



Wireless in the Sky: EB Helps Aircell Take Flight

Success Story

Aircell is the world's leading provider of airborne communications. As winner of an exclusive FCC frequency license in 2006, Aircell has built a revolutionary mobile broadband network for commercial and business aviation.

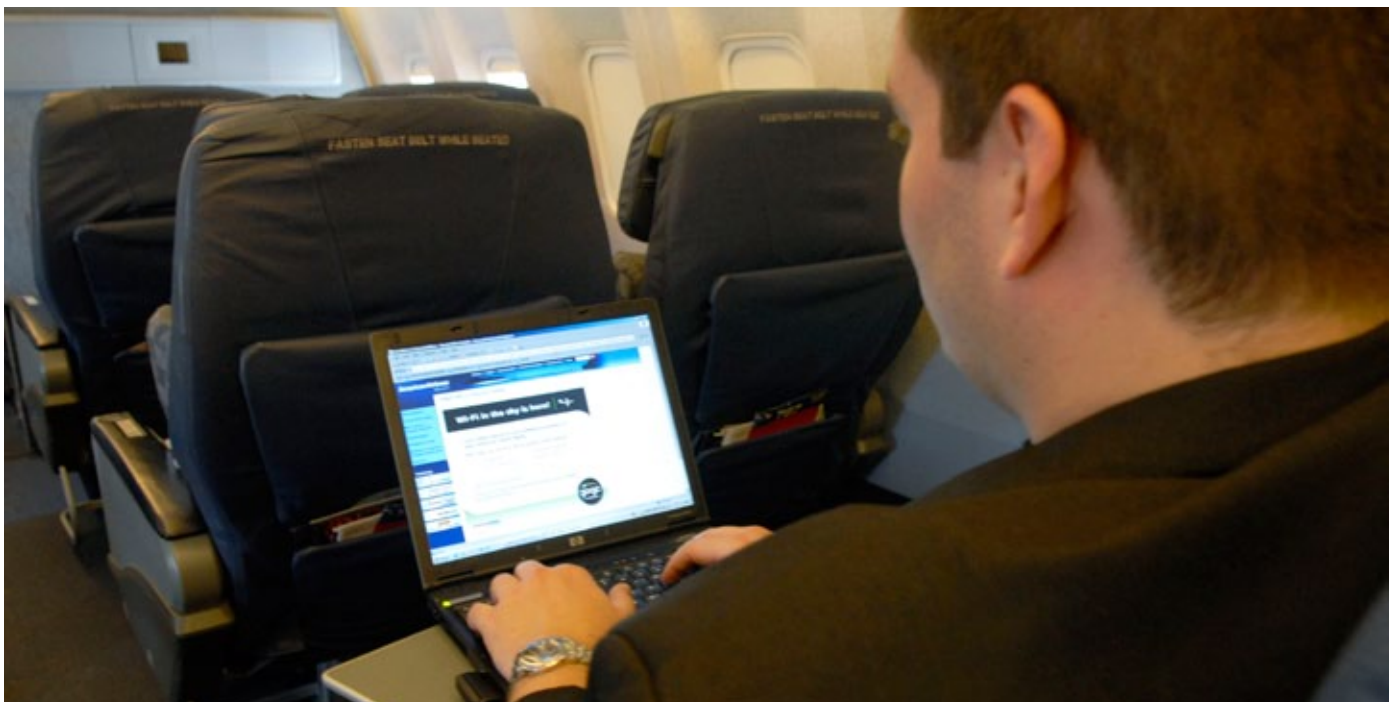
In 2008, the Aircell® Network and its inflight portal, Gogo®, revolutionized the commercial airline passenger flight experience by delivering a robust Internet experience at 35,000 feet. In addition, the Aircell Network provides airlines with connectivity to operations and a path to enhanced cabin services such as video, audio, television and more. A similar feature set is available to business aircraft operators. Aircell has facilities in Broomfield, Colorado, and Itasca, Illinois. Aircell's vision is to give everyone the ability to stay in touch, in flight®. Its

products are also offered by virtually every fixed- and rotor-wing airframe manufacturer in business aviation and installed aboard the world's four largest fractional ownership fleets. The company's commercial airlines customers include: Air Canada, AirTran Airways, American Airlines, Delta Air Lines, United Airlines, U.S. Airways and Virgin America; and business aviation customers include: Cessna Aircraft Company, Falcon Jet Corp., Embraer Aircraft, Gulfstream Aerospace, Hawker Beechcraft Corporation, Piaggio Aero Industries, Pilatus Aircraft, Avantair, Flexjet, Flight Options, NetJets and PlaneSense.

More than 2,200 Gogo-equipped flights take off each day, with that number continually climbing. The percentage of Aircell customers who connected to Gogo using mobile devices grew 54 percent in 2008, and Aircell expects this number to increase further as consumers become ever more reliant on mobile devices.

The Challenge

In 2006, Aircell was awarded an exclusive FCC frequency license that gave the company the ability to build a revolutionary new mobile broadband network for commercial and business aviation in the United States. Air-to-ground wireless connectivity presents challenges of large distance and speed differential between base station and aircraft. Adaptations to 3G EVDO technology are made to handle the delay and Doppler shifts seen in the air-to-ground environment. Extensive tests are needed to ensure stable connectivity and smooth handoffs across the United States. Test scenarios were developed to cover various delay, Doppler and handoff conditions. Trying to capture each of these scenarios using inflight testing is very costly and time consuming.



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The Solution

Aircell decided to work with a partner that would allow it to test various radio channel environments on aircrafts without ever leaving the ground. After working unsuccessfully with a top competitor of EB's in the wireless testing space, Aircell turned to EB for the company's EB PropSim radio channel emulators and EB's ASO software tool (Aerospace and Satellite modeling tool Option) to create realistic scenarios of various flying conditions in Aircell's own laboratory environment to test the inflight wireless connectivity.

The Benefits

The key benefit of using EB's testing solution is that customers are guaranteed the highest performance available in the market for channel emulation and 100 percent repeatability of test scenarios. By using EB's technology, Aircell can define and emulate communication links of its more than 2,200 flights a day and test the wireless connection on an aircraft in a laboratory with emulations based on a virtual link or recorded link database. It only has to create the radio channel environment once and re-play it in the laboratory in order to improve performance and functionality of the live wireless network (e.g. at various cruising altitudes or speeds).

By using this test solution, Aircell has been able to ensure an always-on connection inflight for airline passengers similar to the quality users expect on the ground, at work or at home. Passengers can now have the ability to surf the Web, check e-mail, instant message and access corporate VPNs on their Wi-Fi-enabled devices. Since its launch, Aircell has equipped more than 600 aircraft with Gogo and offered the option of inflight connectivity to more than 22 million passengers.



Aircell uses the EB PropSim C8 radio channel emulator in Aircell's own laboratory environment to test the inflight wireless connectivity.