

Airport in Fastest Growing U.S. Region Offers Innovative Mobility

Raleigh-Durham International Airport deploys integrated wireless network to streamline operations, expand services, and improve customer experience.

EXECUTIVE SUMMARY
<p>Raleigh-Durham International Airport</p> <ul style="list-style-type: none"> • Transportation • Raleigh-Durham Airport, NC • 250 employees
<p>CHALLENGE</p> <ul style="list-style-type: none"> • Offer secure mobile services to expand customer base of travelers, tenants, and employees • Deploy scalable, enterprise-class wireless network
<p>SOLUTION</p> <ul style="list-style-type: none"> • Integrated wired-wireless network and communications system support operations within the airport's common-use terminal • Wireless network and wireless IP phones make it possible for airport staff to work anywhere in the terminal • Guest access capabilities provide wireless access to travelers, visiting vendors, and tenants
<p>RESULTS</p> <ul style="list-style-type: none"> • Improved operational efficiencies and convenience for all customers, elevating the overall quality of service the airport provides • One integrated, wired and wireless network makes it easy to extend mobile services to different airport areas and to support new mobile applications • Increased revenue streams from wireless services and reduced operational costs for airlines

Challenge

Raleigh-Durham International Airport (RDU) serves the Research Triangle Region, a 13-county area in North Carolina recognized as one of the fastest growing areas in the United States. By providing air service to more than 40 top business destinations, RDU plays a critical role in keeping the region globally competitive. In 2008, more than 9.7 million passengers traveled through RDU. "Our mission is to improve the travel experience for our customers by supporting our region's air service needs and by developing state-of-the-art facilities that feature the most innovative technology," says Duane Legan, manager of Networking and Telecommunications at RDU.

In 2004, the Raleigh-Durham Airport Authority, which operates RDU, began to build Terminal 2, the largest and most advanced construction and technology project in the airport's history. To best serve its customers, the airport decided to create a common-use terminal, enabling airlines to share check-in and gate spaces and to operate from a single integrated communications system. For this ambitious project, RDU chose Cisco to provide the network and communications infrastructure. Before opening the new terminal to the public in 2008, the airport chose to expand its service offerings even further by providing wireless connectivity to its airlines, tenants, and travelers. At the time, RDU operated several standalone access points in its Airport Authority buildings, but needed a more robust system to support its growth plans. "In order to offer secure mobile services to our expanding customer base, we needed an enterprise-class wireless solution that would scale easily as our needs grew," says Legan.

Solution

RDU chose to deploy Cisco's Unified Wireless Network in Terminal 2. "The decision was easy," says Legan. "The Cisco Unified Wireless Network integrated smoothly with our existing Cisco equipment, enabling us to offer and manage voice, data, and wireless services from one infrastructure." Working closely with the Cisco® team, RDU installed four Wireless Service Module controller blades directly into the Cisco core switches and deployed 54 Cisco Aironet® 1252 802.11n access points throughout the terminal.

Today, the Cisco Wired and Wireless Network provides the infrastructure that enables effective communication between all of the systems within RDU's common-use terminal. The integrated infrastructure supports each airline's individual telephony and software applications, making them easily accessible through one common interface and shared equipment. Using the Extension Mobility functionality native to the Cisco Call Manager solution, for instance,

airlines configure the Cisco IP Phones with their own information. When personnel log into the common-use workstations, they are also able to access the correct telephony profile.

In the future, mobile services will increasingly become part of RDU's common-use terminal. Bag makeup areas, for instance, are common-use spaces. Wireless handheld mobile computers with bar code scanners will enable baggage handlers, located anywhere throughout the coverage area, to scan luggage tags and relay tracking information to the appropriate airline host system.

Currently, the Cisco Unified Wireless Network provides mobility for airport staff. The network facilitates meetings between RDU's business development team and the different vendors and airlines located throughout the airport. "Now our staff members set up their laptops anywhere and gain instant access to the Internet as well as to their network files," says Legan. RDU's IT personnel also benefit from wireless connectivity as they move around the terminal, providing maintenance and support services to airport staff and within the common-use environment.

The guest access capabilities of the Cisco Unified Wireless Network provide an important amenity for the airport's travelers, visiting contractors, and tenants. To offer wireless access to the traveling public, RDU works together with AT&T. "We've set up a VLAN to connect to the AT&T gateway. This configuration segregates the traveling public from the other areas of the RDU network, enhances coverage and manageability, and supports our current price structures," says Legan. RDU also sells the service as an offering to restaurants and other airport vendors and has the ability to provide free guest access to visiting contractors, such as engineers and consultants.

"The deployment of the integrated Cisco network has resulted in operational efficiencies that translate into enhanced convenience for our customers."

—Mark Posner, deputy airport director of Information Services

Results

Cisco's integrated solutions help RDU deliver on its mission to provide the highest levels of customer service. "Our goal is to elevate the airport experience for our customers, including travelers, tenants, and employees," says Mark Posner, deputy airport director of Information Services. "The deployment of the integrated Cisco network has resulted in operational efficiencies that translate into enhanced convenience for our customers." RDU also values the creation of strong business relationships with its airlines and vendors. "This project has allowed us to build even stronger relationships with the airlines," says Posner. "The common-use terminal and the mobile services we offer ensure that we meet our airlines' needs and exceed their expectations."

"The availability of Cisco's engineering and support team made the implementation of the wired and wireless network smooth and easy. Cisco's knowledge base is incomparable," says Legan. One comprehensive infrastructure, plus the centralized architecture of the mobile network, makes the solution completely scalable and efficient to manage. "As we grow, one integrated wired and wireless network will make it easy to extend mobile services to different parts of our campus and to support new airport applications that improve the customer experience," says Legan.

Opportunities for new revenue growth and ways to continue streamlining operations at the airport are just beginning. "The wireless network is already improving the productivity of our airport staff. And the flexibility of the Cisco network enables our airlines to operate more cost-effectively and efficiently than ever before," says Legan. RDU continues to explore the many offerings that it can potentially provide to its tenants and staff by expanding the Cisco wireless network throughout its campus.

Next Steps

RDU has many plans for the mobile services that it would like to offer to airlines in the future. Cisco 802.11n access points currently provide wireless coverage to the aircrafts parked at the gates. "Once equipped with wireless devices, an aircraft would be able to communicate over the wireless network to the airlines' host systems," says Legan.

To facilitate a mobile workforce, RDU would also like to extend wireless coverage to include its entire campus. "Expanding the network would enable us to provide wireless services to a number of mobile staff, which includes IT personnel, law enforcement officers, emergency responders, maintenance crews, and runway inspectors," says Legan.

When RDU completes the Terminal 2 south concourse in 2011, it intends to deploy approximately 50 additional access points to provide wireless coverage. The airport also plans to replace the standalone access points currently operating in the Airport Authority buildings with lightweight versions and to expand the network to the general aviation terminal as well. The current access points provide a migration path to 802.11n, which the airport will explore in the future. "With Cisco's integrated solution, it's really easy to keep growing," says Legan.

PRODUCT LIST

Wireless

- Cisco Aironet 1250 Series Access Points
- Cisco Catalyst® 6500 Series Wireless Services Modules
- Cisco Wireless Control System
- Cisco Wireless IP Phones 7921

Voice and IP Communications

- Cisco Unified IP Phones 7960G, 7940G series
- Cisco Call Manager
- Cisco Unity Voice Mail

Routing and Switching

- Cisco Catalyst 6500 Series Switches
- Cisco Catalyst 3750 Series Switches

Security and VPN

- Cisco ASA 5500 Series Adaptive Security Appliance

For More Information

To find out more about the Cisco Unified Wireless Network and 802.11n technology, visit: <http://www.cisco.com/go/nextgen-wireless>

To find out more about Raleigh-Durham Airport, visit: <http://www.rdu.com/>.



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