

Nation's Largest Provider of Fixed Based Operations Fixes their Base Operations with Smarter Wi-Fi

After years of dealing with erratic Wi-Fi performance, dropped connections, spotty coverage and general instability, Atlantic Aviation (Atlantic) was fed up. The nation's largest provider of aviation services for owners and pilots of commercial and personal aircraft, Atlantic had seen poor Wi-Fi connectivity become their number one client complaint.

Across its nationwide network of 65 fixed based operations (FBOs), the company had installed legacy Wi-Fi equipment using standard reference designs and omni-directional antenna systems that simply couldn't keep up with an increasing number of concurrent wireless connections and RF interference, which only exacerbated flaky Wi-Fi connectivity. At many of these FBOs, broadband circuits were unavailable, so the legacy Wi-Fi system integrated support for cellular data services (3G) to backhaul traffic. But as traffic, clients, devices, and interference increased — this model didn't scale.



Atlantic Aviation operates the largest network of fixed base operations (FBOs) within the United States.

Like many companies, Atlantic is unable to have IT expertise at every location, yet needs complete control over and visibility into its Wi-Fi network. Because airport terminals and hangars are highly mobile environments, deploying a reliable, high-speed wireless infrastructure was no longer an option — it was an imperative — to keep operations running smoothly and travelers happy.

Another concern was that each facility varied in layout, construction, and sheer size — ranging from smaller facilities to its massive 22-acre space at San Jose Mineta International Airport in California. Atlantic also needed to use Wi-Fi to extend broadband connectivity to remote hangars as well as to provide dependable Wi-Fi connectivity outside to airplane ramps, where pilots are able to obtain updates and Wi-Fi can be used to power new applications such as Atlantic's custom JetStream point-of-sale fueling and aircraft services system.

"Given the growth of mobile devices and applications, we viewed Wi-Fi as a 'must have' to improve the customer experience and streamline operations," said Joel Collins, project manager for Atlantic Aviation. "We needed Wi-Fi to be a reliable utility within an inherently mobile environment." But for Collins, finding a carrier-class wireless system that could meet all of their capital and operational requirements seemed like an impossible task.

Soaring to New Heights

Atlantic needed an affordable/full-featured Wi-Fi system with a range of capabilities, including:

- indoor and outdoor service,
- long-range bridging to remote locations,
- wired and wireless connectivity indoors,

OVERVIEW

Headquartered in Plano, Texas, Atlantic Aviation is owned by Macquarie Infrastructure Company. Atlantic Aviation is the largest provider of fixed based operations (FBOs) for private aircraft in the United States and operates 65 locations that range in size from 3,000 square feet to 22 acres. The company provides a wide range of services for general aviation aircraft owners and pilots.

REQUIREMENTS

- Consistent and stable Wi-Fi connectivity to an expectant clientele
- Support for new, POS and other back office systems
- Complete and high performing coverage, inside and out, at the lowest cost
- 24/7 guest access requiring 100% uptime
- Centralized management that is easy to implement and maintain
- Ability to adapt to changing environmental conditions, transport vehicles, and applications

SOLUTION

- ZoneFlex 7363 indoor 802.11n APs
- ZoneFlex 7025 indoor 802.11n wall switches
- ZoneFlex 2741 outdoor 802.11g APs
- ZoneFlex 7731 802.11n Point-to-Point Bridges
- ZoneDirector 1100 Smart WLAN controllers

BENEFITS

- 24/7 Wi-Fi across 65 locations with complete redundancy for always-on connectivity
- Ability to easily add Wi-Fi access points on demand with Smart Meshing
- Wi-Fi connectivity on outdoor airplane ramps for pilots and maintenance staff
- Reduced customer complaints, increased customer satisfaction
- Consistent Wi-Fi coverage and performance across 65 locations
- Centralized, simplified, real-time administrations



"We needed consistent wireless coverage across all 65 of our FBOs in order to provide superior services to our customers, vendors, and back office staff.

Blueprint RF recommended the Ruckus Wi-Fi solution that provided wireless connectivity everywhere, with virtually 100% uptime.

With the ZoneFlex system now in place, we've seen complaints all but vanish, strengthening the reputation and credibility of our brand."

Joel Collins
Project Manager
Atlantic Aviation

- adaptive signal controls to deal with interference,
- reliable wireless meshing to extend service in areas where no Ethernet cabling was present, and
- unified management that could be easily administered remotely.

So Collins began polling different integrators and solution providers to see what Wi-Fi technology would best fit their needs. Ultimately Collins selected Blueprint RF, one of the country's leading experts in delivering integrated networking solutions and wireless services. "When it comes to connectivity our clientele is extremely discerning," said Collins. "We needed a partner with experience in dealing with demanding users and providing premium services."

Blueprint RF recommended a mix of Ruckus ZoneFlex 802.11n indoor/outdoor Wi-Fi equipment ranging from wall switches to mid-range dual-band APs to long-range 5GHz bridges and ZoneDirector WLAN controllers. "We wanted to deploy the fewest number of APs at each site, yet deliver the most reliable, high-capacity, and most pervasive coverage," said Ron Peterson, president of Blueprint RF.



Unlike conventional APs, ZoneFlex integrates patented adaptive antenna array technology that extends signal strength and automatically adapts to changes within the environment that otherwise degrade performance. By focusing and directing Wi-Fi signals over the best signal path, Ruckus ZoneFlex APs automatically avoid interference to ensure consistent performance and maximum throughput.

Blueprint RF is also deploying a number of ZoneFlex 7731 point-to-point bridges, to expand coverage and connect private hangars spaced several acres apart to the central network.

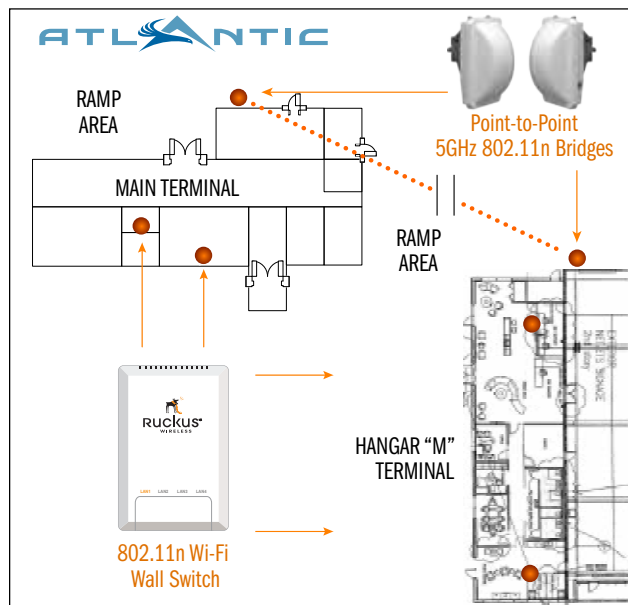
From a single dashboard, Blueprint RF is able to administer Atlantic's entire network operations across all 65 locations through a simple Web interface, found in the ZoneDirector 1100 controller. ZoneDirectors provide advanced features such as smart meshing, AP groups, WLAN groups, guest access, client throughput thresholds, time-of-day radio broadcasting, client load balancing and sophisticated security capabilities.

Since deploying the ZoneFlex system, Atlantic has seen Wi-Fi complaints effectively evaporate and can now consider new ways to leverage Wi-Fi to improve operations.

Keeping Their Eyes on the Horizon

Collins plans on using the Ruckus Wi-Fi networks to support back office POS and VoIP applications indoors, while outdoors using Wi-Fi to support pilots and their jet fuel suppliers. Many of the jet fuel companies, such as Liquid Management Systems, conduct wireless recordings of fuel transactions that automatically generate and transmit a receipt directly to the front desk — all via Wi-Fi.

"Over half of the FBOs will have Wi-Fi on the ramps, allowing pilots to provide real-time updates directly from their iPads, while sitting out front," said Collins. "Honestly, with the Ruckus system, I don't have to give the Wi-Fi a second thought...it just works. And that's the way it should be."



RIGHT
Typical Wi-Fi deployment blueprint. The ZoneFlex 802.11n wall switches are concealed within a standard wall mount fixture, powered over 802.3af and provide four additional wired Ethernet ports.

