MDU Providers, Multifamily Developers Set Broadband Performance as a Priority

As property owners look to distinguish themselves and attract and retain residents, they must ensure their broadband performance is consistent.

By Sean Buckley / *Broadband Communities*

Jenn Cassidy knows how important broadband is to her customer base: the student housing market. As senior vice president of student housing operations at the Cardinal Group, a management, investment, construction, and marketing firm focused on multifamily housing throughout the U.S., she says students cite broadband as the top amenity.

Jenn Cassidy

"My portfolio is entirely student housing, so my running joke is that broadband is more important than running water to our demographic," she says. "You could probably get away with no power or no water, but not with no internet."

Brett Lindsey, CEO of Everstream and chairman and founder of Snip Internet, agrees. Snip works with multiple-dwelling-unit (MDU) buildings on two levels: It brings service to buildings that have an existing provider and it provides

Brett Lindsey

bulk service arrangements in which developers resell Snip's service to tenants.

"If you look at the market studies, tenants care more about the internet than they do if there's a gym or other amenities in a building because it's so critical to their work-life experience," he says.

Snip purchased the residential assets of Detroit-based provider Rocket Fiber from Everstream and now operates in three Midwest markets: Cleveland, Detroit and Milwaukee. Snip offers two main broadband speeds: 100 Mbps and 1 Gbps. It does not provide video and voice.

Lindsey says building owners can leverage Snip's high-speed network for internal internet of things (IoT) applications, such as leak detection and virtual tours. "Building owners are looking for operational efficiencies they can use," he says. "They are going to be looking for ways to use IoT to drive efficiencies in the buildings, so it's even more important to have quality bandwidth available."

Broadband has become a key priority and expectation for a large swath of MDU dwellers and providers. Multifamily residents expect to get uninterrupted coverage whether they are in the parking lot, in their units, or at the gym to participate in a virtual spinning class.

In its "2020 Apartment Resident Preferences Report," NMHC/Kingsley Associates found that 92 percent of apartment renters "expressed high or very high levels of interest in high-speed internet access" and that "more than half of those said they wouldn't rent an apartment without broadband."

RATING MDU BROADBAND

Broadband rating systems for MDUs are new, but they appear to be gaining momentum in the service provider community.

Two companies emerging in the MDU rating space are ROVR Score and WiredScore. ROVR Score gives property owners and consumers a tool that evaluates and promotes the quality of Wi-Fi and cellular connectivity throughout an entire property. It launched in June, offering ratings of Tier-1 developers and owners, including Greystar Hines and JP Morgan.

Led by CEO Scott Casey, an MDU veteran who previously served as CTO at Greystar (formerly EdR Collegiate Housing), ROVR Score runs an algorithm that generates a score based on four main pillars:

Scott Casey

- **Infrastructure:** This includes wiring infrastructure, such as the switches, routers, access points and a building's amount of bandwidth.
- **Sensor:** This gathers the quality of the Wi-Fi network. As a dynamic score, this changes on a 24/7 basis.
- **Call Quality:** The system scores the quality of calling in a building from the three major wireless operators: AT&T, Verizon and T-Mobile.
- **Residential Feedback:** ROVR Score runs the feedback it gets through an algorithm, generates a report, and provides access to the customer. The building owner can then use the information while improving the score.

Casey says getting access to this data is not simple. "There is not a single owner or operator who readily has access to this data," he says. "Property owners and operators are good at what they do – owning and operating the property. They have made zero effort to learn [about broadband], so they rely heavily on consultants and ISPs."

He adds that having insight into internet performance enables property owners to get ahead of potential issues. "This gives them a tool that allows them to make more informed decisions about broadband performance because if they don't do a good job, it can impact their leasing," Casey says. "We know that lack of internet for any period can impact people's mental health, and poor cellular connectivity can be a safety issue."

Likewise, WiredScore, which initially focused on enterprises, now also focuses on residential MDUs. Over time, the company will look at other residential development classes. The

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RENTERS LIKE BULK BROADBAND/RENT BUNDLES

As more consumers cite broadband as a critical factor when deciding to purchase or rent a unit in an existing or new multiple-dwelling-unit (MDU) building, they are keen on bundling bulk broadband internet with their rental costs.

A recent Parks Associates white paper, "Future-Ready Broadband: Ubiquitous Connectivity for MDUs," written for Cox Communities, revealed that 40 percent of MDU renters in U.S. broadband households are interested in bulk broadband internet bundled with their rent, and 77 percent of those are willing to pay higher rent in exchange for these services.

In addition, Parks found the ownership of smart-home devices among MDU residents is growing. The research firm cited 41 percent of all MDU broadband households owning at least one smart-home device, compared with 34 percent of single-family households. However, smart-home-device adoption among MDU residents correlates with age. Consumers 25 to 34 years old are most likely to adopt smart-home devices, and also are the most likely to live in an MDU.

Connected devices and smart platforms integrate connected solutions to streamline property management tasks, lower operating costs, attract and retain residents, and increase rental revenues. Sixty-five percent of MDU builders report their business model leverages smart-home technology to distinguish properties and add value.

Top Smart Technology Value Propositions for MDU Properties
U.S. Multifamily Home Builders

% Rating Highly Important (Rating 6-7 on a 7-pt. Scale)

© Parks Associates

WiredScore Home platform works with landlords and property developers to understand, benchmark, improve and promote broadband connectivity.

Since WiredScore launched the platform in the U.S., 20 MDU providers have signed up for WiredScore Home. Today, 30,000 homes have committed to get WireScore certification. WiredScore identifies improvements to help a property owner future-proof its building and reduce the need for costly retrofits during the certification process. WiredScore's reporting tools keep a property owner

abreast of new technology and trends when a building is certified. It also enables residents to potentially have a better broadband experience.

"The problem area of poor connectivity in MDUs is costing people extra money," says Rollo Gwyn-Jones, global director of marketing for WiredScore. "People are spending extra money every month boosting Wi-Fi connectivity to work and learn from home. It's a problem that is causing stress."

Cassidy, whose company is working with ROVR, agrees. She adds that

COVID-19 highlighted the need for broadband because college students had to attend classes online. "It became even more apparent that property owners need to have a better understanding not just of available bandwidth, but the infrastructure of their communities," she said. "All [Cardinal Group] residents had to be on the network at the same time suddenly."

Cassidy says the advent of broadband-rating technology for MDUs, which will provide significant insights about all properties the Cardinal Group oversees, is long overdue. "For years, we relied on ISPs to map out the right design and the right ratio for the different types of construction [Cardinal Group] has," she says. "I am excited that there's a third party, such as ROVR, to independently rate the infrastructure and speeds and work with the property owners and the ISPs to determine if those ratings are subpar."

SpotOn Networks, which has had discussions with WiredScore, reports that rating systems could be helpful. "As far as broadband scoring goes, we welcome it," says Jessica DaSilva, chief marketing officer for Spot On. "We have spent years developing the idea of what carrier-grade Wi-Fi service looks like in a building, and the scoring would be helpful."

However, other providers, such as WhiteSky Communications, don't think rating broadband is necessary. "I don't put too much faith in the broadband rating concept," says Aaron Lee, senior director of managed services for WhiteSky. "When we deploy a property, we provide enough adequate bandwidth at an oversubscription rate that the property won't max out the internet service at a site."

GETTING THE DESIGN RIGHT
Given that network usage is ever-evolving, a network design in an MDU needs to be flexible and able to adjust to residents' needs. As a result, an MDU owner may need to increase capacity on its existing network or make other changes. To do this, the service provider and building owner must develop a plan together.

WI-FI 6 ADOPTION HERALDS NEW ERA

Wi-Fi 6 will offer consumers and businesses many benefits: higher data rates, increased capacity, support for multiple connected devices and improved power efficiency. Wi-Fi 6 adoption in single-family homes and multiple-dwelling-unit (MDU) buildings continues to rise. IDC revealed in a new report that Wi-Fi 6 is set to make up 79 percent of all Wi-Fi product shipments within the next two years.

This year alone, the research firm expects 2 billion Wi-Fi 6 device shipments, or more than 50 percent of all Wi-Fi shipments. What's more, more than 338 million Wi-Fi 6E devices will enter the market in 2021 and more than 3.5 billion Wi-Fi 6 product shipments are expected in 2022, growing to 79 percent of product shipments. Already, a growing list of devices, including smartphones, tablets, PCs, networking products and some-home entertainment devices feature Wi-Fi 6.

Another critical element driving Wi-Fi 6 is the availability of unlicensed frequencies, including the 6 GHz spectrum band. In April 2020, the FCC adopted rules that make 1,200 megahertz of spectrum in the 6 GHz band (5.925–7.125 GHz) available for unlicensed use. The FCC and other country regulators' certification of the 6 GHz band will enable more consumers and businesses to reap the benefits of Wi-Fi 6E.
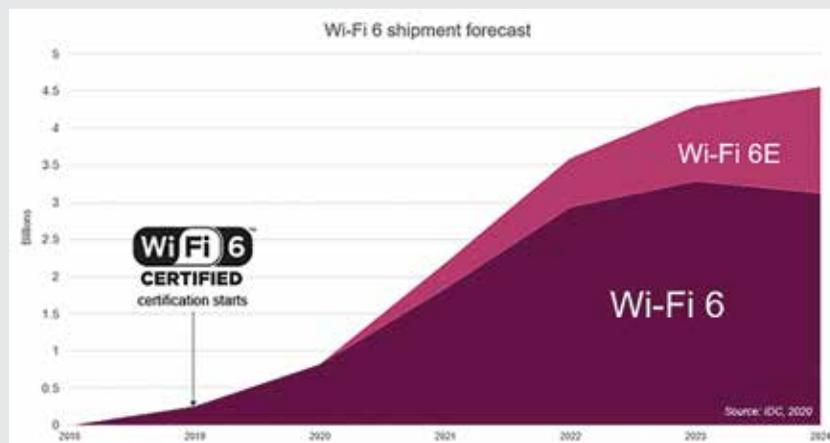
Though Cardinal Group has worked with ISPs to obtain bandwidth usage trends, the more challenging issue is understanding cellular performance in a building and understanding when a device upgrade is needed.

"ROVR Score has met with the ISPs and from what I heard, they are excited to have a third party telling ownership to upgrade the network," Cassidy says.

Lindsey says each building Snip Internet serves is "unique," which is reflected in the wiring efforts. "We want to make sure the buildings have the best service available," he says. "Some buildings are fiber-fed, and some are fed with Cat 6 throughout the property, depending on the opportunity."

Spot On previously talked to WiredScore about developing MDU criteria, similar to LEED (Leadership in Energy and Environmental Design) Certification. LEED enables building professionals to identify and implement

> MDU broadband rating programs, such as the WiredScore Home platform, work with landlords and property developers to understand, benchmark, improve and promote broadband connectivity.

green building best practices during the design, construction and operations phases of a building project. But 5G LMDS millimeter-wave frequencies 28 and 60 GHz have trouble penetrating buildings.

"We at Spot On have decided on what criteria are necessary for great service," says Dick Sherwin, CEO of Spot On Networks. "LEED-certified buildings probably have inferior cell services because they have low visibility windows or concrete structures, or they're high-rises with floors way above the antenna heights of the carriers."

Spot On patented a tessellated grid, a wireless network architecture methodology that uses a checkerboard distribution pattern for access point placement. Tessellated grid Wi-Fi architecture ensures users receive the uninterrupted signal and maximum connectivity wherever they roam in a building.

> Often, poor broadband performance is the result of an issue at the customer site. WiredScore found that 90 percent of users' problems with their broadband connectivity are based on what happens inside a building.

Sherwin says Spot On puts tessellated grids in buildings with poor cell service. "Spot On provides Wi-Fi calling throughout a building as well as high-speed data service," he says. "We predicate the way we deliver service on a couple of things, but we provide 95 percent of the area covered with 0.75 dB."

WhiteSky, which offers a mix of internet, voice, video and cable television services for MDU housing developments, says a bulk network agreement requires a different design.

"The way we provide services is not traditional residential broadband, yet many providers treat it that way," says Lee. "When you treat it that way, or you treat it like enterprise wireless, you get a design that's not acceptable for residential use, and when you treat it like residential, you get a design that's not susceptible for RF."

He adds that if the design isn't right, it could have repercussions for residents and the property owner. "You get a design that has an SSID for every single unit," he says. "If you look at the spectrum, RF and beacons flying around with that many SSIDs, it makes someone who works in the RF field say it's probably not a good idea."

WhiteSky has adopted Ruckus/CommScope's Dynamic Pre-Shared Key (PSK). This patented technology provides robust, secure wireless access and eliminates the need for manual configuration of end devices and management of encryption keys.

The technology creates what WhiteSky says is a unique 63-byte encryption key for users when they access the wireless LAN for the first time, then automatically configures end devices with the requisite wireless settings (i.e., SSID and unique passphrase) without any manual intervention.

"The premise of this technology is that it is a single SSID that can provide multiple pre-shaped keys," Lee says. "Each unit has its key, so an SSID matches individuals to their units and to a specific network that prevents people from interfering with one another."

NOT JUST SPEED

Understanding an MDU's broadband situation is not just about speed alone. A service provider also must take into account other issues, such as latency, pricing and quality.

For WhiteSky, an MDU-centric provider whose model is not based on speed tiers, the approach should eliminate end-user complexity.

Lee says a provider's broadband approach needs to be tailored for residential needs. "When people go home, they don't want a complex method or to be told the network supports only certain kinds of devices," he says. "It should be as basic as them getting a handoff from a broadband carrier."

WiredScore agrees that understanding an MDU's broadband performance is not just about raw speed. The company's home speed rating measures average rate by assessing the unique characteristics of a building's design. WiredScore then audits a facility and provides an audit report that includes an initial score out of 100, then works with the landlord to improve the structure.

"Usually, about 60 percent of landlords want to bump up the score and make changes," says WiredScore's Gwyn-Jones. "Once a landlord is happy with the score, WiredScore assigns a rating – platinum, gold or silver certified – which the landlord can use to promote digital connectivity to residents."

WiredScore also looks at occupied buildings, new developments or redeveloped properties. "This ultimately benefits end users and provides more transparency when a resident is about to pick a home," Gwyn-Jones says. "When WiredScore launched in the U.K., people did not think at all about whether an MDU had quality broadband, yet it was the area of most stress."

Often, poor broadband performance is the result of an issue at the customer site. WiredScore has found that 90 percent of users' problems with their broadband connectivity are based on what happens inside a building.

To ensure reliability, WiredScore works to ensure that a building has diverse connectivity sources. "We always make sure there's more than one provider to a building," Gwyn-Jones says. "If there's an accident outside the building, it does not go down, and it clicks onto the reserve."

Providers including Spot On focus on providing a good broadband experience and voice service capabilities. Spot On has a service level agreement (SLA) with its customers that reflects several parameters: availability, response time to trouble calls and coverage area.

"Our customer agreements call for us to have an SLA," Sherwin says. "This is important because we [commit to these parameters] in writing."

As broadband has become the most sought-after amenity for MDU residents, property owners must have clear insight into how it performs so they can proactively head off any issues. ❖

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