The replacement of rural telephone system on Falkland Islands

"SAF Tehnika was chosen because of previous good experience from deployment in another C&W markets along with competitive pricing and good, responsive support."

Paul Shelswell
Project Manager - Camp Network Upgrade
Cable & Wireless South Atlantic

SAF CFQ and CFM systems provide the following services for Cable&Wireless on Falkland islands:

- Backbone for WiMax and GSM
- Ethernet for Internet services
- E1 for PSTN

Advantages:

- Low power consumption (can be used in conjunction with alternative power sources)
- Meets the requirements of the local climate conditions
- Quality of Service (QoS);
- Cost effective solution

Customer: Cable & Wireless South Atlantic Ltd.
Location: Falkland Islands
Industry: GSM, Fixed and ISP
Challenge: Build joint TDM/IP backbone for WiMax and GSM with future capacity upgrade
Solution: Use modular SAF 7GHz CFQ system for protected backbone and 5GHz CFM for point to point access

About Cable & Wireless

Cable&Wireless (C&W) is one of the world's leading international communications companies. It provides fixed and mobile voice, data, IP and broadband services to business and residential customers, as well as services to other telecoms carriers, mobile operators and providers of content, applications and internet services. Historically, Cable & Wireless has had a strong market presence in many current and former British colonies where it provided local telephone service. Cable & Wireless has operated in the Falkland Islands since 1974 providing all national and international telecommunications services. The company has installed a telephone service across the Islands and launched local access to the Internet in late 1997. A GSM mobile network was installed in 2005 which provided coverage of Stanley, Mount Pleasant and surrounding areas.

Challenge

According to the agreement between Cable & Wireless South Atlantic Ltd (C&W) and the Falkland Islands Government signed by the parties on 4 October 2007 the replacement of the existing rural telephone system should be attained by the end of 2009. The existing telephony system will be replaced as a part of the network upgrade with a new system using Multiservice Access Node (MSAN) and WiMax technology. As a result of this upgrade the new services - DSL Broadband and WiMax for VoIP will be available for the first time for the rural communities of the main Falkland Islands (East & West) and a number of it's outlying islands. A number of existing GSM base stations on East Falkland will also be migrated to the new backbone network.

The existing rural radio equipment which provided telephony to outlying settlements of the Falklands was about 20 years old and didn't keep up with the growing requirements.

Solution

SAF Tehnika has provided 7GHz CFQ (SDH) and CFM (PDH) microwave radio systems which were used to build the protected backbone for TDM / IP mixed network. The new network using SAF equipment will support remote Multiservice Access Node technology (POTS & DSL) and also a new WiMax network for VoIP covering the new remote subscriber locations. SAF Tehnika has also provided the on-site technical support.

As no main grid exists outside Stanley, the power consumption was the critical aspect for C&W choosing microwave equipment. Both SAF microwave systems are low power consuming therefore allowing the main hub sites to be fed by solar batteries and wind turbines.

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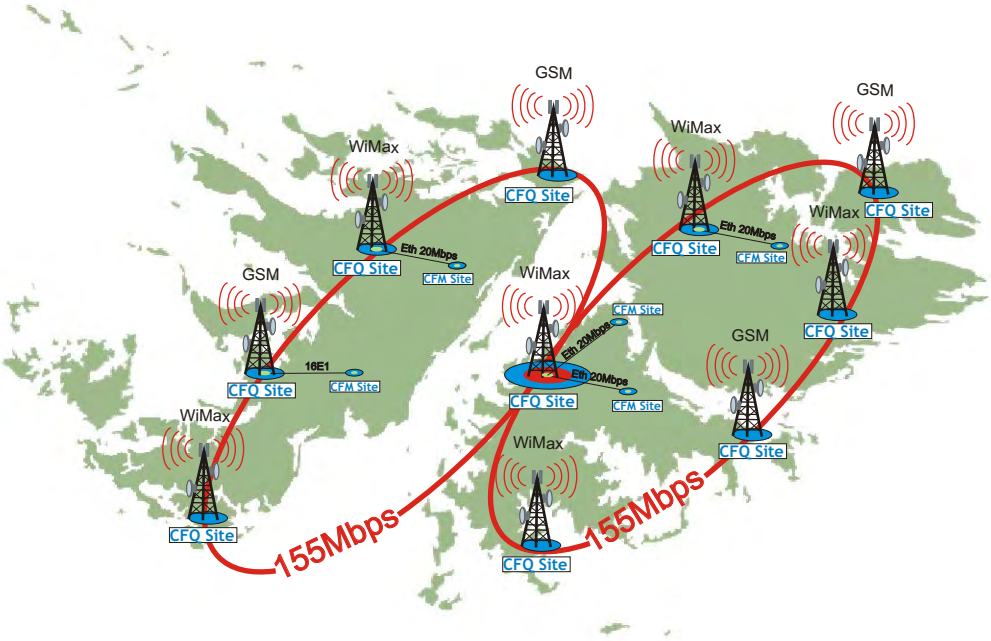
TDM / IP mixed network topology using SAF CFQ & CFM systems*



*Basic scheme of the network

TDM / IP mixed network

- Link distances: up to 50 km
- Previous radio system: in use for 20 years
- Capacity of previous link: 2MBit/s 30 channel PCM
- Reasons for replacement: proprietary equipment that was end of life

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- Services provided by SAF CFQ & CFM systems: Backbone for WiMax and GSM, last mile access
- Quantity of CFQ links: 16 links
- Quantity of CFM links: 12 links
- SAF equipment used:
  Backbone CFQ-IDU & CFQ-ODU
  Lastmile CFM-IDU & CFM-ODU
- Frequences: 5 & 7GHz
- Capacity: up to 155 Mbps

- Solar powered CFQ site

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