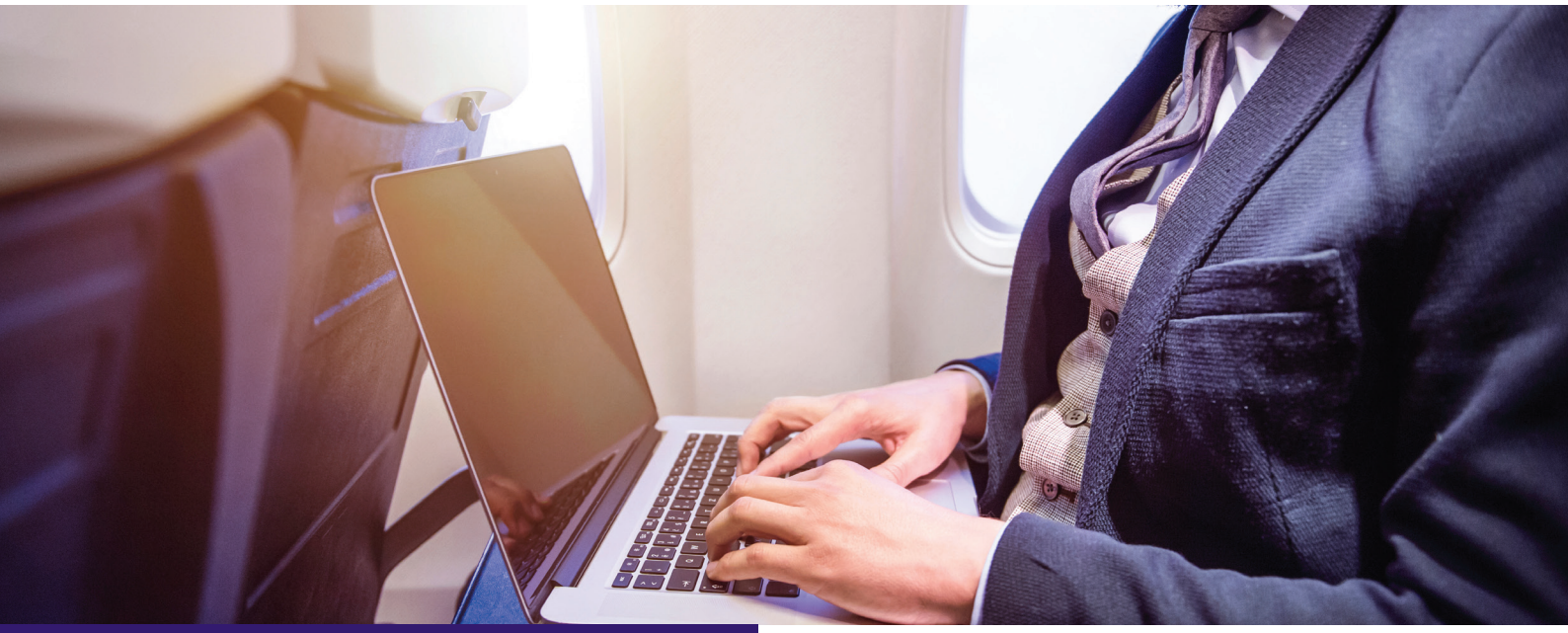
Case Study: Exceptional In-Flight Online Experience

Gogo's Commercially-Deployed 2Ku Service Achieves Unprecedented Performance



Executive Summary

The Challenge

Enable a best in class broadband high throughput internet service to passengers on commercial flights

The Solution

- In-Flight Connectivity consisting of:
  - High-performance modem
  - SkyEdge II-c platform with globally distributed X-Architecture

Benefits of Gilat

Gilat's turnkey solution includes:

- Delivery on time, within budget and within scope
- Proven best-in-class performance for airborne modem
- Fast beam switching for seamless user experience
- Distributed satellite hub architecture with comprehensive global management system coverage

Using Gilat's high-speed aero modem, Gogo has significantly upgraded the performance of its 2Ku in-flight connectivity service, providing industry-leading speeds and superior performance.

"This new modem greatly improves the performance of our industry leading 2Ku solution, as well as our Ku solution, and is forward compatible with new HTS satellite constellations. This modem helps us future proof our in-flight connectivity solutions."

Anand Chari,
Chief Technology Officer, Gogo

The Challenge: Delivery of Seamless High-Speed Connectivity from Takeoff to Landing

With more than two decades of experience, Gogo is the in-flight connectivity (IFC) and passenger entertainment service provider leader for commercial and business fleets. Gogo partners with 16 commercial airlines and has IFC installations on more than 2,900 commercial and 7,000 business aircraft worldwide.

Gogo realized that modem performance was the key to enabling an outstanding online experience for each passenger on a commercial flight.

The minimum performance requirement for Gogo's widely deployed 2Ku service was 15 Mbps per passenger at least 80% of the time. To meet this challenge, Gogo needed to upgrade its service to a next generation modem that could support broadband and streaming services for hundreds of concurrent users. It also required a robust ground segment infrastructure that could leverage capacity from high throughput satellites and provide seamless switching between satellite beams.

The Solution: Gilat's SkyEdge II-c System for In-Flight Connectivity

To enhance the user experience for its 2Ku service, Gogo selected Gilat's IFC solution, which consists of a high-performance aero modem and the SkyEdge II-c multi-service hub platform for the ground segment.

With full support for HTS and wide beam satellites, Gilat's next generation modem has enabled Gogo to optimize the performance and efficiency of its 2Ku service while maintaining full interoperability with existing avionic IFE systems.

Gogo announced that the modem is capable of delivering more than 16x the throughput of thier existing modem, thus easily supporting the increased capacity of next generation HTS as they come online. The new modem includes dual channels to simultaneously support internet traffic and broadcast IPTV.

Anand Chari, Gogo's Chief Technology Officer said: "This new modem greatly improves the performance of our industry leading 2Ku solution, as well as our Ku solution, and is forward compatible with new HTS satellite constellations. This modem helps us future proof our in-flight connectivity solutions."

Gilat's Aero Modem

Gilat's aero modem is already commercially operational on Aero Mexico, Air Canada and Delta airlines. Through 2017-2018, Gogo plans further deployment of Gilat's next generation modem, rolling out installation on over 1800 aircrafts across more than 13 airlines.

To support Gogo's IFC operations, the 2Ku service utilizes Gilat's satellite ground segment infrastructure, deployed in over 20 locations worldwide and utilizing bandwidth capacity from 60 satellite beams. Plans call for this capacity to increase by an additional 100 beams as new fleet deployments come online.

As the plane travels along its route, Gilat's IFC solution uses advanced algorithms for beam selection, ensuring transparent switchover between beams, satellites and gateways, while maintaining user application sessions. This provides for seamless coverage regardless of the plane's location, enabling passengers to enjoy the highest quality experience throughout their journey.

The Gilat Advantage

To further optimize the space segment utilization, Gilat is using a combination of state of the art DVB-S2X waveform, as well as an innovative LDPC based adaptive return access scheme, which optimizes the space segment by a factor of 50% compared to other prevalent technologies in the market.

Powered by Gilat's distributed X-Architecture, the scalable hub platform is uniquely suited to support global mobility across multiple satellites and beams. Its TotalNMS management system lets IFC service providers manage their services independent of the satellite operator, including real-time location and status monitoring for all airborne terminals.

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