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CASE STUDY

How a DAS Integrator, Wireless Services, Resolved a Carrier's Mobile Network Issues at Miami International Airport with Ookla Wind®

Airports are critical locations for mobile network operators to ensure reliable, high-quality service — both for the millions of travelers passing through each year and for the airlines that rely on mobile networks for key technology. When a major U.S. mobile network operator updated its network technology around Miami International Airport, one of their biggest commercial customers started experiencing issues because their equipment was configured for legacy technology. Complicating the situation, the network operator and airlines had conflicting results from their testing and devices, both seeing different issues at the same spots within the airport.

Wireless Services is the design, installation, commission, and testing provider of distributed antenna systems (DAS) that manages DAS and critical infrastructure in the area. To troubleshoot the issues that arose during this major network update, Wireless Services needed the ability to accurately test the network, identify spikes in usage, and quickly make recommendations for optimizations and added capacity. To better serve the operators, Wireless Services used Wind®, Ookla's handset-based mobile network testing solution, to walk test Miami International Airport and rapidly deliver recommendations.

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wirelessservices

"With real-time results in the Wind Console, we were able to streamline a process that used to take a few weeks' worth of testing and adjustments down to just two days. I was able to share walk-test views with our customers in real-time, while our testers were still on-site. This saved countless man-hours of testing and re-testing, both for us and our customers."

— David Olka, System Performance Manager at Wireless Services

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Benefits

With instant post-processing and real-time analytics, testing and optimization took two days, rather than many weeks

Made real-time optimizations to their managed DAS, including downtilt adjustments and antenna power adjustments

Discovered capacity issues caused by usage spikes that the operators were not able to see in their data aggregates

Identified parameter updates and capacity additions to address carrier-side network deficiencies
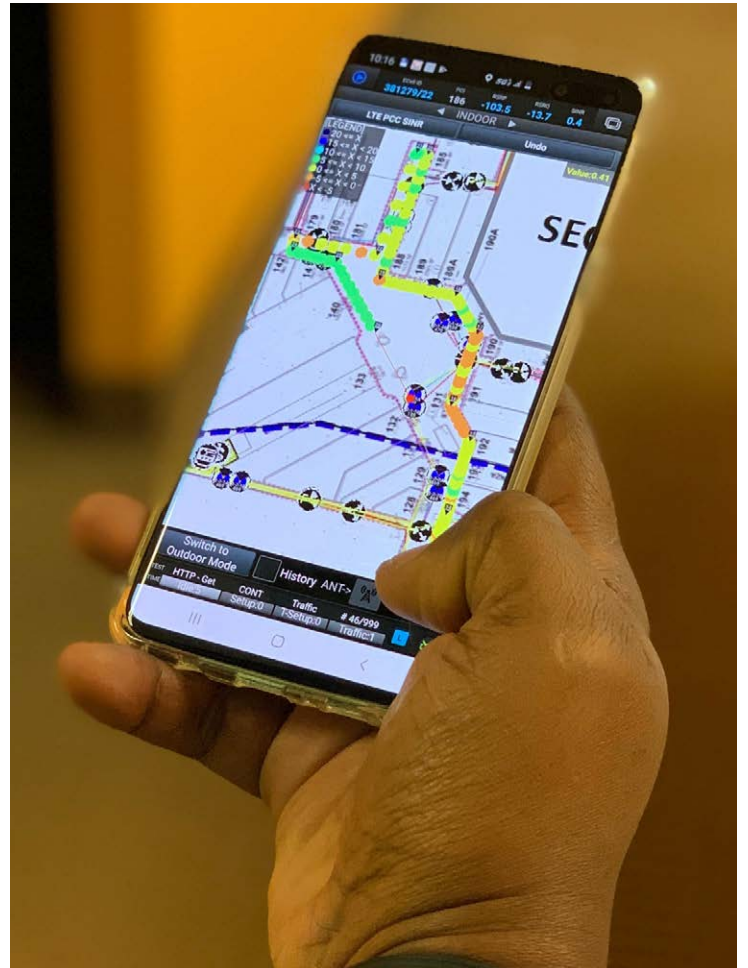
Situation

As a major U.S. operator updated its network technology around Miami International Airport, an important commercial airline customer began to experience problems. During this crucial time period, the operator started experiencing massive issues with service at the airport. Wireless Services, who provided DAS and other infrastructure services to the operator, needed to rapidly discover the root cause of the network issues and make recommendations. Beyond testing their own infrastructure, it was important to analyze the entire airport to discover areas of poor performance, throughput, or signal strength, as well as locations where users were connecting to unexpected cell sites.

Solution

Wireless Services conducted an extensive walk test of the airport using Ookla Wind. When the client operator reported conflicting results of measured throughput, Wireless Services used Ookla Wind to capture detailed KPIs on radio network conditions, coverage, and call information, as well as throughput as measured by Ookla Speedtest®.

Because the operator had escalated the issue, Wireless Services was tasked with conducting the walk test and providing resolutions in a matter of weeks. Using Wind, they were able to complete the walk test and subsequent analysis in two days.

After the initial investigation, Wireless Services delivered the walk test results to both the carrier and their commercial airline customer. Working with both companies, Wireless Services was able to identify parameter updates and capacity additions to address carrier-side network deficiencies — as well as compare Wind data to operator-provided data. By sharing the real-time, streaming data from Wind Console, the clients were able to validate the results while testers were still on-site, which led to the discovery of a congestion issue that was not detectable in the carrier's internal data aggregates.
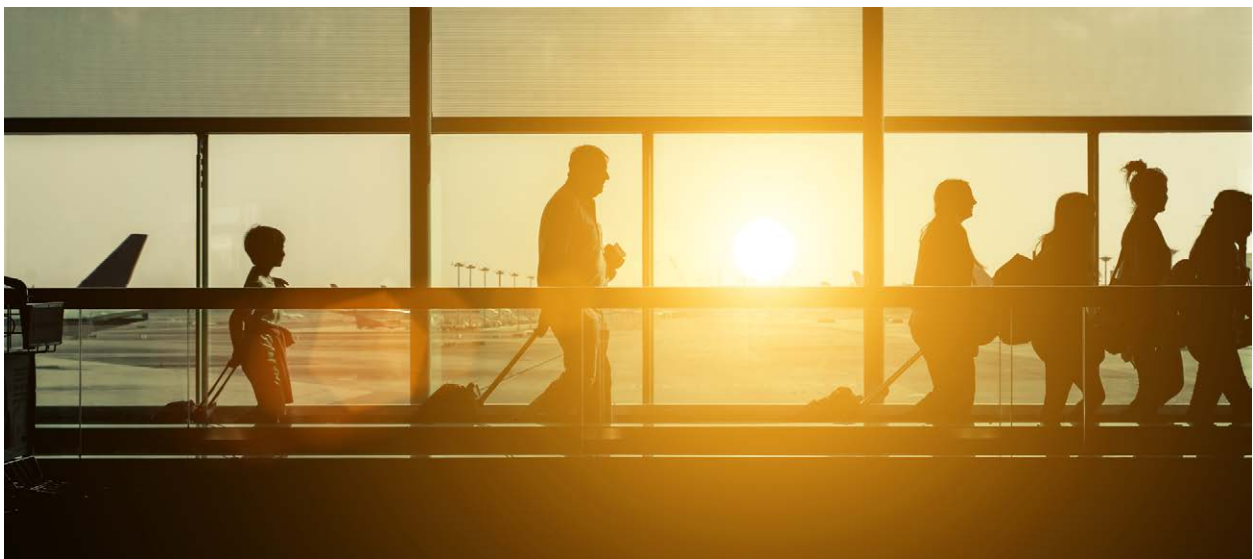
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Outcome

With real-time walk testing and accurate, reliable data on the operators' network conditions, Wireless Services was able to help develop a resolution, including discovering a capacity issue that wasn't being recorded on the operator's internal views of trending data. With Wireless Service's recommendation, the operator made the decision to add capacity to accommodate this surge in congestion.

Additionally, Wireless Services was able to better determine which areas needed DAS coverage to address the operator's highest-priority operational needs. With Wireless Services quickly providing enhanced coverage in critical areas, the operator could then develop a long-term plan to add and expand capacity or conduct renovations to improve service.

This was made possible by Wireless Services' ability to provide thorough and immediate walk-test results and surface found issues to the operators. They were able to both rapidly allocate resources and to make actionable recommendations for the operators' long-term network planning and optimization efforts.

About Wireless Services

Wireless Services, headquartered in Louisiana, is a leading full-service distributed antenna system (DAS) integrator for major mobile network operators with decades of experience in comprehensive site acquisition, program development, system design, project and construction management, installation, commissioning, and monitoring and maintaining complex wireless infrastructure in notable real estate, airports, and stadiums throughout the United States.

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