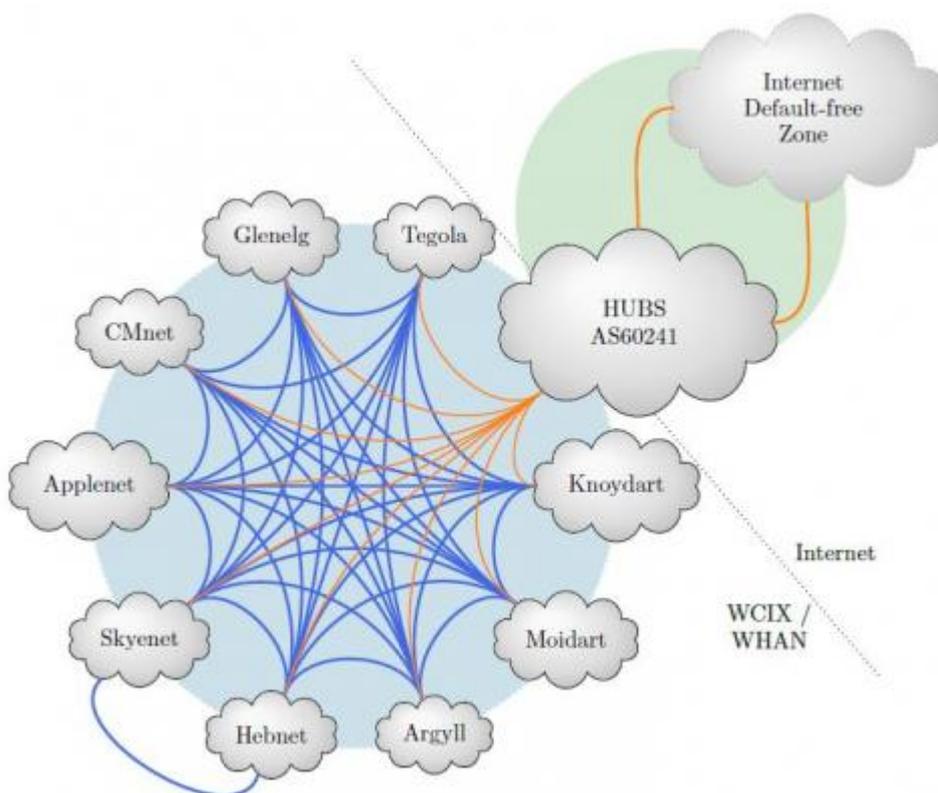# Good practice: RemIX - A Distributed Internet Exchange for Remote and Rural Networks in Scotland

RemIX is one of the five winners of the European Broadband Awards 2016 competition. RemIX focuses on bringing change through affordable technical solutions. It adopts familiar components, standards and technologies, to fit within the target environment, and allows for easy transfer of the model. It is a technically exciting project with an innovative approach: a unique distributed Internet Exchange Point (IXP) for remote and rural networks in Scotland and the United Kingdom. This is an excellent example of future-proof infrastructure and quality of service.

RemIX - Autonomous System topology. WHIX members are fully connected, communication over the exchange needs no intermediation.

The Scottish Highlands and Islands, where RemIX is currently implemented, consist of mountainous terrain stretching along a 400 km north-to-south corridor. In such regions, the necessary broadband infrastructure, as found in central urban areas, is often lacking. RemIX, as a distributed and wireless Internet Exchange Point (IXP), is designed to mirror the benefits of IXPs in urban regions in under-serviced regions. RemIX allows for establishing high-quality backhaul to remote regions, ensuring affordable backhaul connectivity for small access networks and allowing networks to maintain the autonomy. This is a necessary attribute for long-term sustainability.

The RemIX architecture is innovative, in the sense that it has no large facility nor physical housing. Instead, it is distributed so that lightweight points of presence may be established where there are as

few as two members. Members either collocate their border routers with the exchange switch, or remotely on the far end of a link, as circumstances dictate. The RemIX architecture is recognisable as it adopts familiar components, standards and technologies that are adaptable and suitable for the target environment, and furthermore allows for easy transfer of the model. The project is already commercialised.

Learn more about the winners of the European Broadband Awards 2016. Are you involved in a project that is providing citizens with access to high-speed broadband internet? Apply for the European Broadband Awards 2017!

<p>“The project allows people in the rural areas to have, in some sense, a representation on the Internet itself, rather than just being subscribers on the periphery.” - Marwan Fayed, SICSA Lecturer and researcher</p>

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