HIGH PERFORMANCE WI-FI NETWORK

Telesystem Partners with ADTRAN to Connect Students and Gamers at The Lofts at Gateway

The Lofts at Gateway, located in Toledo, Ohio, and built in 2012, is a student apartment complex located near the University of Toledo. The complex supports 112 students during the academic year and has four employees who support the day-to-day operation of the apartment building. As the home away from home for students living there, a robust wireless network is a must to handle needs like homework, online classes, streaming high-quality video and gaming.

As the times have changed, so too have the students, who now bring an average of three devices including gaming consoles, with them to college. Managing a network featuring multiple independent routers that residents bring with them to support their bandwidth-eating gaming consoles and other devices like smartphones, tablets and laptops was a major challenge. To solve the problem, The Lofts at Gateway worked with Telesystem, its communications provider, and ADTRAN, its technology partner, to ensure that every resident and guest had access to a fast and robust Wi-Fi network that could be utilized at any time.

Signal Interference Causes
Major Connectivity Issues for Residents

The Lofts at Gateway originally featured a hardwired network and the option for students to bring their own router for Wi-Fi connectivity. Each apartment unit was hard coded to an intermediate distribution frame (IDF) box, with hubs available

Benefits

In conjunction with its partner Telesystem, ADTRAN enables The Lofts at Gateway to leverage a dedicated Wi-Fi network, ensuring a stable, high-quality and capacity-rich network for its residents. Other benefits include:

- ■ **A unified network provides scalability and eliminates signal degradation;**

- ■ **Worry-free connectivity throughout the entire complex, allows residents and guests to leverage three separate networks for resident, guest and gaming usage;**

- ■ **A network that makes management easy, with ADTRAN support available in the event of a problem.**

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THE UNIVERSITY OF TOLEDO FOUNDATION

for residents to connect their personal routers for Internet access. Issues soon began to arise, as signal interference began causing connectivity issues for residents. Competing signals would degrade the individual network setups, causing massive slowdowns for residents and sometimes even complete failures of their individual networks. Additionally, there was no way to adequately manage the individual routers, making it difficult to isolate the cause of a network issue.

"You could walk into the middle of a hallway and see more than 50 different open network connections. This was causing massive wireless interference and severely degrading network connections. It wasn't a fault with the bandwidth the building was receiving, but an issue with too many individual access points (APs) being available," said Karlene Langford, product development manager for Telesystem. "The Lofts at Gateway needed a solution that was uniform and simple to manage, and the residents required a Wi-Fi network they could rely on when they needed it most."

Students also required a network that could support their needs outside of school hours, as gaming consoles are a common device to find in almost any college residence. The bandwidth capacity needed to support just the students who used gaming consoles alone is immense, using anywhere from 20MB to over 750MB of data in the span of an hour, with traffic ranging from watching Netflix and streaming video on Twitch to playing the latest Madden or Call of Duty game. The signal degradation caused by competing Wi-Fi networks meant that students who gamed or watched streaming video could easily lose their Wi-Fi connectivity, leading to frustration. Managing these issues was even more frustrating, as the management staff had no viable way to track down the cause of network errors that resided on the myriad personal routers.

"We wanted a solution that we could actually market as something nobody else had. When parents are looking for residencies for their children, they expect the apartment complex to have a suitable Wi-Fi connectivity environment available for its residents. It is simply a given that students will have the quality Internet con-

nection they need to get their work done and have fun," said Paul Kwapich, director of real estate for The University of Toledo Foundation. "Having a dedicated Wi-Fi solution puts us ahead of competing residencies, and ensures the students living at The Lofts at Gateway never have to worry about connectivity issues."
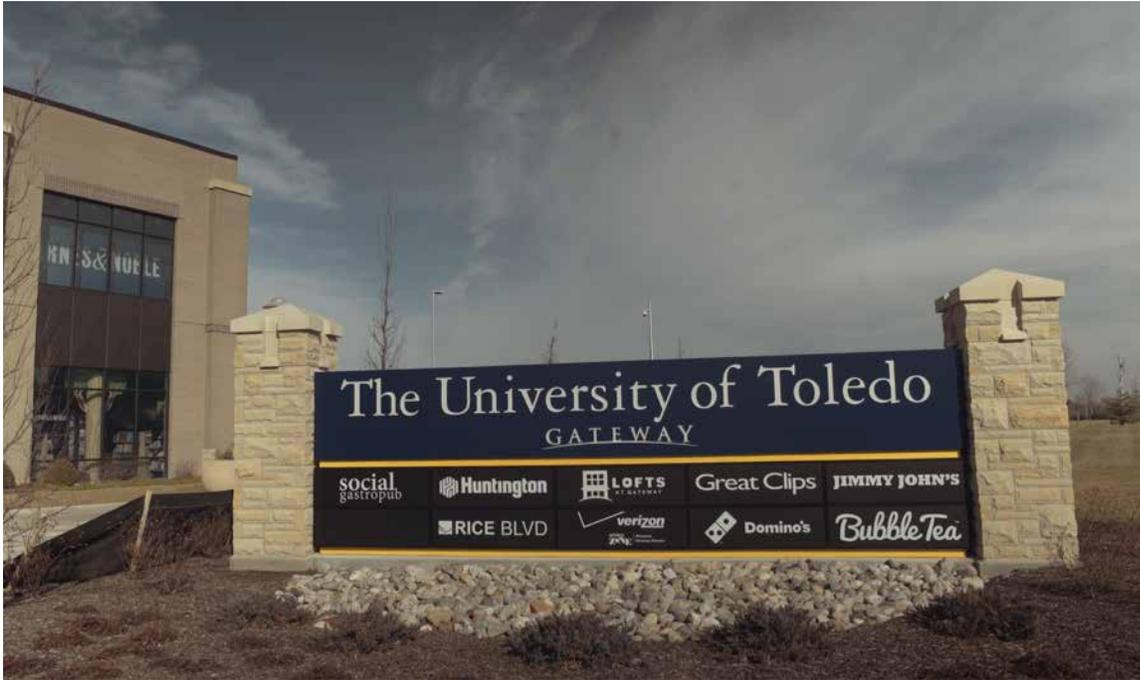
Telesystem helps The Lofts at Gateway Find ADTRAN

Looking for a means to solve the apartment complex's networking woes, The Lofts at Gateway worked with Toledo-based Telesystem to provide a solution. After seeing the issues the complex was having, Telesystem suggested ADTRAN Wi-Fi networking technology to solve its problems. Telesystem is a trusted ADTRAN partner, with a long-standing relationship and in-depth knowledge of the company's offerings. The company had worked with ADTRAN to provide Wi-Fi connectivity for a local minor league hockey rink in the Toledo area. After speaking with Telesystem and viewing the technology, The Lofts at Gateway decided to go with ADTRAN as a technology provider.

"The relationship we have with ADTRAN made it an easy recommendation as a technology provider for The Lofts at Gateway. Training for the technology is top-notch, and it allows us to be the service provider for The Lofts at Gateway, with ADTRAN in a support role if we ever need them," said Langford. "We were able to solve every Wi-Fi connectivity issue The Lofts at Gateway was experiencing with ADTRAN APs and switches, and we implemented it quickly and efficiently."

Working with Telesystem, The Lofts at Gateway deployed ADTRAN APs and NetVanta switches in early January 2017 after conducting a pre-site survey to determine AP placement for maximum coverage, thus creating a unified network for the entire complex. By eliminating the need for residents to provide a router for Wi-Fi access, Telesystem and ADTRAN solved the issue of competing Wi-Fi networks, improving signal quality across the board. Additionally, the hardware is connected to the ADTRAN ProCloud service, providing redundancy of the hosted service in case an issue was ever to arise. The service is managed by Telesystem, reducing the stress on the four-person apartment management team. The combined installation efforts of both Telesystem and ADTRAN were quick and seamless, as the new unified network was installed over the winter break and was ready for students to use going into their spring semester.

"Everyone has been very pleased with this deployment, and I have heard nothing but compliments on it thus far. Thanks to the pre-site survey, the AP placement was spot-on, and our residents are enjoying a hassle-free Wi-Fi network they can always count on," said Kwapich. "None of this would have been possible without Telesystem and ADTRAN, and our residents will never need to worry about losing connectivity to the overall network anymore."

Telesystem and ADTRAN Supply Seamless Wi-Fi Connectivity for All

Through Telesystem and ADTRAN, The Lofts at Gateway is running a dedicated Wi-Fi environment with three separate networks for residents to use (residential, guest and gaming). The residential network is strictly for the residents to leverage for everyday use. Guests visiting the complex can login to the guest network, ensuring that parents, friends and other visitors have connectivity. Finally, the gaming network provides a space set aside just for those residents who want a dedicated network for their consoles and computers. This provides a network just for gamers looking to jump online and do battle with friends and other gamers located down the hall or around the world.

"The ability to supply three separate but unified networks was exactly what The Lofts at Gateway needed," said Langford. "ADTRAN solutions are providing high-quality Wi-Fi connectivity for anyone and everyone at the complex. The gaming network is especially helpful; as it was originally designed to offload management issues and maintenance ticket information that wasn't able to be captured in a captive portal. The added bonus is having a network set aside specifically for those consoles and computers that eat a lot of bandwidth when in use, leaving the residential network free for other residents to use at full capacity."

Since the initial deployment, Kwapich has received no complaints about either the install or the network itself. Kwapich is extremely satisfied with the entire process, from purchase to deployment.

"Working with Telesystem and ADTRAN has been terrific. The ADTRAN technology has worked perfectly, and we are actively receiving compliments on the new Wi-Fi network," said Kwapich. "Overall I could not have asked for a smoother process. Telesystem and ADTRAN have set up The Lofts at Gateway for sustained success, providing a dedicated Wi-Fi network that meets the needs of everyone using it."

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