

Case Study



Bar Code Printers Wirelessly Extend Check-in Systems for American Airlines

Airlines know that one of the most proven ways to increase business is to improve service. On-time arrivals, helpful employees, and faster check-ins-especially during these security-conscious times-translate quickly to the bottom line through satisfied customers who become repeat travelers.

How it Works

At American Airlines, curbside check-in requires users to present their luggage and ID to a skycap at curbside, along with their ticket (both traditional and e-tickets are accepted). In return, they receive a boarding pass with their seat assignment and bag tag receipts. Because the ticket is surrendered and matched with luggage, the system is considered more secure than processing luggage and people separately. Boarding pass in hand, passengers are able to bypass busy ticket counters at the front of the terminal and check in stands at the gate, stopping only to present the boarding pass and identification to the gate agent for scanning before settling into their seats.



Achieving fast check in at curbside was made possible by a system design meticulously built around the needs of its users, the skycaps. These are hard workers who make their living and feed their families on the tips they make-one bag at a time. Any new process that cuts into a skycap's ability to process passengers quickly dies on the curbside.

While the system may reinvent the passenger check-in process, it streamlined the job of the skycap, who doesn't have to do anything differently. The clever system enables skycaps to check in passengers and generate a boarding pass using only one more keystroke than it takes to check-in baggage.

"We want our skycaps to focus on passengers. We don't want them to have to deal with anything else," says an American Airlines spokesperson.

After receiving a passenger's ticket, skycaps call up the flight number and enter the first letter of the passenger's surname on a touch-screen computer built into the curbside check-in kiosk. The data is transmitted over a wireless network from the kiosk to a host computer inside, which then transmits flight details and a partial passenger list to the kiosk. The skycap verifies that the passenger in front of him has a reservation and hits another key to create bar coded baggage tags and a bar coded boarding pass, generated by separate printers within the kiosk.

To enable fast transaction times, skycaps are not able to change seat assignments, check in international passengers, sell tickets, or make itinerary changes.

"We didn't want to increase transaction times at the curbside," says the airline spokesperson. "The application software was written to take decision making out of the skycap's hands."

Making the process easy for skycaps on the front end required the project team to do extensive development work on the back end. The project team included representatives from the flight service, airport procedures, training, and other departments. Sabre, a \$2.4 billion IT services provider to the transportation industry, also played a key role in software and hardware development.

Each kiosk used in the program is outfitted with approximately \$10,000 of equipment that has to stand up to outdoor environments, ranging from the Arizona sun to Minnesota winters. One of the project manager's chief tasks was to find computers and printers that could perform in any environment. With approximately 200 kiosks scheduled for deployment, many vendors jumped to bid on the project. However, many of those bids died quickly on Love Field.

Tough Love

"Vendors hate the Love Field test," says the American Airlines project manager at Love Field, a smaller airport outside Dallas where the airline did much of its equipment testing.

The test is simple. Any vendor that wants to get a product into one of the systems must first install it at an outdoor test station at Love Field. If the Texas summer sun makes a computer screen a little hard to read or if high humidity, snow, or cold cause a printer to slow down or degrade print quality, the airline will not consider the product. Most of the products submitted fail the Love Field test.

"We had almost a 100 percent failure rate for the computers," says the spokesperson.

The monochrome touchscreen PCs already in place for curbside baggage check-in were no longer in production when the curbside program was being developed. The newer, "improved" models that the vendor introduced to replace them were available only with color screens. The color screens made readability very difficult. For now, the airline is using older screens as it continues to look for a long-term solution.

Products that did make the cut for the kiosks were the existing Fujitsu Stylistic 1200 pen/touchscreen computer terminals running Windows 95, a pair of two-inch and four-inch desktop printers from Zebra Technologies for baggage tag and boarding pass printing, and a 2.45 GHz direct-sequence, spread-spectrum wireless network system from Aironet, all powered by 24 volts of DC batteries that can run the system 18 to 20 hours between charges.

One of the biggest integration challenges was building an interface between the printers and the Sabre reservation system. Sabre is used to process approximately 40 percent of all travel reservations made worldwide and handles almost 8,000 messages per second during peak usage.

For American Airlines, the effort has been well worth the investment in time. Now that the Zebra® printers are Sabre-addressable, the airline doesn't have to use more specialized automated ticket and boarding pass (ATB) printers that can cost up to ten times as much as desktop printers. Zebra, in turn, now has an efficient solution to market to other airlines and travel services worldwide that use the Sabre reservation system. "Creating the Sabre interface was made even easier by the airlines' strong project management team," says Bob Danahy, Zebra's director of marketing for mobile printers.

Boarding passes printed at curbside include a bar code that encodes the passenger's name, flight number, and other data. The bar coded paper passes replace heavier card stock passes with data encoded on a magnetic stripe, and paper media for the new printers costs less than half as much as the magnetic card stock.

Danahy points out that the airline-and the entire transportation industry-can recognize a huge return on investment by streamlining its processes through bar coding.

"If only 15 percent of the airline's 60 million passengers use curbside check-in, the media savings are enormous," he says.

Products

Wireless networking, rugged outdoor computers, bar code printers

Results

- Extending information systems to curbside establishes new front line of customer service.
- Check-in transaction time reduced.
- New bar code-enabled ticketing saves media costs.



HEADQUARTERS Zebra Technologies International, LLC **PHONE:** +1 847.634.6700 or +1 800.423.0442 **FAX:** +1 847.913.8766
ADDRESS: 333 Corporate Woods Parkway, Vernon Hills, IL 60061-3109 U.S.A. **WEB:** www.zebra.com

OTHER LOCATIONS **USA:** California, Florida, Rhode Island, Wisconsin **EUROPE:** Denmark, France, Germany, Italy, United Kingdom
ASIA-PACIFIC: Australia, China, Japan, Singapore, South Korea **LATIN AMERICA:** Argentina, Brazil
MIDDLE EAST: United Arab Emirates



An ISO 9001 registered company
©2003 ZIH Corp.
Printed in U.S.A.
#13139L (02/03)