



## Continental Airlines Adopts the GoBook Q-200 Handheld to Meet CFA PPBM Security Directive

**Overview:** After September 11, 2001, TSA (Transportation Security Administration) required the Positive Passenger Bag Match (PPBM) directive requiring all airlines to ensure that passenger luggage was not loaded onto a plane without a corresponding passenger. To meet this requirement, \$9.7 billion Continental Airlines had to create a wirelessly enabled baggage handling solution that positively matches each item a passenger checks with a passenger who actually boards the same plane. Not only has the solution enabled Continental Airlines to comply with the regulation, it has also been instrumental in helping baggage handling, mail handling, and other airlines employees shave several minutes off their daily job tasks.

After the TSA announced the PPBM directive in 2001, Continental Airlines' IT staff met with top company executives to come up with a plan. "Prior to the PPBM directive, there was little need for detailed communication between the baggage handling personnel, the passenger check-in personnel, and the security check-in personnel," recalls Doug Stewart, technology program manager at Continental Airlines. "As a result, someone could check a bag that was loaded onto a plane, even if that passenger didn't get on the plane."

**Problem:** Over the course of the next nine months, Continental Airlines' IT department spoke with airport facility owners and conducted wireless site surveys at each facility where its terminals were located. There were a couple of hurdles the company faced before it was able to roll out a wireless infrastructure at each facility. "Some of the airports wanted us to share wireless APs with our competitors or use the same wireless infrastructure they offered to all the airline passenger clients," says Stewart. "We clearly expressed our wireless technology, security, and support requirements. If the airport authority was not in a position to meet the requirements, we petitioned for approval to install our own wireless networks."

To enable communication among its various terminal departments, Continental developed a solution called CoBRA (Continental baggage reconciliation automation). The wireless devices access the CoBRA application via a Web browser, which means that no data resides on the wireless device. The wireless connection to the CoBRA application is segmented from other Continental applications and databases, so that in the event an unauthorized user gained access to the luggage information, the user could not access information about the airlines' passengers. Continental protects its WLAN using a centralized ACS (access control server) to manage its authorized user names and passwords. A WEP (wired equivalent privacy) enhancement technique called LEAP (lightweight extensible authentication protocol) dynamically changes WEP security keys and lessens the chance of hackers finding the keys.

One problem Continental experienced early on with its solution was a high failure rate with its

wireless portable data terminals. Even though it selected IP 54-rated devices, which were supposed to resist dust and water, the baggage handlers' experience proved otherwise. "Most of the devices weren't able to repel water, which is a critical function for our baggage handlers who often have to load airplanes in poor weather conditions," says Stewart. "The failure rate of our devices approached the 40% mark, which cost us tens of thousands of dollars per month and made it difficult to keep our baggage handlers equipped with enough devices."

### **Itronix Solution: Wireless Enabled Device Provides Real-Time Passenger Data**

After several months of struggling to keep its former wireless portable data terminals up and running, Continental Airlines decided to find a new rugged computing line. "Before we chose our next rugged computing vendor, we tested devices by submerging them in water, throwing them onto pavement, and even running them over with vehicles," says Stewart. At the end of its test, Continental Airlines replaced its original wireless portable data terminals with Itronix GoBook Q-200 ultra-rugged devices.

One of CoBRA's primary components is a tracking mechanism that uses bar code labels on passenger luggage. Using the wireless GoBook Q-200 handheld, baggage handlers scan the luggage before loading it onto an airplane. The bar code tells the baggage handlers the names of the luggage owners and related flight information. The bar code scan also triggers a ping to the Continental passenger database to determine whether the passengers have passed through security and will board the plane with their luggage. The passenger confirmation component to Continental Airlines' CoBRA solution required the airlines to provide baggage handlers with real-time access to its database. Delays in response times, when multiplied by hundreds of passenger luggage pieces, could cause flight delays or compromises in security.

### **Results: Site Surveys, Rugged Devices Ensure Reliable Wireless Access**

Unlike the previous rugged handheld devices deployed by Continental Airlines, the GoBook Q-200 has proven to be able to withstand the elements. Continental Airlines' solution has provided the company with a couple of benefits beyond the original intention of the solution. CoBRA's original intention was to ensure luggage wasn't loaded onto an airplane until the owner of the luggage was confirmed to be on the plane. Since deploying CoBRA, however, Continental Airlines has experienced a significant reduction in baggage handling errors. It's also realized big labor savings with international flights, which traditionally required several additional employees to count luggage. "On international flights alone we save about \$200,000 per month by not having to do manual bag reconciliation," says Stewart.

#### **Products and Services:**

- Itronix Ultra-Rugged GoBook Q-200 Handheld
- NetMotion Mobility XE software

#### **Application:**

- Airline jobs such as baggage handling

#### **Solutions:**

- Replacement of current wireless devices with ultra-rugged wireless Itronix devices and deployment of NetMotion's Mobility XE solution
- Secure, seamless roaming among wireless access points

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