

Case Study

Best-in-class Wi-Fi network upgrade helps hub airport meet travelers' growing connectivity needs



Client

Hub airport

An airport in a large Midwestern city turns to CBTS to expand and upgrade its wireless networks, giving more travelers free, high-capacity Wi-Fi and expanding mobility options for staff, vendors, and other frequent visitors.

Challenges	CBTS solutions	Results
<ul style="list-style-type: none"> • The airport needs to expand its Wi-Fi service so people can use up to three mobile devices—even when the terminal is packed with travelers in “worst-case” situations. • Police needed to use the network to upload high-bandwidth workloads. • Internal WAN should enable secure communications without conflicting with other airport vendors that provide free Wi-Fi. 	<ul style="list-style-type: none"> • CBTS partnered with Aruba to expand the quality and quantity of access points throughout the airport. • Aruba ClearPass to secure the airport's internal wireless users, bolstering security provided by the firewall in the Aruba network controllers. • Migrate wireless operations to ArubaOS 8.x, the most robust version of the wireless networking software. 	<ul style="list-style-type: none"> • Travelers enjoy free Wi-Fi access on up to three devices in all terminals. • The high-capacity Wi-Fi network can withstand the demand of the busiest travel days of the year. • Airport employees have greater wireless connectivity, which improves productivity and reduces downtime. • Police and other first responders can upload video and other high-bandwidth workloads.

Challenges

A major airport in the U.S. Midwest has been providing free Wi-Fi for more than a decade. Unsatisfied with the performance of its aging Wi-Fi infrastructure, the airport's leadership wanted a best-in-class refresh of its Wi-Fi network.

The airport had four primary requirements:

- The Wi-Fi network must be robust enough to handle the traffic load of a "worst-case" scenario, such as a holiday-weekend blizzard that strands hundreds or even thousands of passengers at the airport.
- Each visitor to the airport can connect up to three devices to the Wi-Fi network.
- Police personnel can use the network to upload high-bandwidth workloads like video.
- The airport's internal WLAN should enable secure communications that do not conflict with other users like airport vendors that provide free Wi-Fi hotspots.

CBTS solutions

CBTS consultations with the airport leadership produced a robust Wi-Fi service with four key components:

Access points (APs): CBTS partnered with Aruba, a HPE wireless provider, to expand the quality and quantity of APs throughout the airport.

Controllers: Aruba technology included master and redundant-master controllers, and local controllers for AP termination that passes traffic to users' mobile devices. The network is configured for "high-capacity guests" who use lots of bandwidth across multiple devices.

To design the new wireless system, CBTS conducted a predictive analysis of the airport grounds to determine the best locations for APs and the likely sources of the heaviest traffic. CBTS then followed up with surveys throughout the airport to validate that their solution matched the predictive models. The survey included spectrum analysis that ensured the network did not interfere with weather radar and other RF workloads at the airport.

System engineers included an Aruba Certified Design Expert and an Aruba Certified Mobility Expert who mastered the intricacies of the enterprise-level wireless project. CBTS depended on its broad experience working in large facilities such as warehouses of up to a million square feet. Its status as an Aruba Platinum Partner also ensured a level of training and expertise that is not widely available.

Results

The airport's travelers enjoy free Wi-Fi access on up to three devices in all terminals, including ticketing, baggage-claim, and the full extent of the airport beyond the main security checkpoint. The high-capacity Wi-Fi network can withstand the demand of the busiest travel days of the year. Moreover, the network's roaming technology allows travelers' mobile connections to follow them throughout the airport.

Expanded Wi-Fi capacity includes the exterior of the jetways, delivering connectivity to ground crews. Auxiliary airfields and other airport facilities also get expanded wireless bandwidth. Airport employees have greater wireless connectivity, which improves productivity and reduces downtime. Police and other first responders can upload video and other high-bandwidth workloads.

All these outcomes add up to a better user experience for everybody using mobile devices at the airport. That burnishes the airport's reputation with travelers, employees, and vendors alike.