



Case Study: Satellite Backhaul for LTE Networks

High-availability, high-speed performance over a small cell network



Executive Summary

The Challenge

SoftBank needed to deploy an LTE network over small cell in underserved areas to enhance their customers' experience and provide backup and emergency capacity for their network.

The Solution

Gilat's SkyEdge II-c Capricorn - the only VSAT platform supporting high-speed satellite backhauling - was selected to enable LTE services for underserved areas, first responders and public safety.

Benefits of Gilat

- Satellite transmission at terrestrial speeds
- Fastest VSAT backhauling
- Patent-pending acceleration technology Patent pending acceleration technology



LTE backhaul over satellite. Faster and more reliable than ever.



With this technology, we will be able to offer high-speed LTE services... our hope is that this technology will help play a role in bridging the digital divide.



Yasuyuki Imai,
Executive Vice President and Head of the Technology Unit, SoftBank

The Challenge: High-speed LTE Backhaul for Underserved Regions

SoftBank, a Tier-1 mobile operator in Japan, approached Gilat with a challenge: to provide high-speed LTE services in underserved areas where it is difficult to install fixed-line facilities and base stations. The remote sites requiring coverage were already connected with satellite for 3G services via small cell. SoftBank set strict criteria for accepting a satellite-based solution for its LTE backhaul. The solution would need to provide an enhanced user experience for voice and data, security, interoperability, and concurrent support for legacy voice services – all within a tight timeframe.

The Gilat system was also expected to provide backup capacity to relieve network congestion and provide communications to first responders in an emergency situation.

The Solution: The first high-speed VSAT to deliver full LTE speeds

Before settling on a vendor, SoftBank conducted rigorous benchmarking. The SkyEdge II-c Capricorn VSAT was tested with a range of leading vendors, LTE core systems, and on a variety of 4G smartphones. Gilat had the only solution to meet and even exceed the operator's expectations in the following categories: secure video streaming and data browsing, voice quality, packet per second performance, industrial design, low power, and optimized OPEX over satellite. Backhaul performance of over 100/10Mbps of accelerated

and encrypted traffic was measured using a 4G smartphone in a single voice and data session. These achievements led SoftBank to select Gilat to supply high-speed LTE services. SoftBank expects to offer commercial services in Japan, based on this technology, in the near future.

“With this technology, we will be able to offer high-speed LTE services in mountainous regions, remote islands and other areas in Japan where it is difficult to install fixed-line backhaul cost-effectively and quickly. We already have satellite-based backhaul in those regions, but now we will be able to offer our customers LTE speeds,” said Yasuyuki Imai, SoftBank's Executive Vice President and Head of the Technology Unit. “Our hope is that this technology will help play a role in bridging the digital divide.”

Capricorn, part of the VSAT family supported by Gilat's SkyEdge II-c platform, is the only VSAT capable of providing this performance. The SkyEdge II-c platform enables satellite backhaul over a small cell network with the same speed and quality as a terrestrial solution, and can be deployed far more rapidly.

SkyEdge II-c, powered by X-Architecture, is uniquely suited to solve satellite latency concerns with its patent-pending embedded acceleration techniques over GTP/TCP in remote terminals and hubs.

The Gilat Advantage

Shifts toward massive data traffic, together with Gilat's innovation, have converged to enable a viable business case for LTE backhaul via satellite. Only Gilat's SkyEdge II-c platform met SoftBank's stringent standards for LTE backhaul, which is why SoftBank expects to apply this technology to Sprint (USA), its daughter company, as well. Rapid to deploy and easy to monitor, SkyEdge II-c Capricorn is leading the migration to LTE-enabled networks.



SkyEdge II-c Capricorn-4

SATELLITE BACKHAUL FOR LTE NETWORKS

