

INDUSTRY SPOTLIGHT: WIRELESS IN HOSPITALITY APPLICATIONS

The Challenge The hospitality industry faces unique challenges when designing and deploying WiFi networks. Networks must accommodate a large quantity of hotel guests' user devices while also maintaining a high level of performance, security and control for these devices. Additionally, different environments and use cases must be considered within a hotel, such as general WiFi access in guest rooms as opposed to conference areas and lobbies.

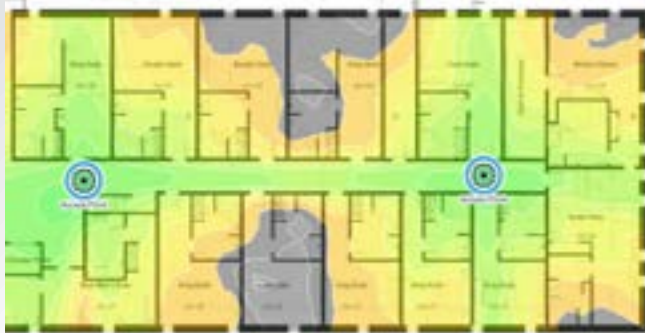
The Solution Most hospitality implementations revolve around the expectation that fast, reliable WiFi connectivity will be available throughout all accessible areas of the building. The first step toward meeting this expectation is to conduct a wireless site survey to understand how the variables of the environment – such as wall materials and floorplan layout – affect the RF signal propagation and impact performance. Secondly, with so many outside devices utilizing the wireless network, it is important to implement rules and policies to support these connections while isolating corporate network resources and services.

Real-world example A multi-floor hotel with an existing wireless infrastructure had been experiencing unreliable and slow connections within specific guest rooms. The first step taken was to perform a full wireless site survey of the hotel, working in conjunction with the housekeeping staff to access as many guest rooms as possible. Once the survey of the hotel was completed, the data was reviewed and two main issues were identified.

Key Facts

- Approximately 75,000² ft facility over three floors
- Guest & corporate network access required
- Basic guest access limited to 2Mbps download

The first issue was centered around the fact that all access points were deployed along the hallways that led to guest rooms. This placement, coupled with the hotel's sound dampening walls, hampered the access points' ability to provide equal coverage for all the guest rooms.

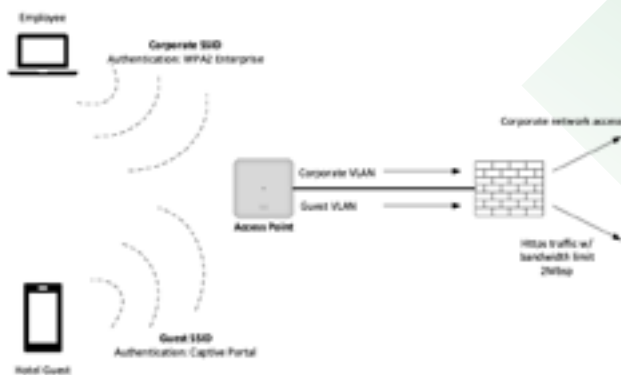


While this type of hallway placement is common, best practice for WiFi deployments is never to limit placement to hallways or corridors. These types of deployments commonly lead to areas with coverage gaps as well as potentially causing co-channel interference between access points within line of sight of each other.



For this reason, access points were relocated discreetly within rooms, eliminating the coverage gaps and line-of-sight, co-channel interference issues. Coverage was noticeably improved (seen here).

Secondly, the survey revealed that areas of the hotel showed high levels of spectrum utilization, indicating that WiFi usage was very high. These high utilization levels can cause slow connections for certain users and needed to be addressed. A captive portal splash page was configured to authenticate guest users as they connected to the hotel's guest network, limiting access to registered guests only. Additionally, guest network traffic was segmented, and policy enforced to limit bandwidth to reasonable levels, eliminating the instance where an individual client device could cause high utilization levels (hog bandwidth) by initiating large file transfers, etc. Logical network segmentation and traffic flow shown below.



Basic guest network access was limited to supply a 2Mbps SLA per device, enough to allow for most common applications and services such as voice, basic streaming video and web browsing.