Wireless Broadband Access for MDU's: A Primer

MDU operators can make WiFi work, but the devil is in the details

By Dick Sherwin ■ *Spot On Networks*

Is WiFi an amenity or a burden for an MDU property? The use of WiFi technology in multiple dwelling unit properties is somewhat analogous to hearing a resident's dog barking. A disturbance by the next-door neighbor's dog turns an advantageous feature of a residential MDU building into a hassle. In the case of WiFi, a next door neighbor's wireless router can disrupt another resident's service, or a resident can "piggyback" on another's service, causing deterioration of service and potential virus problems.

Designed and implemented correctly, WiFi becomes an exceptionally desirable service. Complete mobility in the residents' units, in the residential complex common areas, and now in the downtown areas residents frequent, provides convenience and productivity improvement.

Although muni WiFi networks often cover open areas in downtowns, some shopping areas and other outdoor facilities, and the perimeter of buildings near the downtown area, internal and upper-floor residential units are generally without such service. Some of the more progressive property owners have opted to have a service provider design WiFi services for the entire residential complex, providing service coverage to all residential units – sometimes even as a primary service offering.

To implement such a service effectively, the service provider must perform several important tasks (see box).

Other options can be made available by the service provider so that residents are able to receive special services while maintaining quality of service to the entire community. Such capabilities as bandwidth shaping, packet-by-packet examination for damaging intrusions (viruses, worms), and special coverage requirements for certain areas of the residential complex are optionally available and can be applied

Is WiFi an amenity or a burden? The use of WiFi technology in MDUs is analogous to hearing a dog barking. A disturbance by the neighbor's dog turns a pet-friendly feature into a hassle. A next door neighbor's wireless router can disrupt another resident's service, causing deterioration of service and potential virus problems.

Wireless Requires Hands-On Design and Continuing Service

- Site surveys must be conducted such that radio frequency transmission through walls, ceilings and floors are measured, pathways are identified and construction materials are recognized.
- Network design must be implemented conforming to the aesthetics of the building and minimum criteria for service coverage. Security must be included such that there can be no "piggybacking" or intrusive connections among residents or other users from the outside.
- Appropriate bandwidth with upstream and downstream speeds needs to be acquired such that users see stable and desirable performance.
- Radio frequency design and applied technology need to be deployed such that radio frequency interference between existing wireless equipment and the overall network is reduced or eliminated. Radio frequency coordination is a "must."
- A Network Operations Center needs to be in place to constantly monitor all parts of the building network.
- A 7/24/365 Help Desk needs to be available so that residents have a "go to" place to resolve issues rather than the property office.

Typical design of an MDU WiFi network.

to the building network design.

Many such networks have already been implemented by service providers in MDU midrise complexes, highrises, and garden apartment complexes. With the appropriate capabilities, the service can be used as primary Internet access by most residential users at a price generally 35 percent less than broadband services provided by cable or DSL.

With roaming capability, residents can use these WiFi capabilities anywhere in their residence, anywhere in their complex and in various downtown and transport hub facilities. **BBP**

About the Author

Dick Sherwin is CEO of Spot On Networks, LLC based in New Haven, CT. Spot On is a national provider of broadband wireless and VoIP services to the MDU industry. Dick spent 10 years providing wireless services in Eastern Europe. rsherwin@spotonnetworks.com