

# IPTV over Wi-Fi



## Do-It-Yourself IPTV Takes Off in Belgium

Belgium's national telecommunications provider was looking to move quickly into the broadband triple play market with one of Europe's first IPTV services. In June of 2005, with great fanfare, Belgacom introduced BelgacomTV to over four million households throughout the country.

BelgacomTV delivers more than 60 IPTV channels through its "Classic+" service including national and international channels for €9.95 per month as well as a "Select" package of 16 channels for €14.94 per month. Video on demand movies of over 400 titles is available for 2 to 5 euro per movie. This content is delivered over an advanced copper/fiber infrastructure utilizing ADSL2+ and VDSL technologies. Broadband speeds range from 9 to 15 Mbps per second. IPTV is multicast from the headend using MPEG-2 compression with each IPTV standard definition channel consuming approximately 4 Mbps of capacity.



Gaining exclusive rights from the Professional Football League to broadcast Belgian football, Belgacom wanted to exploit this opportunity. It needed to act fast, ramping the services as quickly as possible. To do this, home installation and distribution of its IPTV service needed to be re-thought.

Belgacom's goal was to empower consumers to install their service where and when they wanted, not having to schedule installation and wait for technicians. The conventional approach, wiring homes with Category 5 Ethernet or using an IP over powerline (PLC) solutions didn't meet that goal.

While reliable, wiring a home takes time, anywhere from 2 to 3 hours, limiting the number of IPTV installations that could be performed in a day. Cabling homes was also disruptive and didn't provide the flexibility for subscribers to easily move or add new televisions when they wanted. These wired alternatives also didn't support wireless Internet access or wireless voice over IP (VoIP).

And because most Belgium homes used tri-phased electrical systems, powerline solutions were very sensitive to disturbances and could only support a single IPTV stream. Installation was complicated, cumbersome and costly.

"The market was demanding a better model for enabling new digital services within the home - one that was as revolutionary as the services themselves," stated Robin Bellière, product manager of residential terminals at Belgacom. "We needed a way to provide predictable performance with no more wires, support wireless Internet and emerging wireless voice services."

### BELGACOMTV: BETTER THAN CHOCOLATE

Having tried Ethernet and PLC options for in-home wiring, Belgacom turned to Smart Wi-Fi. "We had experience with conventional Wi-Fi technology and found it severely lacking in performance, reliability and coverage," said Bellière. "The current state of Wi-Fi couldn't adapt to interference or constant changes in the Wi-Fi environment caused by devices such as cordless phones. We needed a carrier-class solution

#### COMPANY OVERVIEW

Headquartered in Brussels, Belgacom is the first telecommunications company in Belgium. It leads the market in wholesale and retail fixed line services, mobile communications, Internet and broadband data transmission services. Its popular IPTV service, BelgacomTV is one of Europe's fastest growing and successful services. Since its introduction in June 2005, Belgacom has signed up over 150,000 IPTV subscribers.

#### REQUIREMENTS

- No new wires for IPTV installations
- Reliable support of IPTV for distribution throughout home
- "Do It Yourself" system that allows subscriber to install at their convenience
- Predictable performance
- Wi-Fi system tolerant of co-existing Wi-Fi networks
- Reduce install times
- High rate of customer satisfaction, low rate of trouble tickets

#### SOLUTION

- Ruckus MediaFlex NG multimedia router
- Ruckus MediaFlex NG multimedia adapter

#### BENEFITS

- Complete plug and play D-I-Y solution for Belgacom customers
- In-home wireless distribution for IPTV services
- Reduced installation time, more installs per day
- Less the 1% return rate since introduction
- Predictable, reliable performance
- Tolerant of other Wi-Fi networks, ability to mitigate interference



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**Robin Bellière**  
Product Manager  
Residential Terminals  
Belgacom

designed for our specific application - IPTV over Wi-Fi." After rigorous testing, Belgacom found the ideal solution with the Ruckus MediaFlex NG multimedia system.

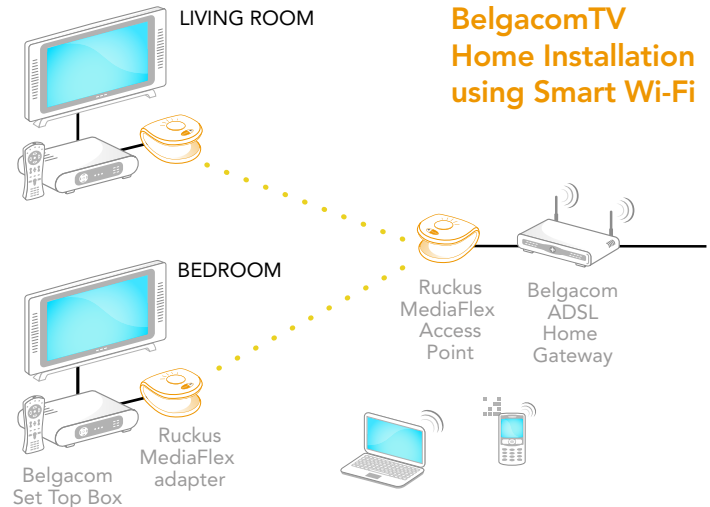
Belgacom found the Ruckus MediaFlex system installs in less than half the time and half the cost of wired solutions. It quickly began arming installers with the kit, giving customers a choice of a wired or wireless solution.

Ruckus MediaFlex NG routers and adapters are "paired" in the factory, configured with a hidden SSID and a custom profile of parameters specified by Belgacom. This enables technicians to quickly install the gear, focusing their efforts on customer satisfaction.

A single Ruckus MediaFlex NG system in each home attaches to Belgacom's DSL home gateway. IPTV traffic is peeled off the ADSL network through an ATM PVC over a single Ethernet connection to the Ruckus MediaFlex AP. Another ATM PVC is used to separate and route Internet traffic from the home gateway to Belgacom's broadband network.

Through the use of an advanced directional smart antenna array, the Ruckus MediaFlex system avoids interfering with the Wi-Fi integrated into each Belgacom DSL home gateway that customers use to access the Internet.

Near the TV, a Ruckus MediaFlex adapter is simply attached to the Belgacom set top box. No configuration is required. Once powered on, the MediaFlex adapter automatically associates with the MediaFlex access point, providing a wire-like connection that is reliable and adaptable to changes in the wireless environment.



To meet its goal of providing a Do-It-Yourself IPTV solution, Belgacom began offering the Ruckus MediaFlex system, bundled with other components in its own retail and dealer outlets, for under €100. Belgacom found that given the choice, more than 70% of subscribers wanted to install its IPTV service when and where they wanted. Of that 70%, approximately 20% wanted wireless because of the flexibility of being able to put televisions anywhere, along with ability to easily and quickly add TVs.

Belgacom also found the Ruckus MediaFlex system enjoyed the lowest return rate of any customer premise equipment installed. Return rates for Ruckus equipment were well under one percent. And user support calls were a fraction of those compared to other wired IPTV options. To date, Ruckus MediaFlex systems have been installed in over 25,000 homes throughout Belgium.

"Our experience with the Ruckus system has exceeded our expectations from both a technical as well as an operational perspective," said Bellière. "Given the choice, subscribers want no more wires and the flexibility and convenience that it affords. However, the wireless environment must be as reliable as a wired environment. Ruckus is the only supplier that focused on developing a carrier-class solution for this precise application."