Problem. Solved.

Evolving an MDU's Wi-Fi Network for a High-performance Tenant Experience

COMMSCOPE®

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Wi-Fi was once considered a convenience or a luxury, but is now almost ubiquitously available in restaurants, hotels, malls and other public gathering points. And consumer expectations for high-quality Wi-Fi service now apply to multiple dwelling unit (MDU) environments such as apartments, condos and college dorms, as well. In fact, today's technology-savvy consumers often seek out MDU environments where Wi-Fi is included in their purchase, rental or tuition fees, and may even choose alternative locations if it isn't.

For property owners and service providers, delivering Wi-Fi to MDUs has become both a competitive differentiator and a strategic business opportunity. But in order to offer Wi-Fi in a way that makes sound business sense, they must often evolve existing Wi-Fi networks for improved speed, scalability and reliability, while keeping infrastructure and deployment costs low.

Benefits for Service Providers and Property Owners

- Up to a 25% Signal Strength Improvement
- A Substantial Reduction of Coverage Gaps
- A 10-15% Savings in Construction Costs

The Problem:

Wi-Fi Expectations Exceed the Capabilities of Today's Networks

The MDU is a unique environment for Wi-Fi, because tenants expect their service to perform at an extremely high level within their homes. As such, they do not tolerate long loading times for video, slow Internet browsing experiences, or "dead zones" in Wi-Fi coverage. And as Wi-Fi gains its foothold as a critical utility, these expectations are only increasing. For service providers and property owners, this means evolving Wi-Fi networks in a way that makes sound financial sense. But since access point selection and placement can significantly impact performance and costs, it is critical to begin with a well-designed plan for Wi-Fi evolution.

CommScope Solution:

Proactive Planning for High-performance Wi-Fi Evolution

The key to CommScope's approach is to gather valuable information that can effect Wi-Fi deployment in the very beginning to ensure that performance and cost objectives are met when it comes time to deploy. The process starts with a detailed discussion with the service provider or property owner to help determine service priorities. These include bandwidth requirements within the units and common areas, preferences for cable routes and entry points, the number of residents served and areas with high concentrations of potential Wi-Fi users. Here, budget considerations and service evolution projections are also discussed.

In addition, CommScope conducts its own survey of the MDU complex, coordinating access to resident units to minimizedisruption and maximize time and budget. Here, CommScope maps each unit and conducts detailed readings to gauge the performance of the existing Wi-Fi network. These readings are assembled in a 2-dimensional "heat map" that allows technicians to easily identify weak signals and coverage gaps. In this audit, CommScope also

identifies where residents travel and congregate within the property, and identify key service locations during different times of the day and week. A spectrum audit then reveals potential interference on the 2.5 and 5 GHz bands, and identifies current channel utilization. Existing network and power resources are also diagrammed, with their condition and capabilities noted to determine if they are viable for use in the evolved Wi-Fi network.

All of this information is then used to guide a Wi-Fi design that meets both performance and cost objectives, and is scalable enough to meet future growth needs. In the design phase, CommScope begins by selecting optimal access point locations based on existing resources for power and backhaul. Where new cabling needs to be brought into the building, entry points are chosen based on ease of access and proximity to the infrastructure they'll support. For example, wiring an MDU through one point of entry on the roof near a stairwell is often far more efficient than entering through multiple points at ground level. This "outside-in" approach helps keeps the costs and intrusiveness of construction low.

In choosing which access point to deploy, CommScope factors in coverage and performance requirements in addition to upgradability to help future-proof the network. This means selecting the right protocol, power level and antenna configuration to deliver the required service levels. In addition, the right housing and form factor can help ensure that the access point can be upgraded to meet future requirements. By consulting the building diagrams, heat maps and spectrum audit throughout this process, CommScope can all but eliminate performance and coverage issues of the existing Wi-Fi service while avoiding the high costs of overbuilding the new network.

The Result:

A Right-sized, Right-priced MDU Wi-Fi network

With a well-formulated evolution strategy and expert installation techniques, Wi-Fi performance and reach can be improved quickly, cost-effectively and substantially. Often times, CommScope designs can improve signal strength by up to 25%, while virtually eliminating coverage gaps. In the process, CommScope is able to reduce infrastructure costs through the optimal placement of shared access points throughout the building. Finally, by using existing resources for powering and backhaul, and using well planned installation techniques, CommScope is able to reduce construction costs by 10-15% when compared to more invasive deployment methods. The end result for MDUs is a high performance Wi-Fi network that meets service needs for today and tomorrow, and minimizes the time and costs of deployment.

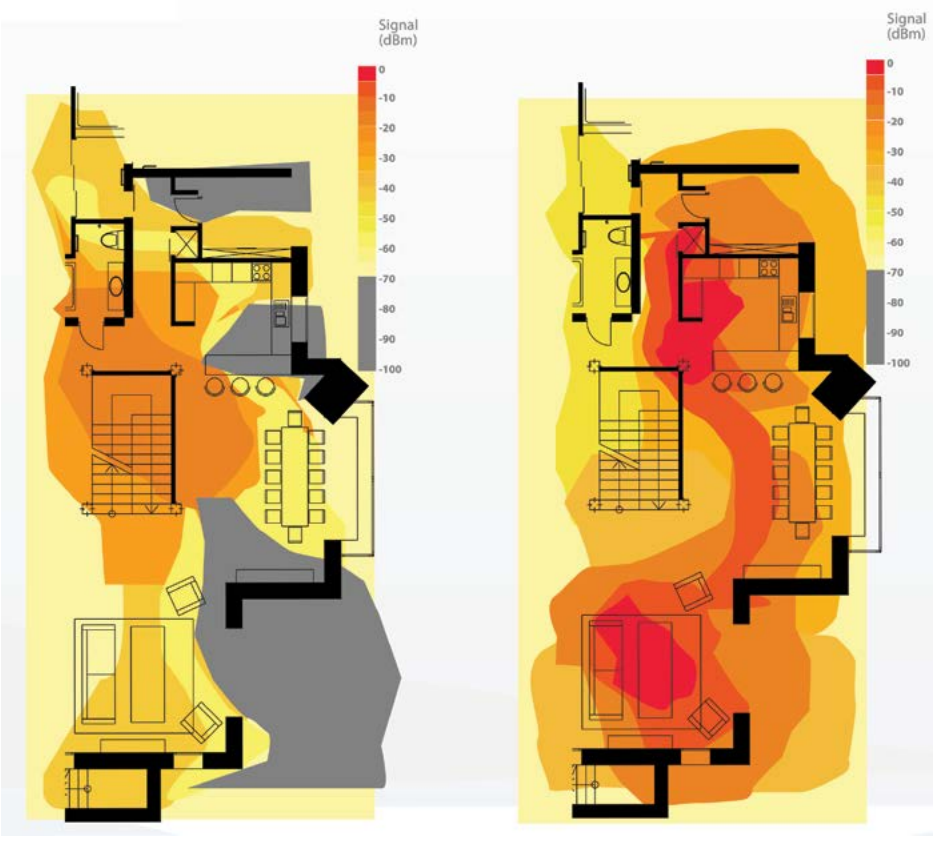

Figure 1 – A Before (left) and After (right) View of Wi-Fi Coverage in an MDU Unit

CommScope pushes the boundaries of communications technology with game-changing ideas and groundbreaking discoveries that spark profound human achievement. We collaborate with our customers and partners to design, create and build the world's most advanced networks. It's our passion and commitment to identify the next opportunity and realize a better tomorrow. Discover more at commscope.com.

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