

# Passive optical network provides bandwidth support

BY ERIC PRESWORSKY

Woodlands Retirement Community in Huntington, West Virginia has always been at the forefront of senior care. In 1996, Woodlands Retirement Community opened with 111 apartments that offered what was at the time considered unique: multi-tiered retirement dwellings.

Today, Woodlands continues to expand, serving more than 500 residents in more than 250 single- and multi-person units. But Woodlands hasn't continued to grow on merit alone. Woodlands understands that staying current in today's competitive Commission on Rehabilitation Counselor Certification market means keeping up with and – in Woodlands' case – exceeding expectations for the quality of available on-site amenities.

That's why Woodlands implemented Healthsense eCall™ services that included an emergency and nurse call system; locator technology; and time-stamped records and data reports for quality care assurance, and pendants are also used by some. With the amount of patient and medical information to secure, and the Healthsense eCall service, Woodlands needed an Internet network with robust bandwidth that could support the safety services and health information essential to patient care, as well as the communications needs of the residential community.

## PLANNING NEW TECHNOLOGY

In 2013, the executive team completed a competitive analysis to assess the best technology to execute Woodlands' infrastructure upgrade plan. The technology had to support 500-plus residents with Wi-Fi-enabled Internet, and the behind-the-scenes patient management systems from Healthsense.

Resident care was also an integral aspect of the overall project. The technology director and executive team at Woodlands collaborated and oversaw the installation and implementation of the project. The Woodlands project was especially challenging because of the sheer size of the property and the multiple stages of project implementation. It was also important to ensure economies of scale, as the Woodlands property had grown rapidly, and would only continue to do so. To manage the process

and help identify a technology solution, Woodlands reached out to Qypsys, a leader in the design and deployment of advanced technology platforms.

Qypsys recommend a solution that would support both short- and long-term goals while scheduling a deployment model that would be the least disruptive to the residents and staff as possible. Qypsys recommended deploying a Passive Optical LAN solution, which is a robust, energy-efficient network that reduces operating costs and infrastructure complexity. A POL allows companies to meet increasing bandwidth demand while saving space and improving the longevity of the infrastructure. Because of the bandwidth needed for the property size, the POL solution Qypsys recommended was an efficient solution for the Woodlands facility.

Once the benefits of a POL were established, Qypsys recommended Zhone Technologies' FiberLAN solution, a next-generation Optical LAN solution built entirely on industry leading standards. FiberLAN is a high-performance solution that delivers high-speed data, voice and video to multi-level, multi-unit infrastructure models.

This fully converged solution is scalable for a single or multi-level buildings, or large care environments, such as hospitals or care facilities where customers are installing new facilities or upgrading their current LAN infrastructures. The FiberLAN solution also has a low downtime of only six minutes per year, a tremendous advantage in an environment where the reliable exchange of patient information is key to their well-being. The Zhone hardware used at Woodlands can support up to 7,168 end-users.

## IMPLEMENTING ZHONE'S POL SOLUTION AND HARDWARE INTO RESIDENT UNITS

FiberLAN exceeded Woodlands' goals of improving energy efficiency and was installed with little disruption to residents and staff, which was an essential component of the overall plan. Zhone hardware that supported the delivery of voice, video and

Internet was installed in individual rooms or apartments within 45 minutes per unit.

Due to the sheer size of the facility and campus, FiberLAN was the best alternative to copper-based LANs available today. It is cost-effective, and its efficiency and environmental friendliness make it an attractive option for large-scale deployments. FiberLAN's ability to expand and adapt over time as Woodlands continues to grow also lowered Woodlands' total cost of ownership.

Woodlands now provides wireless services supported by the POL solution to their residents for free. Residents have commented continually about how fast the new internet connection is, which aligns with one of Woodlands' core purposes; to take care of their residents and the FiberLAN deployment has been an exceptional addition to the quality for them.

#### THE CHALLENGE

- Implement a high-speed, large-scale network that can support multiple systems and scale to match the community's rapid growth rate.
- A network bandwidth that can support electronic health records, Healthsense services, and Internet, phone and video access for all residents in the assisted living quarters.

#### THE SOLUTION

- Deploy Zhone Technologies' FiberLAN solution through-

out the entire 252-unit, 171-acre campus.

- Implement network using both existing cable and updated fiber cabling to reduce footprint and increase bandwidth.
- Utilize Zhone's MXK-319 terabit access platform to create a scalable high-bandwidth network. One FiberLAN MXK-319 can support up to 7,168 end users.
- Employ Zhone's Optical Network Terminal. More than 300 of Zhone's ZNID-GPON-2425A-NA ONTs were installed in each residential unit at Woodlands to support voice, data, Wi-Fi and video streaming services.

#### BENEFITS

Care professionals are able to monitor both the health and the whereabouts of the 500+ residents from secure access points throughout the property.

- Residents have high-speed Internet access, ensuring connection to their family and friends 24/7.
- Woodlands IT personnel have a long-term networking solution that can easily be expanded concurrent with the growth of the campus.
- Low disruption during installation - 45 minutes per living quarter.
- Reliable, live network with downtime of six minutes or less per year.



*Eric Presworsky,  
Chief Technology  
Officer, Zhone  
Technologies*

Posted with permission from the August 3, 2015 issue of [McKnight's LTC News](#), Haymarket Media. Copyright 2015. All rights reserved.



Bandwidth Changes Everything™

For more information contact [Inquiries@Zhone.com](mailto:Inquiries@Zhone.com) or call +1-727-530-8777