Protecting Router Freedom in Europe

Activity Summary

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Version: 1.0 – 03.2021

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INTRODUCTION

What is Router Freedom?

The Internet has become a fundamental element of everyday life. The whole internet traffic, professional and personal communication, encryption, backups, shopping, writings, business interaction, study and so on are transferred through our router/modem.

Router Freedom is the principle that people are free to choose and use their private equipment to connect to the Internet. Routers and modems are equipment (or terminals, according to European regulations) that our devices (like computers, smartphones, TVs etc.) use to connect with the Internet Service Provider (ISP). While the modem brings the information in, the router distributes (or "routes") it to different devices. Commonly a router and modem are offered in a single device. Routers can handle other functions too, for instance WiFi, Voice over IP (VoIP) and TV streaming, and also technical details such as port forwarding, dynamic DNS or VPN tunneling.

Most ISPs in Europe offer a recommended router with the contract for their clients. In principle, this would not be essentially bad because then users do not need to search for a suitable device themselves. However, consumers are frequently forced to use ISPs' devices. This practice can make them totally dependent and vulnerable to technical and contract changes, which can result in unfair treatment by the ISPs.

With this report the FSFE aims to provide individuals and organisations the necessary information to raise awareness of the urgency of protecting Router Freedom. It contains the positive arguments in favor of Router Freedom based on the successful experience the FSFE has had in Germany since 2013. The report also presents an overview of the current state of affairs in Europe and how people can participate and collaborate in their countries to improve their situation with Router Freedom.

Router Freedom is a topic not only for experts – it concerns all of us.

FREEDOM OF CHOICE

Router Freedom is secured by EU laws

It should go without saying that in our society we should be able to freely choose technical devices for use in our homes as we are free to choose what mobile phone we buy. However, some ISPs in Europe dishonor this principle by dictating which device their customers have to use in order to connect to the Internet, or they discriminate against the owners of alternative devices. This undermines our basic freedom of choice.

The freedom of equipment choice is a consequence of net neutrality - a policy principle that ISPs have to treat all internet communications equally and not discriminate or charge differently based, for instance, on user, content, website, service, type of equipment or method of communication.

In fact, freedom of choice of one's own equipment is already guaranteed in the European regulatory framework. The EU's Open Internet Regulation (also known as the "Net Neutrality Regulation") grants end-users the right to access and distribute the lawful content and services of their choice via their ISP. The basic rule is: internet traffic shall be treated without discrimination except under very restrictive conditions.

In order to protect this freedom, the Regulation establishes that the enforcement of net neutrality rules is a task for the National Regulatory Authorities (NRAs) of the European countries. They must check the application of the Regulation to their rules according to the technical guidelines of the Body of European Regulators for Electronic Communications (BEREC).

Net Neutrality Regulation
Regulation (EU) 2015/2120

Art. 3(1): End-users shall have the right to access and distribute information and content, use and provide applications and services, and use terminal equipment of their choice irrespective of the end-user's or provider's location or the location, origin or destination of the information, content, application or service, via their internet access service.

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PRIVACY AND SECURITY

Your equipment, your data

Routers and modems are gatekeepers of most online activity for end-users and businesses alike. Therefore, end-users need to be able to pick a device that allows them to use security and data protection features which fulfil their requirements.

The availability of a larger number of available types of routers/modems benefits the general security of the landscape. It enables end-users to take their own security precautions or commission an equipment manufacturer or service provider to take care of updates and preventive measures.

The lack of Router Freedom compromises our privacy and the security of our most sensitive personal data.

Router Freedom decreases the probability that the router market will be dominated by only one or a few product families or manufacturers. If major problems or security holes appear, an enormous number of users would be affected at once. Most ISPs only provide a few router models and thus endanger the security of their customers. That is particularly problematic when manufacturers and providers are very slow in the delivery of critical updates. It is even worse if users are not allowed to perform updates themselves.

Router Freedom and Digital Sovereignty

Digital sovereignty refers to individuals', organisations' and governments' ability to act independently in the digital world. Concern has grown in the EU as to how European citizens can recover control of their digital data in an online environment. Router Freedom enables users to deploy measures on their private hardware to better protect internet traffic from remote listening, tapping, storage or other kinds of unlawful interception or surveillance.

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Compatibility and Sustainability

Router Freedom is future-proof

As end-users can choose their ISP, they also should be able use their routers/modems in several public networks. End-users regularly change their ISPs. Only if they can continue using their own devices can they port their settings and existing devices to the new provider more easily. If their equipment is owned by the ISP, compatibility to other providers and their specific requirements would be drastically limited.

Router Freedom enables end-users to configure their equipment to get improved network stability, advanced bandwidth, wireless signal controls and more.

However, without Router Freedom, ISPs can impose specific models on users which are not best suited for their needs. For the consumer, this can mean unnecessary expense. For the environment, this is unfavorable due to the buildup of hardware waste even though other devices would still work.

Free Software is vitally important for router sustainability. There are countless Free Software GNU/Linux/BSD distributions available for routers. OpenWrt, for example, offers a large number of optional packages in its repositories. Users can configure their routers' OS in many different ways.

Router Freedom enables the right to repair. Besides, Free Software in a router can greatly extend the device's lifespan. These are major wins for digital sustainability.

NRKbeta 2008

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INNOVATION & COMPETITION

Router Freedom is market-friendly

Router Freedom fosters innovation in the terminal equipment market. End-users are better served by a greater variety of options, better addressing consumer and business performance needs.

For router manufacturers, free choice of terminal equipment will mean that they will be able to reach a larger and more varied market of consumers in addition to the limited groups of ISPs. Such manufacturers have a greater incentive to develop products aimed at specific consumer and business niches, fostering innovative solutions.

Users benefit from the free competition that guarantees free choice and steady improvement of products. The lack of competition would, eventually, come at the cost of the user because (security) features would be continually reduced and the user-friendliness would drop.

This goes even further: if a end-user is forced to use a router, the ISP is only one step away from supporting only one SIP provider, one cloud storage, one DynamicDNS provider or one media streaming platform. The end-users cannot use their phone, their trusted online storage or their hardware, because it is not supported.

Router Freedom is an important factor for the terminal equipment market to thrive. European manufacturers have better chances to innovate in a liberated market.

THERE IS NO ROUTER FREEDOM WITHOUT FREE SOFTWARE

Freedom of choice is facilitated by Free Software. The various GNU/Linux/BSD distributions available for routers allow end-users to configure their equipment in different ways to best meet their needs.

Free Software enables swift reaction to security flaws and vulnerabilities, allowing users and the community to upgrade and reconfigure the router software. Privacy and data protection are enhanced by more robust security.

Competition in router markets is greatly enhanced with Free Software. Users benefit from that by free choice and steady improvement of products. Free Software eliminates the lock-in effect for end-users.

Free Software (also known as Open Source Software) refers to freedom, not price. It guarantees its users the essential four freedoms: to use, understand, adapt and share software. Free Software is a fundamental element of digital sovereignty.

Free Software fosters sustainability by by allowing older devices to be supported long after the manufacturer stops making updates. It reduces hardware waste and improves energy consumption.

THE EUROPEAN EXPERIENCE

Router Freedom is still not a reality in the EU

Since 2013, the FSFE has been conducting a successful campaign which resulted in the adoption of a law obliging all German ISPs to enable new clients to use alternative modems and routers to connect to the Internet.

However, there are still threats that can cause a negative impact on Router Freedom in Europe. They are related to:

- vague legal terms of new regulatory rules on European and national levels;
- the lack of commitment by NRAs to protect Router Freedom;
- the abusive behavior of ISPs against end-users.

A new set of rules will guide the implementation of Router Freedom in Europe. The adoption of the rules by the 27 EU member states will face challenges with negative consequences for Router Freedom. The main issue concerns the identification of the location of the network termination point (NTP). This marks the transition between the user's private network and the ISP's public network. NRAs can define the NTP in positions that will hamper end-users' ability to use their own equipment.

The majority of the NRAs have been silent or provided no data on concrete issues involving Router Freedom. Besides, regulators have been extremely conservative in applying penalties against net neutrality violations in general. Therefore, Router Freedom could easily be hampered by ISPs without any effective counteraction by NRAs.

As we have experienced in Germany, ISPs are very creative in forcing their routers on customers, creating barriers that can completely block Router Freedom. We call these soft barriers when ISPs do not prevent customers by contractual means from using their private routers, nor deny vital information for the router configuration (login data), but otherwise try to persuade customers not to use their own routers with unscrupulous arguments. In many cases, this is sufficient to scare people away from Router Freedom. Sometimes, ISPs push the limits and create hard barriers for customers. For example, ISPs impose contractual limitations, do not provide necessary login data or completely refuse to provide technical support.

"Due to the unclear legal terms, the lack of enforcement commitment by the NRAs and abusive behavior of ISPs, the implementation of Router Freedom by 27 EU member states will be challenging. Our task at FSFE will be the compliance monitoring, the reporting of illegal practices and advocating for Router Freedom in various legislative processes throughout Europe."

Max Mehl
FSFE Programme Manager

GETTING ACTIVE

Making a stand for Router Freedom

Lucas Lasota
FSFE Project Manager

Together we are stronger

"*Your active participation is fundamental for defending Router Freedom in Europe. We would love to learn more about the situation of Router Freedom in your country. Feel free to* contact us *and let's work together!*"

Reporting violations

In case your ISP is imposing barriers against Router Freedom, you can report these violations to the NRA and the consumer authority of your country. Please, share your experience in our survey.

Router Freedom Survey

We want to better understand end-users' experience with Router Freedom so we can react accordingly. Your opinion is extremely important for us. Please let us know in our survey. It will take only a few minutes.

Communicating with NRAs

NRAs are in the process of establishing rules on Router Freedom. You can help them by reporting ISP abuse and taking part in public consultations. Make sure to check our wiki page. There you can also check our monitoring map for Router Freedom in the EU.

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The Free Software Foundation Europe (FSFE) is a charity that empowers users to control technology. Software is deeply involved in all aspects of our lives; it is important that this technology empowers rather than restricts us. Free Software gives everybody the rights to use, understand, adapt and share software. These rights help support other fundamental freedoms like freedom of speech, press and privacy.

The FSFE was founded in 2001 as a non-profit, non-governmental organisation and network that is itself part of a global network of people with common goals and visions. The FSFE is supported by its members from all over Europe and has regional chapters in eleven countries. The central component of the FSFE's work is keeping the legal, political, and social base of Free Software strong, secure and free of particular interests.