



Claro Chile – LTE Connectivity

Executive Summary**The Challenge**

Mobile operator Claro Chile, part of America Movil, needed to deploy a 4G/LTE Cellular Backhaul network to fulfill part of its Universal Service Obligations for rural areas of the country. The goal was to find a solution that could be rapidly deployed, while minimizing costs.

The Solution

SpaceBridge deployed its unique SCPC Dynamic BoD (Bandwidth-on-Demand) solution, ensuring reliable operation of Ku-Band in heavy rain regions of the country. Two fully-redundant Hubs were installed in Santiago, Chile to connect approximately 475 remote sites.

Benefits of Spacebridge

- Rapid, easy deployment of 4G/LTE backhaul – reducing OPEX
- Increased satellite network throughput (lower cost/bit/Hz)
- Integrated traffic management.
- Satellite links with Low Latency and Jitter.

**The Project**

Under a plan arrived at with Chile's regulatory agency, SUBTEL, cellular operator Claro Chile embarked on a major Universal Service Obligation (USO) infrastructure project to extend its mobile network to areas of the country without mobile coverage. In 2013, Claro Chile added two new SpaceBridge VSAT HUBs to support the rural expansion of its growing 3G and 4G wireless network. Claro Chile had enjoyed a successful relationship with SpaceBridge dating back 15 years to its installation of the first VSAT Hub in the facilities of Chilesat. Claro had deployed broadband satellite terminals for a wide range of services throughout Chile, including rural and corporate telephony, and Internet and Intranet access using SpaceBridge technology.

Challenge

Because of the complex geographic challenges of the country, Claro Chile searched for innovative technologies that would allow it to connect remote sites to cost-effectively to its core network. The selection of Ku-Band for a Broadband-over-Satellite offered terminal cost advantages, but also created challenges, because of the high packet loss potential in rainy conditions.

The Solution

For Claro Chile, Spacebridge created a Star Dynamic SCPC (Single Channel Per Carrier) BoD (Bandwidth-on-Demand) network that connects the two HUBs located at Lo Cañas Teleport in Santiago with approximately 475 remote LTE Cell sites across the country. The fully-managed service solution provided by SpaceBridge met all of Claro Chile's requirements for the project. The system uses SpaceBridge's scalable and flexible redundant HUB architecture, with two interconnected VSAT hubs that share services delivery responsibilities and combine to ensure the highest reliability. SpaceBridge 24x7x365 Network Operation Center (NOC) service supports operations with bandwidth management, optimization, report generation, and an SLA that guarantees 99.5% network availability.

Results with Spacebridge

The Spacebridge VSAT solution built for Claro Chile is optimized for satellite backhaul. The HUB platform uses the Open Standard S1 LTE interface between eNodeBs and the EPC. This implementation provides highly-efficient satellite bandwidth optimization, and high data rates. In addition, SpaceBridge **U7400-C4** VSAT terminal technology ensures that a well-managed end-user experience can be delivered, through Network Management tools that handle Quality of Service (QoS) and dynamic bandwidth allocation to meet traffic requirements, and compensate for rainy conditions.