

Project Overview

The Boston Red Sox Fenway Park



Beginning early 2006 The Boston Red Sox executed major renovations to Fenway Park. The “.406 Club”, formerly known as the “600 Club” was demolished along with the roof seats to make way for the new “EMC Club” and “State Street Pavilion”. With these changes came the opportunity, and necessity, to improve and increase wireless coverage and access throughout the park. The new “EMC Club” seats and “State Street Pavilion” seats needed to have in-seat food service provided by Aramark. Through the use of wireless handheld scanners a waiter/waitress would take a fan’s order, send it back to the kitchen over the wireless network to be delivered by a runner; allowing for faster service and better tracking.

Wireless interference would prove to be a massive concern at Fenway Park. Being located in downtown Boston, Fenway is surrounded by wireless signal noise and interference due to many private AP’s easily located in and around the park.

Many stem from local businesses, both public and private, while many others are privately operated by residents of the surrounding Fenway neighborhood.

ATS and The Red Sox also had to contend with very powerful interference from Electronic News Gathering (ENG) broadcast trucks. ENG trucks send news broadcasts back to antennas on top of the Prudential Center and One Boston Place for the local TV stations broadcast.

The ENG equipment transmits using the 2.4GHz frequency. Although these signals are pointed up and away from the park, the side signal lobes reflect back into the park and consistently interfere with the Red Sox’s private wireless network.



Outside interference is not the only complicated issue inhibiting a dependable wireless network operating within Friendly Fenway. Game night!

Since the Red Sox continue to maintain their blistering sell-out pace, each game night the Sox can expect close to 40,000 will people enter and move about the park. Human beings are primarily composed of

H₂O, and water has a tremendous capacity to absorb wireless signal. Therefore, it became necessary to raise the power levels

of some APs during crowded game conditions in order to maintain proper connectivity for all parties involved.

If the signal is turned up high during peak game times, what about when the park is empty and Red Sox need to operate their business? Due to the shape and openness of a baseball stadium, and Fenway Park in particular, if AP power levels are left at “Game Time” settings, the wireless network will have too much self interference and will be unable function properly.

The empty stadium interference is mainly caused by high powered signals bouncing off such reflective surfaces as the scoreboard in center field, the “Green Monster” in left field and thousands of empty seats.

In order to mitigate peak and valley power management issues, ATS and The Boston Red Sox have partnered to implement an automated and variable network management system. Utilizing Extreme Network’s Summit WM-1000 and Altitude 350 Wireless Access Points we have been able to maintain, monitor and manage consistently high levels of uptime and throughput.

Along with Extreme Networks built in tools, Berkely Varitronics Systems’ Yellowjacket 802.11b/g Wi-Fi Analyzer, AirMagnet’s Spectrum Analyzer and AirMagnet’s Surveyor tools were employed to find and track wireless interference.

Through the use of these tools, ATS and the Boston Red Sox will continue to maintain seamless access to their wireless users.

KEY Project Highlights

- ♦ Cover all gates for ticket scanning
- ♦ Cover EMC Club and State Street Pavillion
- ♦ Cover press box and new press room
- ♦ Cover on field Camera Pits
- ♦ Cover front two rows of seats from home dugout to visitor dugout
- ♦ Cover Right Field Bud Bar and Bud Bar seats
- ♦ Cover Yawkey Way for ticket scanning
- ♦ Channel planning in a multi-level stadium horse-shoe configuration
- ♦ Setting/adjusting power levels for pre and post game operation
- ♦ Wireless access for seat order taking
- ♦ Wireless access for Red Sox employees
- ♦ Wireless access for photographers and press
- ♦ Wireless access for VOIP telephony