Bulk Internet Services Take Hold in Multifamily Broadband

Recognizing that broadband is now a must-have for apartment and condo residents, service providers are striking broadband bulk agreement deals with multifamily owners and managers.

By Sean Buckley / *Broadband Communities*

As high-quality internet connectivity becomes more important to consumers, multifamily property owners want to make it an amenity available to residents as part of their rental agreements. They're working hard to enter into bulk service agreements with service providers.

Bulk internet services are all the rage in the multifamily broadband market. Commonplace for cable television, these deals are between a homeowners association or condominium association and a company to deliver internet services to everyone who is a community member.

Bulk internet services provide several benefits for multifamily owners/operators and residents:

- **Lower Costs:** Bulk broadband services are provided to residents at a lower price than they would be if customers purchased them from a provider on a retail basis. Though savings vary, bulk internet costs up to 50 percent less than a homeowner would pay for the same services individually.
- **Association Budgets Revenue:** A provider usually recompenses an owner a one-time payment based on an agreed amount per unit. The property owner can use those funds to upgrade the property.
- **Service Quality:** With a bulk service model, every resident gets guaranteed service performance.

- **Dedicated Customer Service:** A bulk broadband provider can provide a "white glove" customer service experience.
- **Consistent Pricing, Service:** Every resident served by a bulk internet agreement gets the same service and price. Moreover, the monthly rate is locked in for several years.

Though washers and dryers, gyms, and water and sewer are still vital, broadband is becoming the critical amenity residents desire when they look at a property. According to the research firm Parks Associates, apartment builders' interest in managed high-speed internet grew from 5 percent for new luxury developments in 2018 to 80 percent in early 2021.

Service providers are taking charge of this opportunity.

"Property owners tell us that high-speed internet is a top apartment amenity," says Caleb Deerinwater, vice president of fiber sales and distribution at AT&T. "Owners can differentiate themselves by marketing broadband as 'part of' or 'included in' their rental fee."

Caleb Deerinwater

Dan O'Connell, vice president of consumer sales at Quantum Fiber, agrees that as new

applications such as streaming video and telehealth demand bandwidth, bulk services are an important way to deliver broadband in MDUs. "Providing broadband at a discounted rate will save residents more money than they could get on their own," O'Connell says. "Taking out complexity and offering choice are good reasons to move to bulk."

Dan O'Connell

CRAFTING MDU SOLUTIONS

When crafting a bulk agreement, the key is understanding the owner's broadband strategy, which can encompass everything from billing to the contract type to customer support.

Through its Connected Communities unit, AT&T provides either fiber or a managed Wi-Fi service. "Our bulk contracts allow owners to provide services to all residents at a property with the owner taking on the responsibility of the billing," Deerinwater says. "AT&T gives owners options that align with their long-term strategies. Length of contract, pricing, and owner responsibilities are all things we can work on to create a custom offer that best fits a property's needs."

Similarly, Ting Internet's local enterprise teams create curated solutions, whether servicing an entire property or providing services directly to residents. The service provider also talks to residents about their needs.

"We help our partners understand which solutions best meet their needs," says Neith Myrick, senior vice president of sales and business operations at Ting. "This means talking to residents individually, demonstrating the Ting Fiber experience, sharing the available

Neith Myrick

streaming services, and ensuring the property sees value from bulk service now and in the future."

Though bulk has gained momentum, it's not a fit for every property. O'Connell says Quantum Fiber approaches property owners on what is meaningful to them but admits it's a "mixed bag." "Some property owners who are comfortable with the status quo will continue with what they have while others are looking at how to attract and retain residents with seamless and uninterrupted connectivity," he says.

Other providers, such as Starry and United Fiber, are also heeding the bulk services call. Starry continues to find utility for bulk broadband. It increased penetration by 42 basis points year-over-year to 1.43 percent, focusing sales and marketing efforts on MDUs that previously installed equipment.

Still, Starry says it considers that luxury MDUs differ from affordable housing communities. "We view ourselves as partners," says Virginia Lam Abrams, executive vice president of communications, government affairs and strategic advancement for Starry. "If [customers] feel that bulk serves their communities, we'll provide them with a bulk service."

MDU bulk services are a target for electric cooperatives. United Fiber, a Middle Tennessee Electric Membership Corporation subsidiary, is currently in a contract with five MDU developers, including TD Kay and Regent Homes, and with privately owned properties in North Huntsville, Tennessee.

Virginia Lam Abrams

"MDUs are a high priority because there's so much revenue opportunity under one roof because you may have 300 to 500 units," says Kimberly Goodwin, market development manager for United Communications.

Kimberly Goodwin

ALL-FIBER APPROACH

Fiber is the medium of choice when wiring an MDU because it offers symmetrical bandwidth. RVA, a fiber-to-the-home (FTTH) research company, found the presence of fiber increased the value of owned condos by 3.3 percent and of rental units in MDUs by 8.1 percent. Service providers bring fiber directly into each unit using GPON and XGS-PON technology, which enables 10 Gbps symmetrical speeds.

As one of the most aggressive FTTH providers, AT&T is building a fiber network incorporating XGS-PON technology to deliver symmetrical internet connectivity to its residential customers. As of the end of the second quarter, AT&T Fiber serves 18 million locations in more than 100 metro areas.

Today, AT&T's multi-gig offerings consist of 2 and 5 Gbps. AT&T has also demonstrated 20-gigabit speed capabilities in its labs. "Fiber technology allows us to future-proof our network," Deerinwater says. "The symmetric speed capabilities of fiber are a unique advantage."

Competitive providers, such as Greenlight Networks, which extended its network throughout New York State to reach more than 100,000 households with its broadband internet, see value in bulk to help MDU owners get a

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better rent payback with fiber-based connectivity. Greenlight's fiber network is now available across 21 municipalities and expects to service nearly 30,000 households by year-end.

When it crafts an MDU bulk agreement, Greenlight looks at three prongs: guaranteed contract revenues, reduced prices and increased tenant satisfaction.

"Bulk is great, especially when it includes fiber," says Andre Green, director of sales and strategic growth at Greenlight Networks. "We show MDU owners that by bringing fiber into the building, they can get higher rent because high-speed internet is a must-have."

Andre Green

And because fiber is future-proof, it enhances a property's retention rates. "We can show [property owners and managers] there will be a reduction in turnover because people are more satisfied with a fiber solution," he says. "It also increases their property values."

BROWNFIELD FIBER EXTENSION

Fiber is not feasible for every MDU property. For situations in which a case for fiber can't be made, service providers can take advantage of other fiber-extension technologies, such as G.fast, G.hn, and MoCA.

- **G.fast:** G.fast technology delivers 100 Mbps to 1 Gbps speeds over distances shorter than 500 meters leveraging existing copper wire.
- **G.hn:** G.hn is a home-networking specification with data rates up to 2 Gbps and operation over four legacy wires: copper, coax, power lines and plastic optical fiber.
- **MoCA:** Led by the Multimedia over Coax Alliance, MoCA is a group of specifications for networking over coaxial cable. MoCA 2.0 offers actual throughputs up to 1 Gbps. The emerging MoCA 3.0 will enable 10 Gbps.

"Sometimes it's impractical to take fiber to every unit," Deerinwater says. "In those situations, G.fast allows us to bring fiber to an MDU complex and distribute that using existing copper or coax to the living units. The technology can deliver up to 1 Gbps symmetric speeds."

Quantum Fiber will also leverage G.fast and other technologies. O'Connell says building wiring is not a one-size-fits-all proposition.

"Our preference is to bring fiber into the living unit, and in a greenfield development, that's a no-brainer," he says. "In the brownfield space, we can bring fiber into the unit if there's a pathway. If that does not work, we use a GPON overbuild, G.hn or G.fast to deliver services over existing copper or coax."

MANAGED WI-FI FACTOR

An emerging weapon in the MDU bulk broadband arsenal is managed Wi-Fi. Wi-Fi overall has become a dominant force in broadband-enabled homes. Parks Associates estimates in a white paper that more than 90 percent of U.S. broadband households use Wi-Fi. In addition, 77 percent of U.S. broadband households have a home network router/Wi-Fi extender.

With a managed Wi-Fi solution, properties outsource the management and monitoring of Wi-Fi to a third-party provider. Residents can immediately access multiple access points, ensuring propertywide access.

Service providers have an opportunity with managed Wi-Fi to enhance Wi-Fi coverage. Parks Associates says that managed Wi-Fi offers the chance to build a closer, more intimate relationship with subscribers. In addition to better customer satisfaction and customer relations, service providers gain several benefits: asset efficiency, fewer truck rolls, and the ability to deploy more services.

AT&T offers bulk managed Wi-Fi to eligible MDU apartment communities for resident connectivity and building management IoT applications via its AT&T Community Wi-Fi.

"We're seeing significant interest from property owners in offering an internet solution that allows residents to stay connected through Wi-Fi from virtually anywhere within the property," Deerinwater says. "AT&T Community Wi-Fi also supports propertywide managed connectivity to IoT devices, such as smart locks and security cameras."

WI-FI POSITIONS NEW IOT GROWTH

Wi-Fi will play a supporting role as IoT device adoption surges in MDU broadband homes. The research firm IoT Analytics revealed that the total number of IoT devices in operation across all Wi-Fi standards will reach more than 17 billion by the end of 2022 and about 27 billion by 2025.

IoT Analytics says the number of Wi-Fi IoT devices will grow at a compound annual growth rate of 24 percent by 2025. An evolving portfolio of technologies –Wi-Fi 6, Wi-Fi 6E and the upcoming Wi-Fi 7 – enables a single Wi-Fi infrastructure to support hundreds or thousands of IoT devices with necessary data rates and latencies.

The Wi-Fi Alliance said the versatility of Wi-Fi 6 and Wi-Fi 6E deliver various benefits: network efficiency, diagnostics, management and optimization. Wi-Fi 6 can simultaneously support connected devices and heavy data throughput while delivering high performance and low latencies for applications, including 4K video streaming and AR/VR. Wi-Fi 6 and Wi-Fi 6E also allow devices, such as manufacturing robots and drones, to remain connected even as they move or "roam" throughout homes or industrial networks.

Initially a hit in student housing, managed Wi-Fi is gaining momentum in traditional MDU properties, according to Pavlov Media.

Bryan Rader, president of MDU for Pavlov, says managed Wi-Fi is an "ideal product" for amenity-rich properties. "Five years ago, there wasn't much interest in managed Wi-Fi for MDUs,"

Bryan Rader

he says. "Like many things big in multifamily, managed Wi-Fi is catching like wildfire."

Emerging providers such as DISH Fiber use managed Wi-Fi as a key offering for MDU properties. Residents can immediately access personal Wi-Fi networks propertywide with no data caps.

Geoffery Boldon, senior business development manager for DISH Fiber, says its managed Wi-Fi offering is "built from the ground up to be a bulk solution." He adds, "With bulk solutions, DISH and the property owner both recognize some economic and financial benefits, but now that the internet is seen as a utility, there's no risk for the property owner. The initial pushback on bulk was that a property owner did not want to be on the hook to pay for something that residents may or may not want, but everyone wants high-speed internet."

Similarly, the Quantum Fiber instant Wi-Fi service enables instant-on access in living units and across MDU properties. "The activation is like our wired solution, and there's no truck roll, so it's a great solution that's working well for us."

Quantum Fiber hopes to use managed Wi-Fi to tie into a building's IoT capabilities but could not specify when it would offer such services.

"We're looking at how to monitor network health and devices on the network to understand utilization, which might include sensors to detect water leaks," O'Connell says. "Though

I can't speak to our product roadmap, managed Wi-Fi is something our industry is moving toward."

Perry Crider, general manager of DISH Fiber, agrees and adds that in the future, bulk managed Wi-Fi can reduce capex in brownfield deployments and be vital in enabling IoT applications in greenfield

Perry Crider

builds. "We see bulk being adopted for a few reasons in greenfield builds," he says. "Some new builds are looking to get into smart-home and smart-building capabilities, such as smart thermostats and water sensors, so they want a system that can provide a backbone."
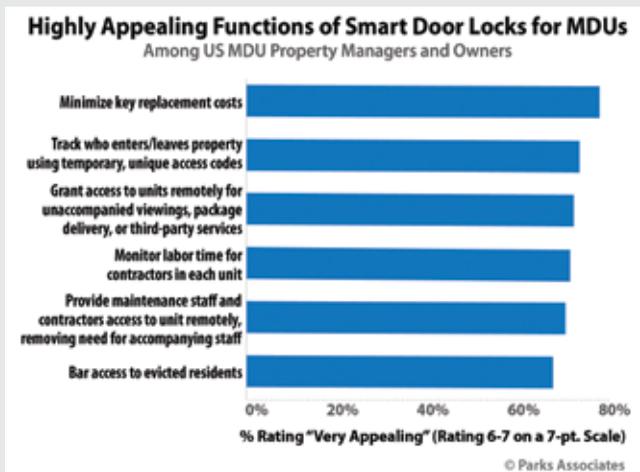
The next step of managed Wi-Fi is to ensure network performance. Besides conducting a comprehensive site survey and Wi-Fi analysis, service providers use Wi-Fi heat maps, which show the real-time coverage and quality of a wireless infrastructure overlaid on a map, typically a floor plan.

SMART DOOR LOCKS GAIN PRESENCE IN U.S. INTERNET HOUSEHOLDS

As more multifamily developers incorporate broadband as a critical amenity in their apartments and condominium developments, they are replacing mechanical locks with smart door locks. A recent white paper developed by Parks Associates and PassiveBolt, "Smart Locks and Access Control Supply Chain: Scaling Innovation," estimates that more than 12 million U.S. internet households own a smart door lock.

"As connectivity becomes a de facto requirement to stay competitive, value creation moves to new sets of features and applications," said Jennifer Kent, vice president of research at Parks Associates.

Parks found that intelligent door locks and associated whole-building access control systems have fueled the recent acceleration in smart-apartment adoption –15 percent of multiple-dwelling-unit (MDU) owners and operators report having a secure access system in common areas that include IoT devices they can access and control remotely. Some MDUs have connected access solutions for individual units. One-third of MDU property managers report that their residents demand the ability to enable remote access to apartment units.

Highly Appealing Functions of Smart Door Locks for MDUs
Among US MDU Property Managers and Owners

Function	
Minimize key replacement costs	
Track who enters/leaves property using temporary, unique access codes	
Grant access to units remotely for unaccompanied viewings, package delivery, or third-party services	
Monitor labor time for contractors in each unit	
Provide maintenance staff and contractors access to unit remotely, removing need for accompanying staff	
Bar access to evicted residents	

0%   20%   40%   60%   80%

% Rating "Very Appealing" (Rating 6-7 on a 7-pt. Scale)

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POSITRON
Access Solutions

GAM

Save and get the fastest time to Gigabit Services with Positron's GAM

Extend Symmetrical Gigabit Services without rewiring over Telco Pairs or Coax in MDUs / MTUs / Hospitality

Positron's G.hn Access Multiplexer (GAM) operates like an Ethernet Switch that takes full advantage of a 10 Gbps XGS-PON feed to deliver Symmetrical Gigabit services to each subscriber over the existing in-building wiring without amplifiers.

The GAM is carrier friendly and offers native XGS-PON (OMCI) integration to extend fiber or FWA services and subscriber definitions using G.hn over the telco pairs or coax infrastructure allowing the OSS and BSS to be used seamlessly "as is". It is a virtual extension of fiber (looks like PON).

The GAM installs in hours, has the lowest CAPEX and provides the highest ROI.

Each port on the telco pair GAM can support 1 pair (SISO) or 2 pairs (MIMO) per subscriber. Each port on the coax GAM can support up to 16 subscribers and is compatible with CATV.

The GAM has extensive management and troubleshooting carrier features including quality of service (QoS), bandwidth management, business class SLAs and VLAN support.
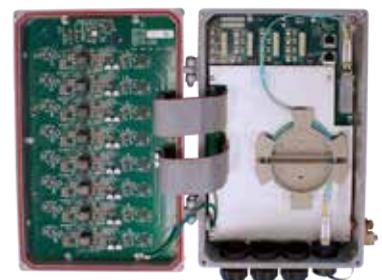
Options:
- Indoor or IP68 (extended temperature) outdoor units
- Local power or Reverse Power Feed (RPF)
- Available with POE+ support to power Wi-Fi Access Points and other devices
- Available in 4, 8, 12 and 24 port versions

24 port MIMO GAM

24 port Coax GAM

**IP68 Outdoor GAM
8 port MIMO**

GAM was chosen as
"One of the Top Products"

positronaccess.com/fiberextender

Pavlov Media found that heat mapping helps it provide predictable service. However, heat mapping must consider a development's size and the type of construction materials. "In a greenfield, you have to do a predictive heat map and then go back and heat map again when the building is constructed, then again as residents move into the property," Rader says. If it's brownfield, a provider can do a predictive heat map, but it depends on whether the property owner is sensitive to bothering residents with prospective vendors."

OVERCOMING CHALLENGES

Wiring issues are challenging in delivering MDU bulk services, but property agreements, supply chain issues, and customer onboarding are also vital considerations.

Many service providers face supply chain issues and struggle to access fiber and connectors. However, this has not been a critical problem for large providers, including AT&T. "Supply chain issues have caused disruptions that required adjustments, but given our scale and relationships with suppliers, we have been able to mitigate most of the equipment inventory challenges without significant impact to our customers," Deerinwater says.

"Though the market shows strong demand from residents for building services and amenities, MDUs still need to balance the reality of increased inflation, supply chain disruptions, and day-to-day operations," Myrick says. "Sometimes bulk internet service simply doesn't top the priority list."

Rader says the most significant issue for MDU providers is ensuring that customers can be migrated to a new service without pain. For instance, in student housing, "a lot of the challenge in bulk is converting users from one provider to another," he says. "Companies that service student housing often are better equipped to deal with onboarding because most of it happens in three-day periods for a property."

In traditional MDUs, onboarding is a much longer process. This comes down to being proactive about any issues by monitoring a network's performance and communicating during regular times versus waiting for red alerts. Rader says these "skills separate the quality providers from the pack, and that first impression matters a lot." ❖

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