

Case Study



Wireless eTicketing Transforms Rail Travel at Amtrak



About Amtrak

For more than 40 years, Amtrak has been America's Railroad, the nation's intercity passenger rail service and its high-speed rail operator. Amtrak operates more than 300 trains each day, serving over 500 destinations throughout the U.S. and Canada over 21,200 miles of track. In FY12, Amtrak carried a record 31.2 million passengers for both business and leisure travel.

Situation

Amtrak's ticketing was a paper-based process left over from the early days of train travel, complete with ticket punch and a ticket pouch that had to be sent to a central location for processing. It was time-consuming, error-prone and inconvenient. The process required passengers to acquire paper tickets from an agent or kiosk at the train station, even though half of Amtrak stations are not staffed. Making last-minute reservations was difficult. In addition, without real-time communication between train conductors and back-end offices, key business information, such as revenue realization, seat availability and train maintenance needs, could be delayed. To deal with the unique challenges of rail travel, Amtrak needed a mobile solution.

Solution

As it looked to make the move to eTicketing, Amtrak chose AT&T to provide an integrated, end-to-end solution that included a mobile applications development platform, devices, wireless networking and mobile device management. The solution puts specially-equipped smartphones into conductors' hands that connect to back-office reservation and accounting systems. Onboard ticket lift now requires just a simple scan, and customers have new, more flexible self-service ticketing capabilities. For Amtrak, access to real-time information improves onboard operations, safety, inventory management, revenue realization and workflow.

'Enjoy the Journey'

Rail travel is a foundation of modern America. Introduced in the 1800's, trains were the first mode of transportation to connect the entire country. "Rail has such a rich legacy and history," said Dee Waddell, Amtrak Group Information Officer. "It brings a nostalgic feeling when people get on a train." Rail remains a convenient, reliable

and economical way to reach the office or the other side of the country. From the Empire Builder that crosses the Rockies to the high speed Acela service that links East Coast population centers, Amtrak operates routes across the U.S.

Amtrak's tagline, 'Enjoy the journey,' captures a key advantage rail offers over both air and automobile travel. Amtrak provides bigger seats, more room to move around, café and viewing cars, dining and sleeping cars, and on-board Wi-Fi, as well as a chance to see the American landscape. "The train provides a destination for travelers from the very beginning of the trip," said Matt Hardison, Chief Marketing and Sales Officer. It is a place to relax, have a conversation

Amtrak Facts

Business Needs

Replace cumbersome paper tickets, provide more complete traveler data and improve safety through real-time, accurate manifest information

Networking Solution

Electronic ticketing enabled through AT&T Mobile Enterprise Application Platform (MEAP); AT&T wireless network processes transactions via smartphones; mobile device management supports distributed mobile devices and secures data

Business Value

Enhanced customer service and sales, improved business information flows, enhanced safety with real-time manifest, and near real-time payment reconciliation for sales and accounting

Industry Focus

Nationwide passenger rail service

Size

31.2 million passengers per year (FY12)

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or get some work done. “Our customers think of passenger rail as a haven from frenzy,” said Deborah Stone, Senior Director, Sales and Reservations Systems.

From business travel to long-distance vacations, Amtrak serves a wide range of travel needs. Amtrak’s busy Northeast Corridor lines between Boston and Washington, D.C. are the business traveler’s choice, carrying more than 11.4 million passengers in Fiscal Year 2012. With connections directly between city centers, “your travel now becomes a chance to read a book rather than getting stressed about gridlock traffic,” said Tony Flynn, Senior Director, Mobile Systems. Amtrak also offers bus connections through its Thruway Motorcoach, extending its service to areas beyond rail.

Seeing the Need for Change

While Amtrak has continued to update its operations, the company’s ticketing process had changed little since the 19th century. Customers could make reservations online, but ticketing technology had stopped there. On the train, the time-consuming and imprecise paper-based process required conductors to collect, punch and sort tickets, then ship them to a central scanning facility in Texas. Revenue reconciliation took three to 10 days from the time of a train’s arrival at its destination.

“The absence of technology onboard our trains presented a lot of customer and back-office problems. It also prevented us from meeting some safety mandates,” said Flynn. Lack of real-time communication between reservation systems and conductors slowed the exchange of critical information, like passenger manifests. Amtrak wouldn’t know exactly who rode a train, or what type of ticket they purchased, until tickets were entered into the central system days later. In addition, Amtrak lost revenue due to unsold inventory.

For customers, paper-based ticketing was inconvenient and sometimes costly. Passengers were required to obtain paper tickets prior to boarding. Once issued, these physical tickets became value-based documents. If lost before use, customers had to buy another ticket, pay a \$75 fee and go through a lengthy reimbursement process. “I’m sure you can understand how much customer dissatisfaction that caused,” Stone said.

The paper-based process also made last-minute purchases or reservation changes difficult. In remote areas of the U.S., many of Amtrak’s stations are unstaffed, with no way to produce tickets at the station. Customers would have to buy tickets onboard, an uncertain and time-consuming process that took conductors up to four minutes per transaction and kept them away from other important tasks.

Amtrak tried to implement an electronic ticketing solution in the 1990’s when the airlines started to switch over. “We had a vision and some good ideas, but wireless technology at that time wasn’t mature enough to be able to bet your business on it,” Waddell said. With passengers getting on and off trains at multiple stops along a route and in the absence of gate control, rail travel has more complex requirements than air travel. “Unlike an airline where you can plug in a PC right next to the gate, trains don’t have that environment,” said Waddell. “A mobile solution was really the only way to make this happen.”

An Integrated Approach

Seeing the rapid evolution of mobile devices, Amtrak returned to the idea of eTicketing. It knew exactly what it wanted: rather than piecing together different components themselves, the company sought one supplier to deliver an integrated package. After a thorough selection process, Amtrak chose AT&T to help create its eTicketing infrastructure. “We based our decision on a thorough technical analysis because we knew this was going to be critical,” said Waddell.

“Whether it’s how the customer is able to buy and receive a ticket, our revenue management approach, or safety and security, this was transformative.”

– Deborah Stone, Senior Director, Sales and Reservations Systems, Amtrak

AT&T Mobile Solution Services (MSS) works with best-in-class firms to provide a total solution. For Amtrak, that included the Mobile Enterprise Application Platform from Antenna to develop a front-end application to handle the interactions between smartphones and the Amtrak databases. This offered a clean, secure and enterprise-friendly way to tie all of the pieces together. In addition, AT&T provides managed hosting for the application and mobile device management. “The software support, the network, the device, the scanner case – it was really helpful to have a big provider bundling those things together,” said Hardison.

The solution also required a major commitment on the part of Amtrak. Seventy-two backend systems projects needed to be completed to prepare for this change. And to make sure that it was on the right track for user acceptance, Amtrak sought input from the conductors who are responsible for all train operations. “We wanted to make sure we were hitting the mark with the actual usability of the device, and that our conductors would not be intimidated by the technology,” said Flynn. From screen design to application features, the conductors’ feedback was central in shaping the solution.

Amtrak chose a popular consumer-grade smartphone that has proved reliable and easy-to-use. The customized applications translate data to the devices in an easily readable manner. Training took under half the time Amtrak expected, and was handled by the conductors themselves. “They took right to it,” Stone said. “It was intuitive, easy and exactly what they needed.”

Now smartphones are placed in the hands of every conductor, and they connect in near real time with Amtrak’s database. Conductors input and receive passenger ticket and train information directly on their devices.

Mobile device management is provided through MobileIron Connected Cloud from AT&T. “It keeps an inventory of all the devices and gives control and visibility into who’s doing what – who can access the application and what version they have. It also reports unauthorized activity,” Waddell explained. In case a device is lost, Amtrak can lock it down or even remotely wipe its contents.

Amtrak began piloting its eTicketing solution on the Downeaster route in Maine in August 2011. It rolled out eTicketing nationwide, with about 2,000 active devices, a year later.

Transforming the Business

eTicketing has revolutionized Amtrak's business. "Whether it's how the customer is able to buy and receive a ticket, our revenue management approach, or safety and security, this was transformative," said Stone. For customers, eTicketing is flexible, convenient and quick, eliminating station wait lines and the uncertainty and hassle of purchasing tickets onboard. They can print tickets at home, or even present reservations directly on the screen of their own mobile device.

"With electronic ticketing, customers can change a ticket in the cab on the way to the station and walk right onto the train without skipping a beat," Stone said. "They can be five minutes away from the station with 10 minutes to go before departure, and they've now got plenty of time." Because tickets are no longer "value documents," a customer who loses one can simply print another.

Near real-time connectivity between Amtrak's back-end systems and conductors on trains dramatically increases the company's oversight of passengers, products and services, improving information quality, safety and revenue. Conductors now have the same real-time passenger manifest as the reservation system. As reservations are fulfilled, changed, added or cancelled, the electronic manifest is updated accordingly.

When you know exactly how many seats are available, you can improve inventory management and revenues. "If you buy a ticket and don't show up, as soon as that train has left, we know that you're not onboard and we can now sell that seat down the line," said Hardison. With better data and reduced ticket shipping costs, Amtrak foresees cost savings and incremental revenue benefits of tens of millions of dollars annually. And, in case of emergency, Amtrak now knows exactly who is on the train.

The solution also frees conductors to focus more on train and trip operations. They can now enter maintenance requests on the way

to the next station so service crews can respond quickly. "The device knows what train you're on and what cars are assigned to that train," explained Hardison. "With touch screen dropdowns, you can identify the type of problem, press a button and it's sent directly to the work management system. When the train comes in, somebody's already got the details." Last-minute reservation alerts enable conductors to make accommodations for any special needs of incoming passengers, like making sure the train stops at the right place to board through a wheelchair accessible location.

All Aboard

In AT&T, Amtrak found a company that believes in the Amtrak transformation. "We are very passionate about the project, and AT&T has shared that passion," said Flynn. "They're not just treating it as another piece of business." AT&T provides a dedicated, knowledgeable and enthusiastic team to work with Amtrak's staff. "From the beginning, AT&T has been fantastic," said Waddell. With the AT&T managed solution, Amtrak also has access to 24x7 help-desk support and is working with AT&T MSS for its ongoing professional services support requirements.

Amtrak is already planning applications of the solution beyond eTicketing. "There are a lot of paper-based processes in our world that are crying out for automation," Flynn said. "We're really only scratching the surface of what the solution is capable of delivering." Amtrak plans to digitize the voluminous operating manuals and tariff books that conductors must keep onboard. The company is also developing applications for recording track use and on-time performance. While the solution has initially focused on conductors, Amtrak foresees extending mobile device use to other employees, possibly freeing in-station ticket agents from their windows to better serve waiting passengers. "We're just starting the journey," said Waddell.

From operational efficiency to public image, Amtrak expects its eTicketing solution to make big changes. "It's a really powerful moment for our company," said Hardison. "It's having an impact in every which way, in every direction."

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