CASE STUDY

WIRESTAR NETWORKS

RUCKUS Networks and WireStar® Networks deliver excellence to new premier student housing properties

Even with having roots deep in the heart of Texas, WireStar® Networks is a national telecommunications company that spans from Washington state to southern Florida, and all points in between. Beginning as an internet service provider in 2007, WireStar quickly grew into an elite telecommunications network solutions company that offers data and voice connectivity, security alarm installations, as well as wired and wireless network deployments. Their reputation and expertise in structured cabling and Wi-Fi® deployment are why WireStar became the preferred choice for two university student-housing flagship properties in Texas: The Rev Student Living in College Station, and Houston's Haven at Elgin.

Customer
Parallel Group and Ascendant Development

Location
Texas

Requirements

- Deployment must be completed within days, not weeks
- Network must perform flawlessly once complete
- Network must support high-density, high-bandwidth demands of university students

Solutions

- Indoor and outdoor Wi-Fi 6 access points (APs)
- ICX® switches
- Virtual SmartZone™ controller
- Dynamic PSK™ (pre-shared keys)
- Encryption key technology

Benefits

- Property wide Wi-Fi roaming for residents
- Simplifies wired and wireless network setup and management
- Allows simultaneous network access by hundreds of students and thousands of devices with no issues
- Uses powerful encryption key technology with unique passwords for each resident

BACKGROUND

Due to exuberant growth rates at Texas A&M University and the University of Houston, top developers began breaking ground on new, furnished, luxury high-rise student housing located within walking distance of the campuses. These properties promised to deliver premier campus living options that would deliver not only best-in-class amenities, but Wi-Fi networks that wouldn't quit. To deploy

these unstoppable wired and wireless networks, the developers partnered with WireStar Networks.

Satisfying digital natives

Today's college students expect the world of their home base wireless network. They treat it as a utility and demand it to be robust, always on, and accessible at their convenience. College students today rely heavily on their devices for nearly every facet of life.

"We understand student housing properties are the most demanding users in America," said Kyle Leissner, president of WireStar. "They've been surrounded by technology since birth, and they depend on it for everything from entertainment to classes online."

While a typical residential home may have five to 10 devices connected to their Wi-Fi network, a college apartment unit can have well over 20 devices with several students living in the unit. "Students have two to three times as many devices as what you might find in a single family household," said Logan Roy, WireStar's director of business development. To accommodate this appetite for capacity and bandwidth, WireStar knew they would need strong wireless technology that thrives under the non-stop usage.

> "With properties like the Rev Student Living, every resident moved in during a one-day period. That's 800-plus students who moved into a single building...without a hitch in the wireless network operations."
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> **Jason Gorman**
> **WireStar's Director of Operations**

Selecting the right technology

When deciding on which network switches and wireless APs to deploy for these properties, WireStar's choice was easy. "The property developers wanted us to use the gold standard for their network," Roy explained. "And the gold standard is RUCKUS Networks."

RUCKUS Networks solutions possess patent-pending innovations that allow them to deliver some of the strongest and clearest transmissions in the industry. For example, in a Packet6 AP stress test using "out-of-the-box" APs from leading manufacturers, only RUCKUS® APs delivered flawless, stall-free streaming HD video to 30 devices simultaneously.

When installing RUCKUS APs, WireStar encountered the same favorable results reported in the Packet6 stress test. Straight out of the box, RUCKUS APs met the high user demands with no issues. "With properties like the Rev Student Living, every resident moved in during a two-day period," said Jason Gorman, WireStar's director of operations. "That's 800-plus students who moved into a single building...without a hitch in the wireless network operations."

> "For us, getting it done right is more important than just getting it done. That's why we were happy to have WireStar and RUCKUS partner with us to build our wired and wireless network for Haven at Elgin. Once online, the network they helped build impressed everyone—even the most demanding college student residents."
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> **Richard Owen, Principal**
> **Ascendant Development**

Getting it done right and fast

In construction, connecting a residential building online as fast as possible is critical to its success. WireStar understood they would have to deploy their networks under these tight time constraints. They also knew they would have only a short window to commission

and test the network. "Our time to install the network as a vendor to the properties is very narrow and critical," said Roy.

To succeed under such swift deadlines, WireStar needed technology to work the first time and every time after that. RUCKUS passed this important benchmark. "One thing I would say as to why we chose RUCKUS APs is the low failure rate out of the box," said Gorman. "This allows us to turn a property in a shorter period of time compared to other access points."

WireStar also found configuring RUCKUS APs to be a big advantage. Through virtual RUCKUS SmartZone controllers, new APs were able to connect to the network instantly. "Because of the auto provisioning, the RUCKUS APs are able to grab the configuration from the controller," Gorman said. "We didn't have to take them out of the box at the warehouse to configure them. The team pulled them out of the box and deployed them on site."

An array of technology that fits your need

Because RUCKUS offers a broad portfolio of network solutions, WireStar was able to select the ideal components to match their strict specification. For their enterprise-class switching, WireStar chose a switch series that could handle today's traffic but provided a flexible path for scaling up to accommodate future extensions.

"We installed fiber to the site and between all the IDF closets to the switches. 10 Gbps to the Haven at Elgin and 20 Gbps to the Rev Student Living," explained Gorman. "Typically, we used ICX 7150, but now we're utilizing the ICX 8200 series."

RUCKUS ICX 8200 switches are specifically designed to handle next-generation wireless and internet-of-things (IoT) campus networks. These intelligent, scalable edge switches deliver enterprise-class functionality at an affordable price without compromising performance and reliability.

In addition to finding switches that best fit their needs, WireStar found a number of AP options matching performance as well as the aesthetic they needed for the large common areas. "Haven at Elgin, we deployed T750s outdoor access points as well as R650s and R550s inside the units," said Roy. "The Rev Student Living, we deployed a mixture of T350s and T750s because, in some areas, the developer wanted the AP to be concealed. Inside the units, we deployed R650s and R550 access points." All without sacrificing network performance.

RUCKUS APs not only gave the network optimal performance but they also automatically avoided signal interference and throughput bottlenecks. That's because they feature BeamFlex+® adaptive antennas, which allows APs to dynamically choose among a

> "The Rev Student Living is a flagship property as it's the tallest building in Brazos County, home of Texas A&M University. "

> "Haven at Elgin is one of the largest student housing properties near the University of Houston, and closest to all the athletic facilities."

host of antenna patterns (over 4,000 possible combinations) in real time to establish the best possible connection with each device. Plus, they come with SmartMesh™ wireless meshing technology that can dynamically create self-forming, self-healing mesh networks.

Individualize security for the masses

Of upmost importance to WireStar was safeguarding the network from hacks and unauthorized users in crowded environments. On both properties, the number of residents and devices was going to eclipse your standard apartment building.

"At Texas A&M, the Rev Student Living holds more than 800 residents," said Leissner. "This flagship structure stands 200 feet tall and 19 stories high—which makes it the tallest building in Brazos County."

"Haven at Elgin is 16 stories tall and can accommodate almost 650 students," said Leissner. "This makes it one of the largest student housing properties walking distance from the University of Houston."

When a single apartment building can have thousands of devices logging on to the network at the same time, network security is as important as capacity and coverage. To simplify BYOD onboarding, WireStar turned to Dynamic PSK encryption key technology for secure access to the RUCKUS network.

Through Dynamic PSK technology, WireStar was able to offer unique Wi-Fi passwords to each resident, which they could employ on all their devices. By utilizing this patented technology, students can rest assured that their wireless traffic is encrypted using WPA2-Personal or WPA3-SAE, which enhances network and data security. Best of all, students won't have to re-enter their password when they leave and return to the property. Additionally, Dynamic PSK technology allows for property wide Wi-Fi roaming so that students can stay connected anywhere at their residence.

> "One of the toughest challenges in new construction is having everything work perfectly on grand opening. That's why we were excited to have WireStar and RUCKUS build our wired and wireless networks. When we opened the Rev Student Living, the Wi-Fi network worked immediately and hasn't slowed down since."
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> **Kristen Penrod, Principal Parallel**

Another reason WireStar chose to deploy RUCKUS APs was their ability to simplify network management through a single SSID (Service Set Identifier). "The biggest mover is really the single SSID," said Roy. "It provides property-wide roaming and instant access for the resident, where residents don't have to wait for a truck roll or a field service technician to arrive and install their internet." Happy residents make for happy property owners.

Delivering peace of mind

For WireStar, choosing RUCKUS gave them peace of mind that other competitors could not. The patent-packed switches and APs helped create a strong, vibrant network that thrives in high-profile, high-density environments. In addition, through RUCKUS virtual SmartZone controllers, WireStar can monitor, manage and troubleshoot the networks remotely from anywhere.

The Rev Student Living and Haven at Elgin employ the same powerful technology used in large commercial venues such as Dr. Pepper Ballpark, Paycom Center, and Saratoga Race Course—with the same reliable results.

What's more, strong RUCKUS product warranties give WireStar the reassurance that these network solutions were here to stay. "We prefer partners who stand behind their product, and we value RUCKUS lifetime warranty," said Roy. "If something should happen to our indoor APs in the foreseeable future, we can pull it down, install a new replacement, and process an RMA. That's critical for us."

By partnering with RUCKUS, WireStar was able to deploy on time, on budget, and per project plans. The best part was RUCKUS technology worked straight out of the box and met the high-user demand instantly with no issues—helping WireStar, the Rev Student Living, and Haven at Elgin move to the head of the class.

About RUCKUS Networks

RUCKUS Networks builds and delivers purpose-driven networks that perform in the demanding environments of the industries we serve. Together with our network of trusted go-to-market partners, we empower our customers to deliver exceptional experiences to the guests, students, residents, citizens and employees who count on them.

www.ruckusnetworks.com

Visit our website or contact your local RUCKUS representative for more information.

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