

Wi-Fi Offload for MDU

Better Property-Wide Mobile Experience Without the Cost and Complexity of DAS

Executive Summary

Reliable connectivity is not optional in today's multi-dwelling units (MDU). It directly affects resident satisfaction, retention, property perception, and the value of modern managed services delivered by property owners and the managed service providers (MSP) who serve them.

At the same time, mobile data usage continues to rise, and indoor cellular coverage inside modern buildings is often inconsistent because of construction materials, density, layouts, and common-area usage patterns. Property owners, operators, and the MSPs who deliver connectivity services on their behalf increasingly evaluate ways to improve the mobile experience without turning the building into a cellular construction project.

Wi-Fi offload offers a practical alternative. It leverages the property Wi-Fi infrastructure to support mobile-first users and guest traffic in shared spaces, improving overall connectivity perception while complementing, not replacing, resident connectivity. For owners, it protects asset value and resident experience. For MSPs, it creates a higher-value managed service offering that goes beyond basic in-unit Wi-Fi and strengthens the long-term operating relationship with the property.

WHAT IS WI-FI OFFLOAD?

Wi-Fi offload enables continual, secure connectivity for mobile devices using both cellular and Wi-Fi networks. Transitions are automatic between the network using technologies such as Passpoint™ and OpenRoaming®.

For users, the experience is seamless. Devices connect automatically without manual login, helping mobile connectivity feel more consistent in places where indoor cellular coverage is weak, congested, or difficult to improve economically.

In MDU environments, offload is best understood as a complement to managed Wi-Fi, which remains the primary service for in-unit broadband. Offload extends the value of that investment by supporting mobile-first usage in common areas and for users who are not connected to the resident network. For MSPs, offload becomes an additional, monetizable layer of the managed Wi-Fi service portfolio, one that improves the property's connectivity without requiring a separate cellular project.

WHY MDU OWNERS, OPERATORS, AND MSPS SHOULD CARE

- **Resident satisfaction and retention:** Connectivity perception affects how residents experience the property, especially in shared spaces and amenity areas.
- **Property-wide connectivity perception:** Offload improves mobile-first usage in common areas where residents and visitors expect devices to work without friction.
- **Managed Wi-Fi ROI:** MDUs are already investing in managed Wi-Fi for in-unit connectivity. Offload extends the value of that infrastructure.
- **Guest and visitor experience:** Visitors, service providers, and guests may not have resident credentials but still expect immediate mobile connectivity.
- **Lower long-term cost exposure:** Wi-Fi-based approaches typically have lower deployment and operating complexity than dedicated cellular systems.



WHY IT MATTERS FOR MSPS

Wi-Fi offload is more than a feature; it's a way to differentiate the managed service, increase per-property value, and deepen the operating relationship with owners.

- **Stronger service differentiation:** Offload moves the MSP conversation beyond commodity in-unit Wi-Fi and toward property-wide connectivity outcomes, helping MSPs win and retain MDU business against competitors offering only basic broadband.
- **Higher ARPU and new revenue layers:** Offload, guest access, common-area connectivity, and roaming partnerships can be packaged as premium tiers of the managed Wi-Fi service rather than absorbed as overhead.
- **Fewer truck rolls and lower operating cost:** Centralized management, standards-based onboarding, and a single network architecture reduce support tickets, on-site visits, and the operational drag that erodes MSP margins.
- **Scalable across portfolios:** One management platform across many properties means MSPs can roll out offload consistently, enforce policy uniformly, and onboard new buildings without rebuilding the operating model each time.
- **Stickier owner relationships:** Delivering measurable improvements in property-wide mobile experience strengthens the MSP's position as a strategic partner to ownership, not just a vendor, making contract renewals and portfolio expansion easier.
- **Avoids DAS-style project risk:** MSPs can deliver a meaningful mobile-experience improvement without taking on the carrier coordination, construction complexity, and timeline risk that come with dedicated cellular systems.

WI-FI OFFLOAD VS DAS

Distributed Antenna Systems (DAS) can address indoor cellular challenges, but often at high cost, long timelines, and ongoing operational burden that falls on both the property owner and any MSP responsible for day-to-day operations. For many MDU properties, Wi-Fi offload provides a more practical first path because it builds on the managed Wi-Fi infrastructure already required for resident services and property-wide connectivity, and on the operating model the MSP already runs.

DAS Challenges	Wi-Fi Offload Benefits
High capital cost	Leverages managed Wi-Fi infrastructure already being deployed or refreshed, no dedicated CapEx requirement.
Long carrier coordination and approvals process	Carrier involvement is a standards-based roaming agreement, not a per-site RF build.
Complex cellular RF design, construction, and deployment	Deployed with familiar Wi-Fi skills IT, MSP, and property teams already have.
Long timelines and multi-party dependencies	Deploys on the existing network using Passpoint or OpenRoaming (no multi-party rollout) in weeks not months.
Added operational burden and refresh complexity	One network to manage, no separate systems to maintain.
Limited coverage flexibility/hard to re-tune after install	Coverage and capacity scale on the existing Wi-Fi platform; tune radios or add APs and cabling as demand grows.
Carrier/technology lock-in	Operator-neutral and standards-based supporting any participating carrier and evolves with Wi-Fi standards; no per-carrier rework.



PRACTICAL DEPLOYMENT APPROACH

1. **Build the Wi-Fi foundation.** Ensure strong coverage and capacity across residential units, lobbies, gyms, lounges, coworking rooms, outdoor amenities, parking areas, service areas, and other shared spaces.
2. **Enable secure offload.** Use Passpoint and OpenRoaming to support automatic, secure connectivity for eligible mobile devices and trusted identities.
3. **Operate with policy and segmentation.** Use centralized management, traffic separation, and consistent policy control to protect security, performance, and operational simplicity. For MSPs, this is where day-to-day economics are won or lost: A single management platform across many properties keeps support load, truck rolls, and configuration drift in check as the portfolio scales.

MARKET-SPECIFIC LENS: TWO CONNECTIVITY LAYERS IN MDU

MDU properties operate two distinct connectivity layers, and both are required.

- **Resident network:** The managed Wi-Fi or broadband service delivered inside the unit and across the property. It supports streaming, remote work, smart home devices, and high-bandwidth persistent connectivity.
- **Offload/mobile-first layer:** The seamless connectivity layer for guests, visitors, residents using mobile data in common areas, and users who do not want to complete a captive portal or resident login flow.

The most effective MDU strategy is not choosing one layer over the other. It is deploying both with clear separation, purpose, policy, and centralized management.

Cambium's ONE Network Approach

Cambium enables Wi-Fi offload through our unified ONE Network architecture that integrates Wi-Fi, switching, security, WAN/backhaul options, and centralized management through cnMaestro™ Network Management. This gives organizations centralized visibility, policy enforcement, segmentation, and operational consistency across sites.

This unified approach is especially important across multi-property portfolios. Owners, operators, and MSPs can maintain separation between resident networks, guest access, and offload traffic while simplifying deployment, provisioning, and ongoing management. For MSPs specifically, the same architecture that serves a single building scales cleanly across dozens or hundreds, which directly supports margin, service consistency, and the ability to take on new properties without re-engineering the operating model.

KEY ADVANTAGES

- Centralized management through cnMaestro
- Secure onboarding using standards-based offload capabilities
- Policy enforcement and traffic segmentation
- Scalable performance across simple and complex environments
- Simplified deployment and provisioning
- Reduced operational complexity compared to multi-vendor or cellular-centric approaches



The Bottom Line

For MDU properties, and for the MSPs that serve them, Wi-Fi offload is a practical way to improve mobile connectivity without the cost and complexity of DAS or dedicated cellular infrastructure.

The goal is not to replace resident connectivity but rather improve overall connectivity outcomes across the property while controlling cost and complexity. This means better resident experience, stronger property perception, and protected long-term asset value for owners. And it means a more differentiated managed service, healthier margins through centralized operations, and a stronger commercial position with ownership for MSPs. For properties evaluating DAS, Wi-Fi offload provides a simpler and more cost-effective path forward; for properties that already have DAS, offload can still enhance the overall connectivity experience.

Cambium makes that possible through Cambium's ONE Network approach that simplifies deployment, centralizes operations, and extends the value of existing Wi-Fi investments.

Find Out More

See how Wi-Fi offload works in our guided demo:

<https://www.cambiumnetworks.com/guided-demos/wi-fi-offload-with-passpoint-cnmaestro/>

About Cambium Networks

Cambium Networks enables service providers, enterprises, industrial organizations, and governments to deliver exceptional digital experiences and device connectivity with compelling economics. Our ONE Network platform simplifies management of Cambium Networks' wired and wireless broadband and network edge technologies. Our customers can focus more resources on managing their business rather than the network. We make connectivity that just works.

