive point in  
the history of democracy.**



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**Our technological  
prowess can defend  
democracy or destroy it.**



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# **A brief history of representative democracy (i.e. republicanism)**



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**Aristotle (4<sup>th</sup> century B.C.E.):  
political communities are  
supposed to help citizens  
flourish as humans and  
develop “civic virtue”**



**Machiavelli (c. 1517):  
conflict is good, but  
republics need institutions  
to help people channel  
discontent productively**



**James Madison (1788):  
republics derive their power  
from the people through  
elections**



**Phillip Pettit (2012):  
republics need a  
contestatory citizenry in  
order to create laws that  
reflect our shared interests**





# **Components of democracy:**

- civic virtue**
- participation in politics**
- contestation**
- legitimacy through representation**



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**2,000+ years of collective  
effort created the  
representative democracies  
we have today.**



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**In the 21<sup>st</sup> century  
information society,  
we need to be the stewards  
of democracy.**



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**Democracies are shaped  
by the flow of information**



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**Information is important to  
each component:**

- civic virtue**
- participation in politics**
- contestation**
- legitimacy through  
representation**



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**The democratic tradition is  
being tested by our  
information technology.**



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# Protest Intimidation in the U.S.

5

## Facebook, Instagram, and Twitter Provided Data Access for a Surveillance Product Marketed to Target Activists of Color

October 11, 2016



By: Matt Cagle

[follow @Matt\\_Cagle](#)

The ACLU of California has obtained records showing that Twitter, Facebook, and Instagram provided user data access to Geofeedia, a developer of a social media monitoring product that [we have seen marketed to law enforcement as a tool to monitor activists and protesters.](#)

We are pleased that after we reported our findings to the companies, Instagram cut off Geofeedia's access to public user posts, and Facebook has cut its access to a topic-based feed of public user posts.

Twitter has also taken some recent steps to rein in Geofeedia though it has not ended the data relationship.



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# Voter Manipulation in the UK

6

**Opinion**  
Brexit

## What Brexit should have taught us about voter manipulation

*Paul Flynn*

Mon 17 Apr 2017 08.24 EDT



2,326

The EU referendum was won by the side with the means to distribute the most plausible lies through social media



▲ The crash of the voter registration site last June had indications of a botnet attack, according to MPs. Photograph: Toby Melville/Reuters



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# Encyclopedia Censorship in Turkey

7

## Turkish court backs censorship of Wikipedia

The country continues to crack down on free speech with this rejected appeal.



Rob LeFebvre, @roblef  
05.05.17 in [Politics](#)

15  
Comments

375  
Shares



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# Anti-Corruption Suppression in Mexico

The New York Times

8

Opinion

EDITORIAL

## Spyware That Governments Can't Resist

By [The Editorial Board](#)

July 11, 2017



[Leer en español](#)

First came the revelation that prominent Mexican anti-corruption fighters, human rights activists and other government critics were targeted for surveillance with sophisticated spyware sold to the



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# Voter Manipulation in the U.S.

*How Trump Consultants Exploited  
the Facebook Data of Millions*

9



Christopher Wylie, who helped found the data firm Cambridge Analytica and worked there until 2014, has described the company as an "arsenal of weapons" in a culture war. Andrew Ross / The New York Times

By Matthew Rosenberg, Nicholas Confessore and Caroline Colvill

March 17, 2018



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# Misinformation on WhatsApp in India

10



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# Gaming elections in India

11

How to game elections: Social media provide a costless platform for political parties to spread disinformation

November 29, 2018, 2:00 AM IST

Mishi Choudhary in [TOI Edit Page](#) | [Edit Page, India](#) | [TOI](#)



By Mishi Choudhary and Eben Moglen



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# Acknowledging what happened in New Zealand

The New York Times

## *A Mass Murder of, and for, the Internet*

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A prayer after leaving a tribute near Al Noor mosque in Christchurch, New Zealand, on Saturday. Forty-one people died there, the authorities said. Corn ell Tukiri for The New York Times

By [Kevin Roose](#)

March 15, 2019



**The internet democratized  
information access but not  
production.**



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**Information transmission  
and production are  
controlled at the center of  
the network.**

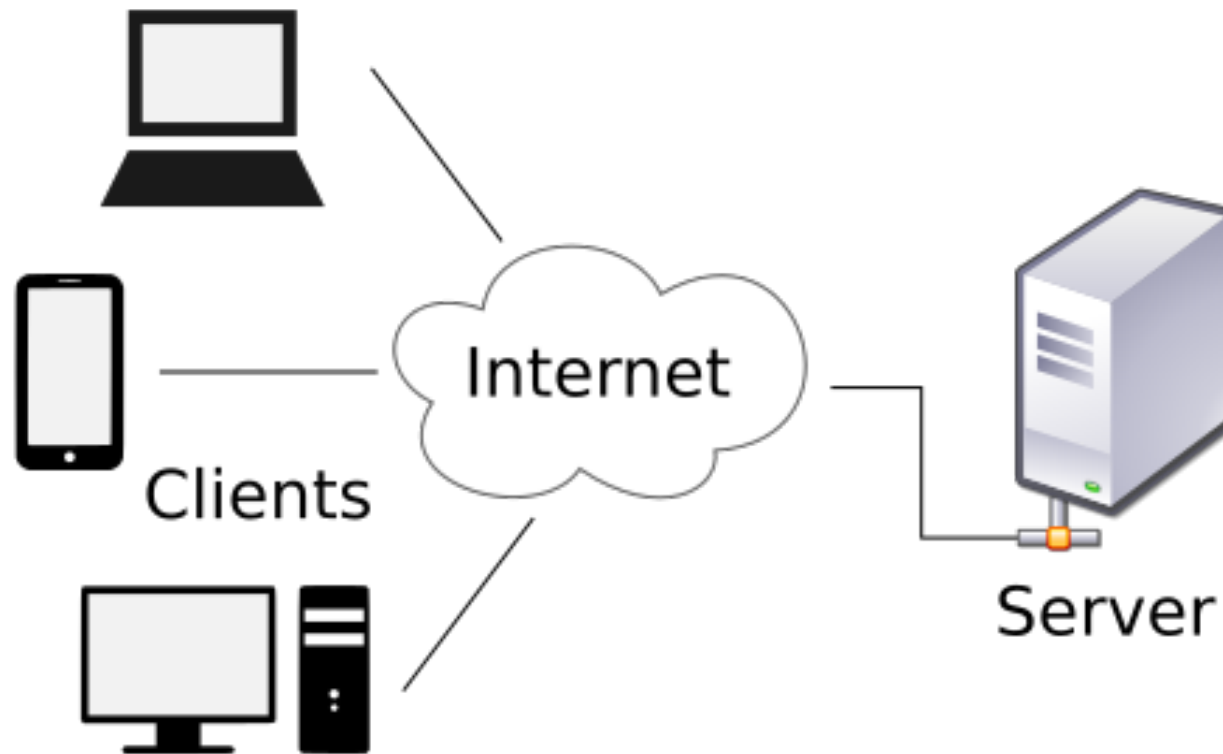


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# Two Parts to Computing: Clients and Servers

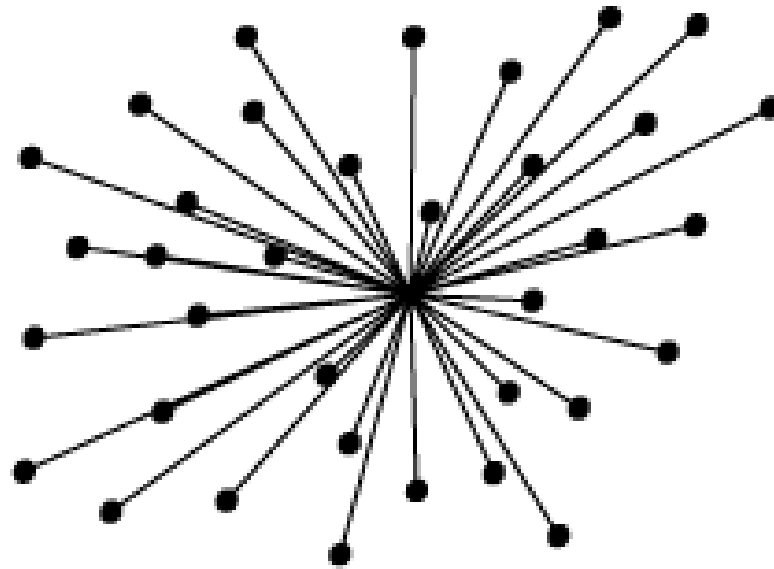
13



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# Servers are at the center of the web

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centralised

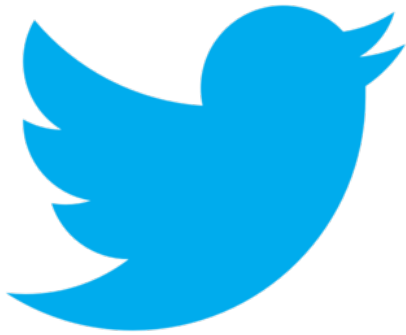


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**But you don't control  
the servers at the center.**



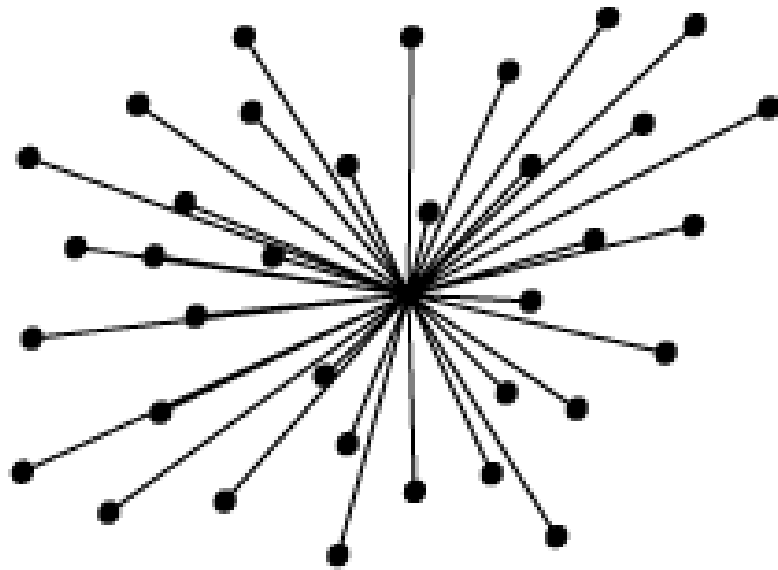
**FreedomBox**



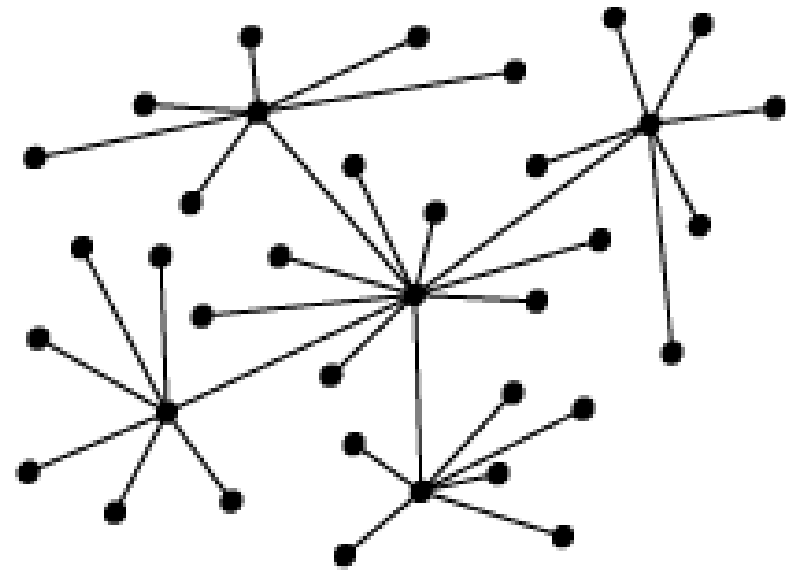
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# To regain control, we need to re-decentralize the web

14



centralised



decentralised



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**But why did the web  
centralize in the first  
place?**



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**Looking back:  
PC's created a revolution  
and displaced mainframes.**



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IBM 5150 running MS-DOS 5.0, released in 1981<sup>15</sup>



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Macintosh 128K running Finder 5.2, released in 1984<sup>16</sup>



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# Personal computers caused a revolution in computing.



IBM System/360 Model 30  
processor unit Mainframe, 1964<sup>17</sup>



IBM Personal Computer with IBM  
CGA monitor (model 5153), 1988<sup>15</sup>



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**This never happened for  
personal servers.**



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**Why did client devices  
enter the home but not  
servers?**



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# Two explanations:

1. Inaccessible hardware
2. Opaque user interfaces



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# Enter FreedomBox: a simple private server.



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FreedomBox Personal Server  
(Cubietruck hardware), 2017



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# FreedomBox: The Basics

## How It's Made

Software System (free) + Hardware (\$30 - \$100)

## What It Does

Offers 20+ built-in apps and digital services, like a messenger, voice calls, a blog, a VPN, and more

## Who It's For

Anyone who wants to control their data and digital life, regardless of technical expertise



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# Hardware: Overview

**“Universal”:** Compatible with most old laptops and desktops (because we are Debian-based)

**Inexpensive:** Built for Single-Board Computers (\$30 - \$100)



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# FreedomBox is Built for 10 SBC's



download *FreedomBox*

## 32-bit x86 (i386)

latest i386 testing free

testing img (364 MiB)

signature

## 64-bit x86 (amd64)

latest amd64 testing free

testing img (362 MiB)

signature

## A20 OLinuXino LIME

latest armhf testing free

testing img (384 MiB)

signature

## A20 OLinuXino LIME2

latest armhf testing free

testing img (384 MiB)

signature

## A20 OLinuXino MICRO

latest armhf testing free

testing img (382 MiB)

signature

## BeagleBone Black

latest armhf testing free

testing img (383 MiB)

signature

## Cubieboard2

latest armhf testing free

testing img (384 MiB)

signature

## Cubietruck

latest armhf testing free

testing img (383 MiB)

signature

## pcDuino3

latest armhf testing free

testing img (382 MiB)

signature

## Qemu 32-bit

latest i386 testing free

testing img (362 MiB)

signature

## Qemu 64-bit

latest amd64 testing free

testing img (360 MiB)

signature

## Raspberry Pi 2

latest armhf testing nonfree

testing img (397 MiB)

signature

## Raspberry Pi 3 Model B

latest armhf testing nonfree

testing img (398 MiB)

signature

## Raspberry Pi 3 Model B+

latest armhf testing nonfree

testing img (398 MiB)

signature

## VirtualBox 32-bit

latest i386 testing free

testing img (363 MiB)

signature

## VirtualBox 64-bit

latest amd64 testing free

testing img (361 MiB)

signature



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# The Hardware that You Need

Single-board computer

~\$35\*



\*Raspberry Pi 2 + case, others supported

SD Card

~\$10



SD-USB adapter

~\$5

(optional)



Ethernet cord

~\$5



Power cord

~\$5



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# User Interface on FreedomBox

**Democratized**  
**Designed for Non-Experts**

**Simple**  
**Point and Click**

**Streamlined**  
**Automates What Can Be Automated**



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# User Interface: First Boot

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**FreedomBox**

Start Setup

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JavaScript license information



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# User Interface: First Boot

## Administrator Account

Choose a username and password to access this web interface. The password can be changed later. This user will be granted administrative privileges. Other users can be added later.

### Username

Required. 150 characters or fewer. Letters, digits and @/./+/\_ only.

### Password

- Your password can't be too similar to your other personal information.
- Your password must contain at least 8 characters.
- Your password can't be a commonly used password.
- Your password can't be entirely numeric.

### Password confirmation

Enter the same password as before, for verification.

Create Account

[JavaScript license information](#)



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# User Interface: First Boot



Home

Apps

System



admin

User account created, you are now logged in



## Setup Complete!

Without any apps, your FreedomBox cannot do very much.

Install Apps

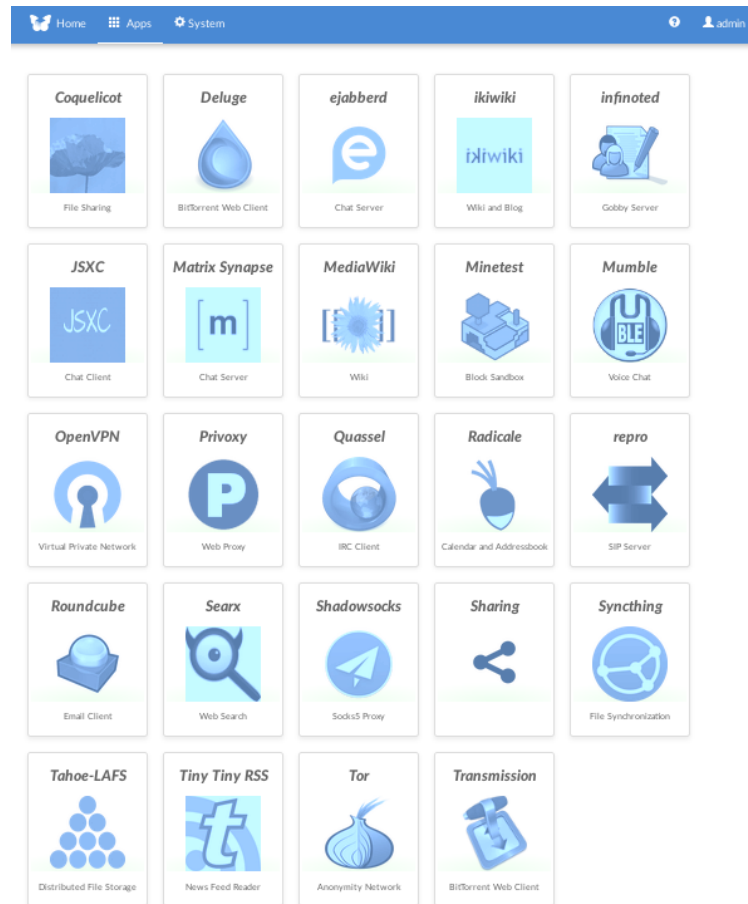
You may want to check the [network setup](#) and modify it if necessary.

[JavaScript license information](#)



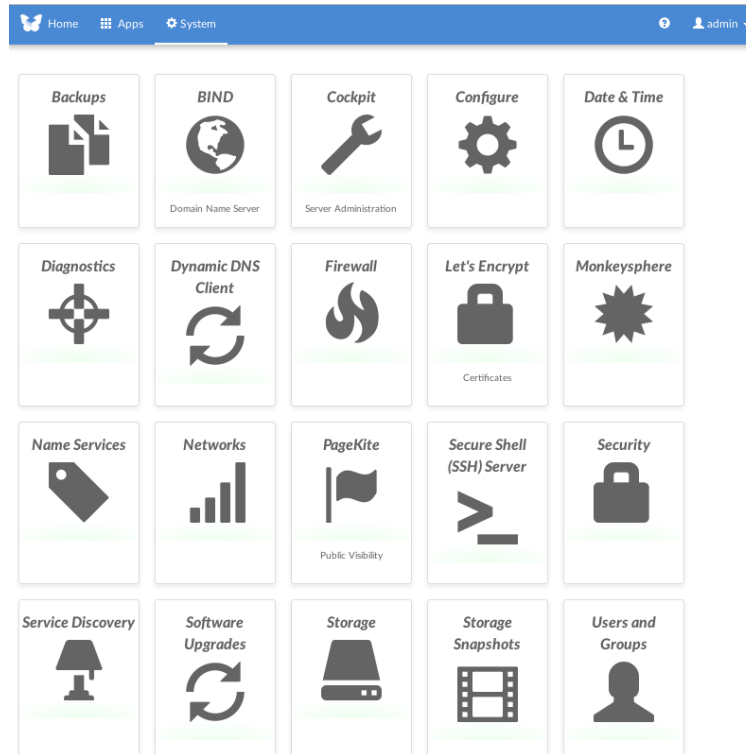
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# User Interface: App Page



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# User Interface: System Options



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# User Interface: Single-Click Installs



Home



Apps



System



admin ▾

## Installation: IRC Client (Quassel)

Quassel is an IRC application that is split into two parts, a "core" and a "client". This allows the core to remain connected to IRC servers, and to continue receiving messages, even when the client is disconnected. FreedomBox can run the Quassel core service keeping you always online and one or more Quassel clients from a desktop or a mobile can be used to connect and disconnect from it.

You can connect to your Quassel core on the default Quassel port 4242. Clients to connect to Quassel from your [desktop](#) and [mobile](#) devices are available.

[Learn more...](#)

Client Apps ▶

Install this application?

Install

---

[JavaScript license information](#)

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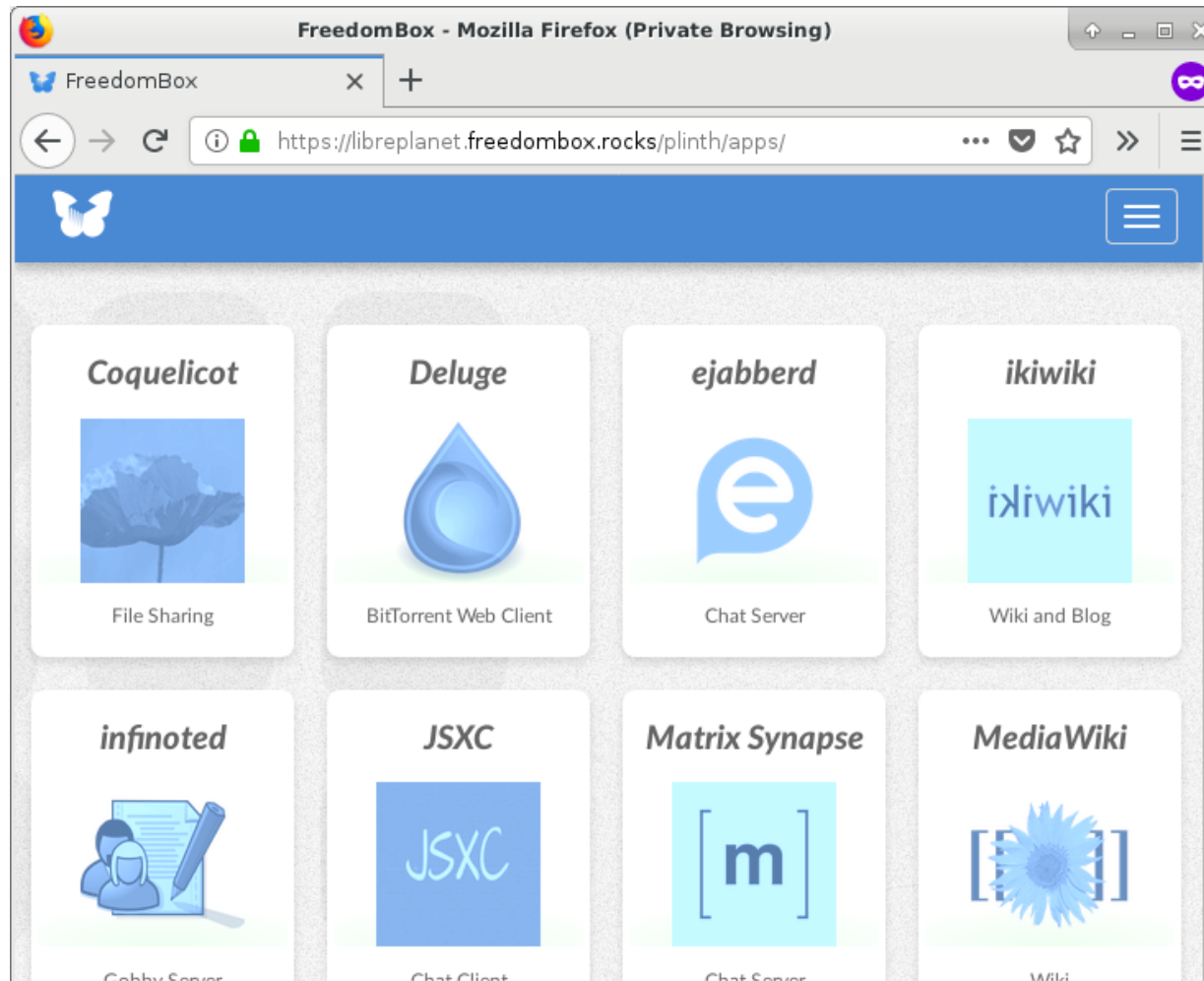
# FreedomBox + Matrix Can Replace Whatsapp

The screenshot displays a Matrix chat interface. On the left, a sidebar shows a search bar for room names and two sections: 'PEOPLE' with a user '@riot-bot:matrix.org' and 'ROOMS' with a room named 'UI Discussion'. The main chat area is titled 'UI Discussion' and contains a 'jitsi' widget. The chat history shows several messages: an admin changing the room name to 'Test room' and then 'UI Discussion', a notification that 'akeel and one other were invited and joined', a message from 'admin' saying 'Hi everyone, thanks for joining. We have a lot to discuss!', a message from 'carol' saying 'Agreed!', a message from 'akeel' asking 'Is anyone up for a conference call?', and a message from 'admin' saying 'Yup!'. At the bottom of the chat, a message from 'admin' says 'Jitsi widget added by @admin:'. The right sidebar shows a green button 'Invite to this room' and a list of participants: 'akeel', 'admin', and 'carol'. At the bottom of the right sidebar, there is a search bar for room members.



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# Demo: libreplanet.freedombox.rocks



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# Demo: [libreplanet.freedombox.rocks](https://libreplanet.freedombox.rocks)



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# Demo: [libreplanet.freedombox.rocks](http://libreplanet.freedombox.rocks)



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# But can I buy it?



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**What if there was an all-inclusive kit that you could buy and plug in?**



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# What if there was an all-inclusive kit that you could buy and plug in?



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How to order? 0 item(s), 0.00 EUR

- NEWS
- PRODUCTS
- PCB
- FORUM
- WIKI
- PROJECTS

### Products

- OLinuXino
  - Home-Server
    - A20
    - A64
    - A13
    - A33
    - A10
    - iMX233
    - RT5350F
    - LCD
    - Accessories
    - BOXES
- System On Module
- SOM204
- DIY Laptop
- Duino
- Internet of Things
- Robot & CNC parts
- Soldering Kits
- FPGA
- ARM
- AVR
- MAXQ

→ Products → OLinuXino → Home-Server → Pioneer-FreedomBox-HSK

[Tweet](#)

## Pioneer-FreedomBox-HSK



**PIONEER-FREEDOMBOX HOME SERVER KIT IS YOUR OWN HOME PRIVATE SERVER WHICH RESPECTS YOUR PRIVACY**

Price **82.00 EUR**

Out of stock [Notify Me](#)



Pioneer-Freedombox-HSK is based on A20-OLinuXino-LIME2-REV.G2 Open Source Hardware Linux computer. It comes with Metal enclosure, Lipo 1400 mAh battery, which allows up to 4-5 hours of stand alone operation even if no



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# Coming soon: Pioneer FreedomBox Home Server Kits by Olimex



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# Pioneer FreedomBox Home Server Kits, by Olimex

- LIME2 Open Source Hardware computer (1GHz processor, 1GB RAM)
  - In a metal enclosure with the FreedomBox logo
  - Lipo 1400 mAh battery (4-5 hours of stand alone operation)
  - native Gigabit Ethernet interface
  - native SATA drive support
  - two USB 2.0 hosts
  - USB-OTG
- 32GB micro SD-card (speed grade Class 10, Read 20MB/s and Write 17MB/s)
- Ethernet cable
- Power supply
- Cost: 82 EUR, ~\$93



FreedomBox

**How to order:**

**[https://www.olimex.com/  
Products/OLinuXino/Ho  
me-Server/Pioneer-  
FreedomBox-HSK/](https://www.olimex.com/Products/OLinuXino/Home-Server/Pioneer-FreedomBox-HSK/)**



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**Thanks to our core team,  
volunteers, partners, and  
community**



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**What is the achievement  
of the post-2016 global  
interest in data and  
privacy?**



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**Our challenge:  
capturing this moment  
and turning belief in an  
ideal into collective action**



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# FreedomBox in 12 Villages in Rural India

19



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**FreedomBox is just a tool.  
It's important. But it won't  
save democracy.**



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**You will.**



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# Raffle!



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**Consider donating:  
<https://freedomboxfoundation.org/donate/>**



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# Questions & Contact

- **Press inquiries: [press@freedomboxfoundation.org](mailto:press@freedomboxfoundation.org)**
- **Me: [haidar@freedomboxfoundation.org](mailto:haidar@freedomboxfoundation.org)**
- **Download: [freedombox.org](http://freedombox.org)**
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- **Mastodon & Twitter: [@FreedomBoxFndn](https://twitter.com/FreedomBoxFndn)**



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