



**Freedom**

# **Intelligent Smart Wi-Fi Brings Mobility To Your Home**

**Make your services whole-home-ready!**

***devolo***





## The challenge:

### Hoisting the anchor that restrains you

Your customers want to freely roam their home.  
Cut their Wi-Fi boundaries.

The highest court in Germany has ruled that Internet access is a basic human right. While access to the Internet is important, people are expecting a lot more than that. They want broadband access which means they want to be connected everywhere. This standard is expected by most people, especially business people and the growing younger populations who view this as a 'natural resource'.

While people are on the road, they can accept having limited Internet connection through 3G, 4G, or 5G networks. However once they reach home, their expectation for Internet connectivity completely changes. The home is for recharging physically and emotionally, so naturally people don't want to be hassled with poor Wi-Fi inconveniences. At home, they want to have fast Internet connection for watching movies and TV series, attending online Yoga classes and video chatting with far away loved ones.

People don't just expect a stable, high-speed connection while only sitting on the couch. They want to be able to freely roam their entire house with connectivity everywhere. Life is movement, so why should access be stuck in one place? This is where our in-home mobility products comes into play. Today's modern customers are technologically savvy and want to be freed from single spot Wi-Fi boundaries- and we totally agree with them and have the perfect solution!

## Setting sails for a journey towards Self-Organizing Wi-Fi networks

devolo understands the demands and wishes for future home network settings and functionality. Your customers will benefit from our self-organizing Wi-Fi home networks that creates a seamless service experience. Our specialty is in ease of use. We eliminate any need to set or adjust network settings- your customers won't even think about bandwidth at all because it will just work.

This eBook will lay out four common scenarios that users face when it comes to connecting to the Internet at home, and will provide valuable insights on how devolo can help you overcome these challenges.

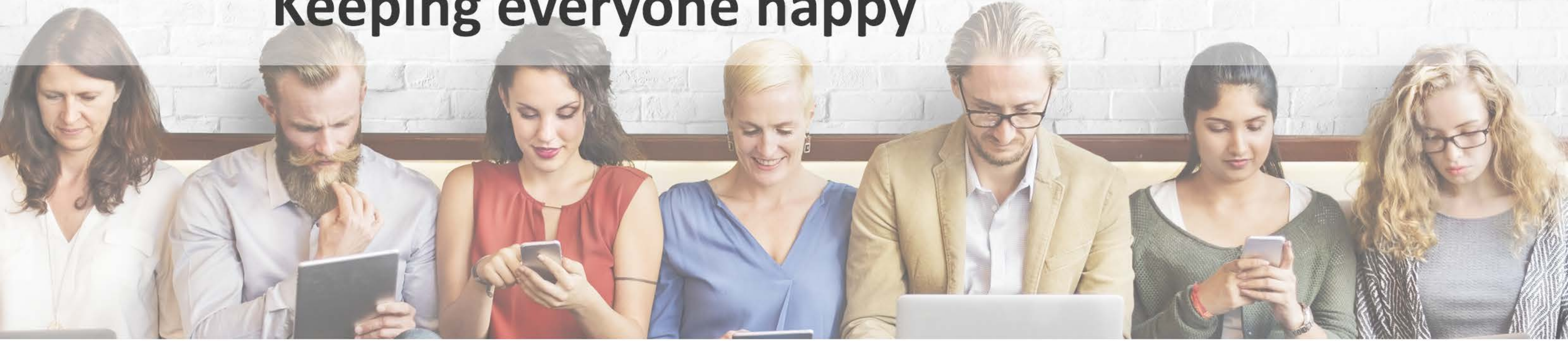
Continue reading if you want to learn how operators can easily create a boundary-free Wi-Fi scenario for their customers.



## Wi-Fi Mobility

Full service access while roaming the home

The biggest challenge:  
**Keeping everyone happy**



If you think about the Wi-Fi network challenges that your customers (and maybe even yourself) face at home when accessing the internet, the most pressing questions are probably:

How is devolo going to improve current Wi-Fi network standards and:

How can operators integrate these solutions into the home networks of their customers?

## Embedding tomorrow's technologies today

HOW?

Being determined to enable full and seamless in-home Wi-Fi mobility in your customers' homes, there are usually four use case scenarios that should be taken into consideration:

1. **In-home roaming** and the problem with sticky clients
2. **Band Steering** in overcrowded network environments
3. **Airtime Fairness** for optimal bandwidth distribution
4. **Meshing** as a solution for coverage extension

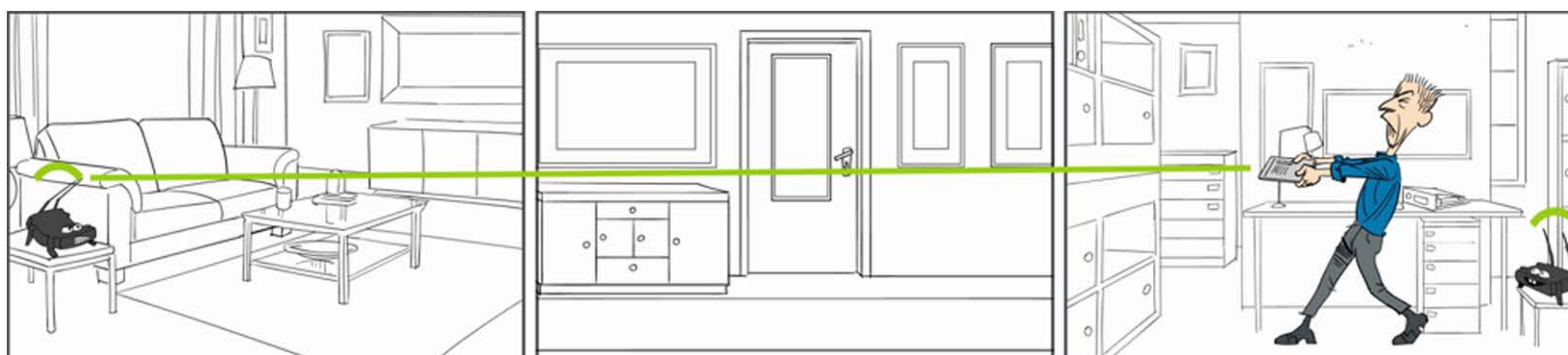


## Scenario 1 – Challenge: Roaming & Mobility vs Sticky Clients

When your customer Peter gets home, his tablet usually connects to the first access point he comes across. This access point is located in the living room. As he walks from the living room to his home office, he watches the highlights of last night's soccer game on his tablet.

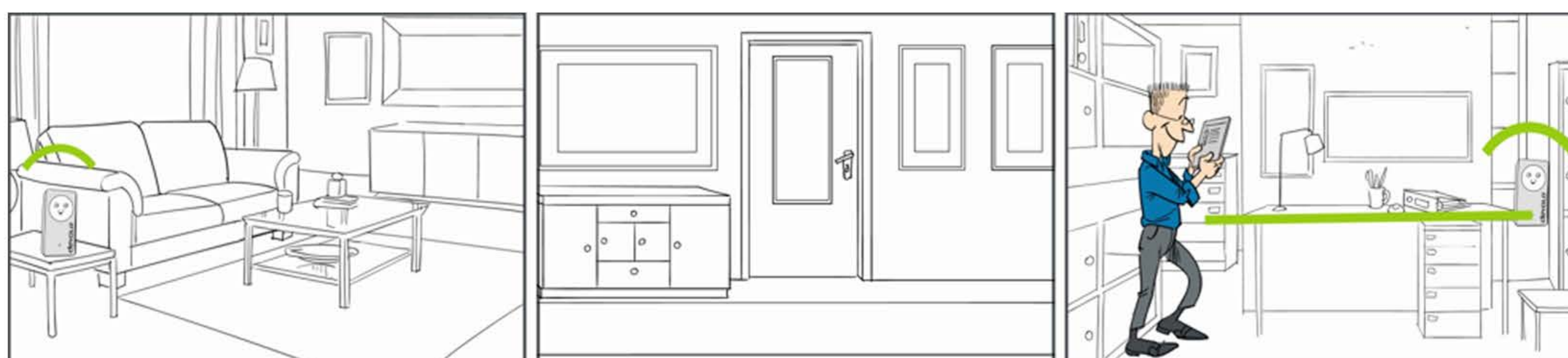


Unfortunately the streaming isn't that smooth because Peter is still connected to the access point in the living room, and hasn't seamlessly hopped over to the closer access point in his office yet.



## Solution:

A favorable scenario would be access point hopping to get best coverage and bandwidth while roaming the home. The access point discover network topology (802.11r or 'fast roaming') supports this kind of hopping by providing network information to the client (802.11k), and enables fast association with the next Access Point (802.11v).





## Scenario 2 – Challenge:

### Band steering for optimal bandwidth

Peter and his family are living in a small, detached house in a suburban neighborhood. His Wi-Fi Home network is surrounded by a lot of other networks and devices, many of them on the 2.4 GHz band. This kind of high density Wi-Fi environment leads to an aggregation of too many clients on a single band and channel.

Additionally, slow Wi-Fi clients (based on the quality of their Wi-Fi connection to the access point) limit the throughput of potentially fast Wi-Fi clients. The result? A ,choppy' internet service experience for the whole family.



## Solution:

Clients get relocated to the optimal band and channel through band steering and Dynamic Frequency Selection (DFS).

With an increased sensitivity, the access point takes these challenges into account, and proactively moves clients to the best connection.

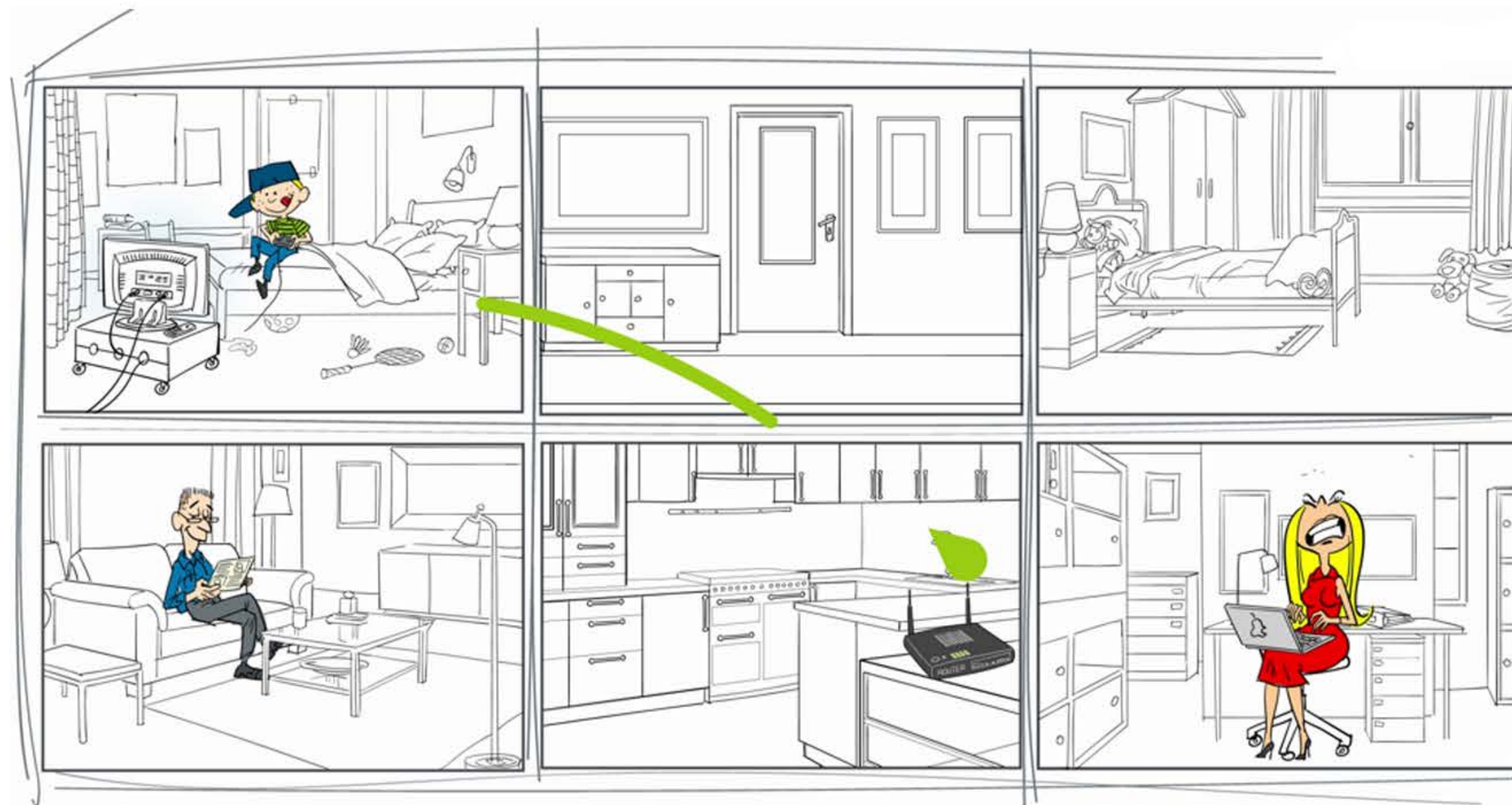




## Scenario 3 – Challenge:

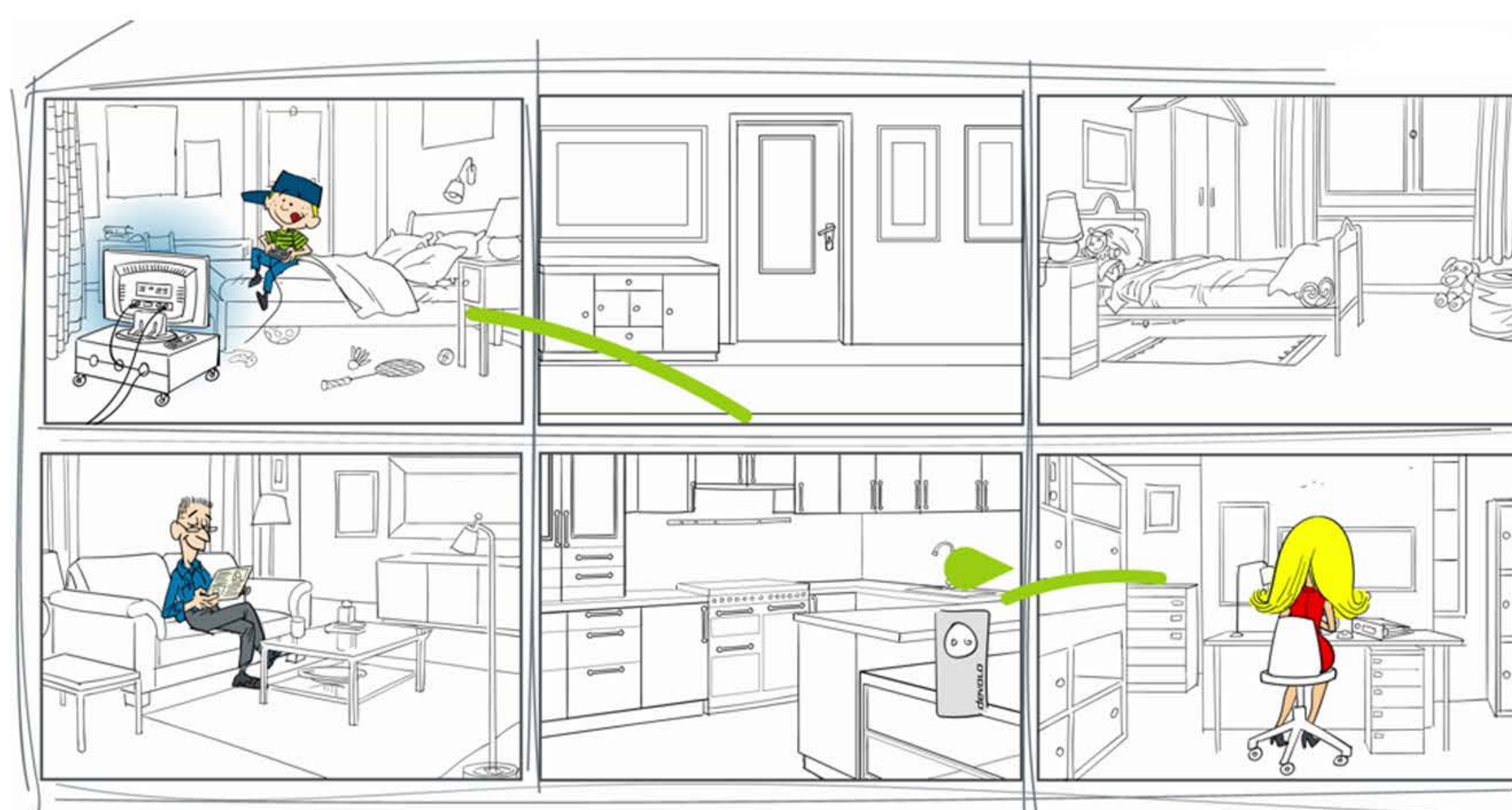
### Airtime Fairness for optimal bandwidth

While James is playing a 4K/UHD multiplayer video game over the internet in his room, his mother is watching her favorite soap opera in the office. The access point is located in the living room, but it gives more airtime and bandwidth to James who is further away playing on his game console. The video stream in the office is hardly running – and his mother is not able to follow with the episode.



## Solution:

The access point considers every client and its location fairly in its distribution of bandwidth and airtime.





## Scenario 4 – Challenge: Meshing for coverage extension

Let's kind of combine all other scenarios together:

Peter still wanders the house, watching soccer, and his sons plays video games while his wife watches online videos. To improve the quality of his Wi-Fi home network, he has installed several additional access points around the house.

But there are still some dead spots in his home where he can't get any Wi-Fi access.



## Solution:

To get the most out of every installed access point, the coverage should be extended by moving data over a limited number of hops.

By setting up an organized Wi-Fi mesh network, the data flow can be controlled through changing hops to find the best path from source to client.





## Summary: How to get satisfied customers

### Smart Wi-Fi Mobility for a high QoS and NPS

The answer is sometimes simpler than expected. As a renowned market and innovation leader, devolo has identified the shown challenges, and focused its R&D efforts on solving them. When deciding on a devolo solution, operators don't have to lift a finger - except to define the project scope with our expert team. We will then help tailor the best solution that perfectly fits the market and end-customer model.

**We will keep you covered, so you can focus on what matters most: Your customers.**

### The eBook series around Wi-Fi home networks

**eBook I** 'Delivering the UHD Content Distribution Utopia' will show you how to navigate networking challenges by reliably distributing UHD content through the home networks of your customers.

**eBook II** 'Make your Services whole-home-ready', provides a deeper look into the black box of home networks, with a focus on the different characteristics of customers' homes and their distribution devices.

**eBook III** 'In-home Mobility with Intelligent Smart Wi-Fi' answers the pressing questions of how to enable in-home roaming through intelligent smart Wi-Fi solutions

Subscribe to our eBook email channel to get new eBooks sent directly to your inbox!



## Want to learn more about our solutions?

We would be happy to discuss our solutions with you in person. Contact us so that we can help you target the challenges that your customers face and address them head on.

You have multiple options to reach out to us:

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Use our	online contact form
Email us	<a href="mailto:sales@devolo.de">sales@devolo.de</a>
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