

Market Report

Multi-Dwelling Rental Units in the United States

Managed Wi-Fi: From Amenity to Necessity



July 2023

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Special Thanks

A special thanks to the more than 150+ individuals who took the time to respond to our online survey. Also, a special thanks to Shayne Rose (@Cloud5), Todd Thorpe (@Dojo Networks), Jared Sanders (@CBX Connect), Joshua Lunsford (@Cox), Michael Doucette (@Blueport), Brian Rutenbur (@SmartRent), Paula Munger (@NAA) and others who wish to remain anonymous, for sharing their insights and time so generously with me.

About the Author

Mr. Adlane Fellah is a veteran industry analyst and investor with 25 years of experience in the telecom sector. He has authored landmark reports on Wi-Fi, 5G, and technology trends in various industries, including residential, enterprise, and Industry 4.0.

He is a certified wireless network administrator (CWNA) and certified wireless technology specialist (CWTS). He also regularly serves as a judge for the Glomo Awards (GSMA), Fierce, Gtel, and WBA Awards. More at www.maravedis-bwa.com

About Maravedis

Maravedis is a boutique wireless infrastructure analyst firm founded in 2002 that focuses on broadband wireless technologies with a particular focus on managed Wi-Fi and private cellular networks. Maravedis also analyzes industry spectrum regulations and operator trends. Its mission is to research, analyze, and provide guidance on the role of wireless technologies in digital transformation. Maravedis is a National Apartment Association, Southeast Florida Chapter member.

About MDU Experts

MDU Experts is a venture by Maravedis specializing in research, consulting, and tools for the multi-apartment technology markets.

Why buy this report?

In the age of Google search and ChatGPT, would you invest money in purchasing a market report?

Adlane Fellah, a veteran wireless industry analyst with 25 years' experience, performed the research and wrote the report. It results from an intensive 3-month research process involving one-on-one interviews with industry experts, a review of the available MDU technology literature, and an investment of thousands of dollars to promote an online survey that generated over 150 responses. The report also includes unique market projections based on hard data from multiple sources and assumptions built over many interviews with leading players in the market.

Who should buy the report?

Property owners: Gather industry information quickly, validate internal research, get a holistic market view, and use objective data to make informed decisions.

Service providers: Gain perspective from their peers, validate internal knowledge, size the market, use objective third-party sources for decision-making, and use collateral for thought leadership.

Solution providers: Gather industry information quickly, assess the market opportunity, and use collateral for thought leadership and lead generation.

Other stakeholders: Gather industry information quickly, validate internal research, get a holistic market view, and use objective data to make informed decisions.

Executive Summary

Multifamily rental demand is undergoing a multigenerational transformation. As the population grows and younger generations enter the renter market, reliable Wi-Fi is at the center of expectations and needs. This transformation is happening in the context of the rapid adoption of smart home devices and permanent hybrid work models.

According to the U.S. Census Bureau, over 23 million U.S. households live in multi-apartment or multi-dwelling units (MDUs). With the overall construction of new rental units booming and new generations always expecting quality Wi-Fi, Wi-Fi as a service (WaaS) or managed Wi-Fi represents a significant growth opportunity for service providers and property owners. **We define managed WaaS, which includes designing, installing, and managing a wireless network infrastructure independently of who owns or manages said wireless infrastructure.**

Market Drivers

The idea of providing managed Wi-Fi to residents is not new, but as we see in this report, the market is now ready for tremendous growth. Various drivers contribute to that growth, such as changing resident living habits, a construction boom, and property owners' increased involvement.

Today, less than 1 percent of all brownfield rental properties and less than 10 percent of rental units built in the last five years provide fully managed Wi-Fi to residents. Brownfield properties represent the most significant potential market for managed Wi-Fi. However, deploying fully managed Wi-Fi in these properties is the most challenging because it is costly and complicated to retrofit the existing wiring and telco infrastructure. On the other hand, the market opportunity for providing WaaS to new constructions is impressive, given that more than 2 million new rental units are expected to be built in the next five years alone.

In February 2022, the FCC issued a new rule that stated "Service providers are prohibited from entering into contracts with landlords that grant the service provider the exclusive right to access and serve a building." Everyone we spoke with indicated that the FCC ruling only added confusion in the market and did not have much impact on managed Wi-Fi deployments or bulk internet offerings.

Benefits Across Stakeholders

To residents, managed Wi-Fi means a better overall connectivity experience with predictable and superior performance, coverage, and security. It also means that mobile coverage issues are resolved thanks to Wi-Fi calling. Residents can also enjoy the much-desired benefits of a connected smart home without the complexity of managing IoT devices or being locked into a separate internet contract.

For multiple systems operators (MSOs) and independent managed service providers (MSPs) competing on price for broadband, WaaS is a golden opportunity to escape the race to the bottom with long-term contracts and the opportunity to upsell smart home services. By delivering low latency, high throughput, and improved support for high-density intelligent homes, the next generation of Wi-Fi should be a cornerstone of internet service provider (ISP) and MSP success.

For property owners, managed Wi-Fi translates into more revenue and better operational efficiencies resulting in better net operating income (NOI). They can increase their property value and retention rate and deploy facility IoT to automate select processes, reduce waste, and empower their staff with the tools they need to be effective.

REITs' Increasing Role

While independent MSPs and MSOs have traditionally dominated the industry, the market is shifting toward greater participation from real estate investment trusts (REITs) with massive investments in the space. A REIT is a company that owns and typically operates income-producing real estate or related assets. While MSOs continue to dominate the offering of bulk cable video and internet services in their respective footprints, REITs are becoming a significant force in managed W-Fi for rental communities, as evidenced by the investments REITs make in MSPs (Cloud 5, CBX Connect) and Optech companies like SmartRent. While REITs may not be the most innovative players, they have deep enough pockets and presence to drive the business forward with their massive rental footprints.

The growing presence of these institutional investors in these multi-dwelling units strongly drives WaaS adoption, especially for new and more significant constructions. Larger corporate property owners are more likely to have professionally connected properties with digitalized management processes, which can increase efficiency and reduce costs. Indeed, managed Wi-Fi is increasingly included in these property owners' technology requests for proposals (RFPs). Why? Managed Wi-Fi increases property values thanks to more loyal and satisfied residents. Contrary to popular belief, managed Wi-Fi also makes

sense for affordable housing (not just conventional housing), which is a market segment that we will cover in a future report.

Market Forecasts

This report includes market projections for the total addressable market and our estimated actual market sizes for managed services excluding bulk internet, bulk internet for MSPs, and bulk internet for property owners for 2023 to 2028. The report provides breakdowns and projections for select segments, including property size (more than 100 units), property age (less than 5 years). In this first report, we focused on expected service revenues for MSPs and service providers, not equipment and capex (access points, switches, intermediate distribution frame, etc.), which we will cover in future reports.

TAM	Number of apartment rentals					
	2023	2024	2025	2026	2027	2028
	-	1				
New (5+) rental units per year						
US (5+) units total rental inventory						
Brownfield units (5< years old)						
Brownfield units (5> years old)						
Rental Units in Properties with more than 100 units (%)						
Rental Units in Properties with less than 100 units (%)						
Rental units in Properties with More than 100 units						
Rental units in Properties with less than 100 units						
All properties	2023	2024	2025	2026	2027	2028
Number of units with Managed WiFi TAM	-	-	-	-	-	-
Monthly maintenance and support service revenues (MSPs) per unit per month						
Maintenance and support service revenues (MSPs) per unit per year						
Maintenance and support service TAM (MSPs) all units per year						
Properties with over 100 units maintenance and support	2023	2024	2025	2026	2027	2028
Number of units with Managed WiFi TAM	-	-	-	-	-	-
Monthly maintenance and support service revenues (MSPs) per unit per month						
Maintenance and support service revenues (MSPs) per unit per year						
Maintenance and support TAM (MSPs) for properties with more than 100 units per year						
All properties for MSPs bulk internet	2023	2024	2025	2026	2027	2028
Monthly Bulk Internet TAM per unit for MSP						
Yearly Bulk Internet TAM for all units for MSPs						
Yearly Bulk TAM for MSPs						
TAM for MSPs across properties	2023	2024	2025	2026	2027	2028
Managed WiFi maintenance and support TAM for MSPs						
Bulk Internet TAM for MSPs						
TAM for MSPs (maintenance, support and bulk internet)						
All properties for property owners bulk internet	2023	2024	2025	2026	2027	2028
Monthly Bulk Internet revenues service per unit for property owners						
Average yearly bulk internet revenue per unit for property owners						
Total Bulk Internet revenues TAM for property owners						



Market Size projections	2023	2024	2025	2026	2027	2028
New (5+) rental units per year						
US (5+) units total rental inventory						
Brownfield units (< 5 years old) in percent of total stock						
Brownfield units (> 5 years old)						
Brownfield units (< 5 years old)						
Brownfield units (> 5 years old)						
Rental units in Properties with More than 100 units that are less than 5 years old						
Rental units in Properties with less than 100 units that are less than 5 years old						
Rental units in Properties with more than 100 units that are more than 5 years old						
Rental units in Properties with less than 100 units that are more than 5 years old						
Managed WiFi revenues						
Penetration of managed wifi in percentages	2023	2024	2025	2026	2027	2028
Rental units in Properties with More than 100 units that are less than 5 years old						
Rental units in Properties with less than 100 units that are less than 5 years old						
Rental units in Properties with more than 100 units that are more than 5 years old						
Rental units in Properties with less than 100 units that are more than 5 years old						
Penetration of managed wifi in units						
Rental units in Properties with More than 100 units that are less than 5 years old						
Rental units in Properties with less than 100 units that are less than 5 years old						
Rental units in Properties with more than 100 units that are more than 5 years old						
Rental units in Properties with less than 100 units that are more than 5 years old						
Total units						
Penetration of managed wifi in \$	2023	2024	2025	2026	2027	2028
Rental units in Properties with More than 100 units that are less than 5 years old	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Rental units in Properties with less than 100 units that are less than 5 years old	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total support and maintenance revenues for units less than 5 years old	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Rental units in Properties with more than 100 units that are more than 5 years old	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Rental units in Properties with less than 100 units that are more than 5 years old	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total support and maintenance revenues for units over 5 years old	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total support and maintenance revenues	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Bulk Internet revenues	2023	2024	2025	2026	2027	2028
Penetration of bulk WiFi						
Number of units with bulk WiFi						
Bulk Internet for MSPs	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Bulk internet for property owners	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total bulk internet revenues	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Closing Remarks

While multi-rental units include student housing, senior living, and affordable housing, we focused only on multifamily rental apartments in this first in this report. Future reports will also examine the WaaS opportunity among these segments, nonrental multi-dwelling units, and ancillary services for service and equipment revenues from MDU and building smart devices.

The report includes the results of a unique (and painfully hard to produce) online survey of property owners and service providers who shared their views and expectations, interviews with leading WiFi service providers active in the market, and market sizing projections for WaaS nationwide for 2023 to 2028.

Survey Demographics

- x% of property owners surveyed manage over 10,000 units.
- x% of respondents indicated they offer managed Wi-Fi to their residents.

Drivers for MDU-Managed Wi-Fi

- The top three drivers include: improving the resident experience by improving Wi-Fi coverage throughout the property, easing the onboarding process, and making those Wi-Fi networks more secure.
- X, Y, Z are the top-managed Wi-Fi ISPs.
- MDUs with fiber to the home (FTTH) installed are about x% (compared with y% for single-family).

The Economics of MDU Managed Wi-Fi

- x% of respondents prefer managed Wi-Fi to be outsourced.
- x% of managed Wi-Fi is deployed by companies such as REITs that own or manage more than 5,000 units.
- X respondents indicated that the cost of managed Wi-Fi should be part of the rent or HOA fees.
- There is a split between those who believe managed Wi-Fi infrastructure should be deployed by telco specialists (ISPs, MSPs) or the property company.
- It costs \$X of capex per unit to deploy managed WaaS.
- The average monthly cost of a 5 Gbps circuit is \$X.
- The average revenue of managed WaaS is \$x per month per unit.

Applications Enabled by Managed Wi-Fi

- The top three applications most sought with facility IoT include the ability to manage the building's access, the ability to monitor the building's conditions for optimal maintenance and lower utility bills.
- The survey confirms the three general trends for most-sought smart home applications are smart locks, cameras, and thermostats.

Challenges

While most respondents indicated very good or good Wi-Fi service for their residents and staff, x% still had an average or poor experience.

Forecasts

- **TAM Forecasts 2023–2028**
 - Managed WaaS for support and maintenance total addressable market (TAM) is expected to reach \$x billion by 2028 (excluding bulk internet).
 - Bulk WaaS excluding bulk internet TAM for MSPs is expected to reach \$x billion by 2028.
 - Bulk TAM for property owners is expected to reach over \$x billion by 2028.
 - Breakdowns by property size and age for WaaS.
- **Estimated Market Sizes 2023–2028**
 - We assume a yearly x% market penetration for WaaS among new units.
 - The managed WaaS for support and maintenance market size is expected to increase from \$x million in 2023 to \$x million by 2028 (excluding bulk internet).
 - Bulk WaaS, excluding bulk internet service revenues for MSPs, is expected to reach \$x by 2028.
 - After markup, bulk internet service revenues for property owners are expected to reach over \$x by 2028.
 - Breakdowns by property size and age for WaaS.

And much more!