Proxim Delivers Robust and Reliable Connectivity for Shetland Islands

Introduction

The Shetland Islands lie northeast of mainland Scotland. Shetland is at the same latitude of Norway and the most northern and remote part of the United Kingdom. Its exposed position in the North Sea results in frequent severe storms throughout winter. The Shetland Islands are split into numerous small islands 15 of which are populated.

The Shetland Islands Council are responsible for all municipal services on the islands including Schools, maintenance of roads, social care, Libraries, Sports Centers, housing, waste management, inter island ferries and even an island based airline.

Challenge

The Council has a requirement to provide high-speed internet access and services such as VOIP to its schools and council buildings spread across the islands. The council's previous network installed as part of the Pathfinder wire-line project was scheduled to come to the end of its contract in March 2014 at which point it would cost the council nearly £1 million to continue to maintain.

In 2013 The Network People (TNP) were contracted to replace the communications tower based microwave component of the old network with a new wholly owned network integrating with the councils existing fixed line connections. The network had to be designed and built in 7 months and meet the following extra requirements.

- Faster speeds
- Easier deployment and simplified network manageability
- Lower infrastructure and maintenance costs

The council also had to ensure that the new network was up and running before the existing network was decommissioned and was very particular on the physical robustness of the radios, keeping in mind the extremely challenging environment of the islands.

Solution

TNP, a leading wireless engineering organization, was contacted by the council to address it's requirements. TNP after evaluating wireless solutions from vendors such as Redline, Radwin, and Cambium etc. decided to implement Proxim's Tsunami® series of point to multipoint radios.

The proposed solution constituted of a central backbone supported by seven Tsunami® high performance base station units deployed at telecommunications masts spanning the length of the islands. This backbone is connected to over 20 subscriber units, expanding the network to five islands.

A critical factor was the unit's ability to survive in the extreme conditions in the Shetlands. Being able to survive 125mph winds was essential.

"We evaluated Redline, Radwin and Cambium. We felt Proxim offered the best mix of price, build quality and ease of remote administration." - Paul Astle (TNP Project Manager)
"The previous network took over five years to deploy, on the other hand, deploying Proxim's equipment was very easy and we only took 7 months from design to deployment".

Shetland Islands Council

Highlights

- The Council required high-speed internet access and services such as VOIP to its schools and council buildings spread across the islands
- The solution constitutes of a central backbone supported by seven Tsunami® high performance base station units deployed at telecommunications masts spanning the length of the islands.
- This backbone is connected to over 20 subscriber units, expanding the network to five islands.

About Proxim Wireless

Proxim Wireless is a pioneer and global leader in advanced Wi-Fi, point to point, and point to multipoint outdoor wireless systems that deliver high performance and high availability communications.

With over 30 years of wireless experience, Proxim is recognized for its unparalleled reliability, superior performance and drive for innovation.

Key Tsunami® Features

The bouquet of advanced features in WORP® and Proxim's ClearConnect technologies, ensure Tsunami® radios are able to deliver sustained, predictable and high capacity throughputs even in inimical weathers. In built features such as DDRS, DCS ensure optimal system efficiency and mitigate interference. Additionally, IP67 grade metal enclosure deliver total ingress protection and allow Tsunami® radios to operate in a wide temperature range from -40° to 60°C (-40° to 140° F)

Result:

The new infrastructure is completely owned by the council. Since the deployment in 2014, the council of Shetlands has reduced its monthly expenditures significantly compared to the previous solution with a ROI within the 1st year.

The network is integral to inter-department communication, and will be essential in delivering the councils digital by default strategy.