Cisco Mobility Services Platform – Fixed Wireless Access aaS

Enable Robust, Secure Branch Office Connectivity with FWA Services.

Key benefits

- Turnkey service enablement: Remote network provisioning and cellular-enabled FWA service activation.
- Spectrum monetization: Optimize 5G investment through efficient midband and high-band spectrum deployments.
- Digital divide solution: Provide high-speed wireless connectivity in underserved rural areas lacking fiber infrastructure.
- Enterprise-grade performance: Real-time, end-to-end assurance with Cisco's Mobility Services Platform.
- Vendor flexibility: Compatible with Cisco and third-party FWA equipment.
- Streamlined procurement: Zero-touch digital buying experience with embedded eSIM provisioning.
- Advanced network slicing: Differentiated Quality of Service (QoS) for varied application streams to enhance monetization.
- Cost-effective connectivity: Low-cost alternative to wireline broadband in urban and suburban markets.

Imagine as a service provider giving your enterprise customers the ability to procure secure wireless connectivity for their remote branch office or campus locations in a completely self-serve manner with instant provisioning. Cisco enables this end outcome seamlessly with our digital buying experience and the ability to remotely provision the underlying network services with a differentiated quality of service level. Enterprises can leverage high-data-bandwidth, macro spectrum from the Communication Service Provider (CSP) of their choice, and CSPs can drive 5G monetization as they continue incubating other use cases.

Overview

Fixed Wireless Access (FWA) emerges as a transformative 5G solution, effectively addressing connectivity challenges in rural communities by offering an economical alternative to traditional fiber infrastructure. Enterprises can leverage FWA as a primary or secondary connectivity solution for remote branch offices in rural and urban areas, helping ensure reliable network performance and minimizing potential downtime. The Cisco® Mobility Services Platform offers a cloud-based FWA service that enables Communication Service Providers (CSPs) to deliver high-speed wireless connectivity to businesses and branch offices through virtualized network functions, centralized management, and zero-touch eSIM provisioning.

FWA on the rise: The fastest-growing broadband technology

Traditional broadband internet providers have historically dominated the market with cable/DSL or fiber-based internet connectivity services and enjoyed delivering services with premium pricing.

The foundational requirement for cable companies to offer broadband connectivity is the last-mile high-speed fiber-optic connectivity to each residential community or enterprise footprint, which typically is mainstream in urban and suburban areas. Rural areas, for example, do not have any form of wireline footprint, which puts them at a disadvantage. With the advent of 5G, wireless cellular technology has become a real substitute for wireline technology. This is attributed to a few different reasons: CSPs now have access to increased spectrum with technological advancements like millimeter Wave (mmWave) spectrum, carrier aggregation with Frequency-Division Duplex (FDD)/Time-Division Duplex (TDD), and Multiple Input Multiple Output (MIMO) to optimize spectrum utilization/efficiency. These offer significantly higher data throughput at lower latency, higher availability and greater reliability. End-to-end network slicing also offers a path to monetization with differentiated QoS.

“As businesses continue to digitize their operations and connect more people, places, and things to the network, digital resiliency will continue to rise in importance,” said Jonathan Davidson, Executive Vice President and General Manager, Cisco Networking. “AT&T and Cisco share a vision to help businesses simplify operations so they can spend less time worrying about connectivity and security and focus on delivering unified experiences their customers can rely on.”

Wells Fargo, in its comprehensive research published in 2023, predicted that the Tier 1 CSPs will land 80% to 90% of industrywide net broadband subscriber additions through 2024 with FWA services, which will make up 12% to 13% of the overall U.S. broadband market by 2025. Tier 1 CSPs globally have been strategically investing in a mobility-first approach to capture the FWA opportunity with spectrum deployments, bundling, and convergence strategies (mobile + FWA, mobile + fiber broadband, etc.).

Major U.S. wireless carriers are aggressively expanding FWA services, with significant growth projected through 2028. Leading providers forecast substantial increases in subscriber bases, ranging from 8 to 12 million new customers.

Key industry trends include:

- Aggressive FWA subscriber growth targets
- Strategic conversion of legacy copper infrastructure to wireless services
- Spectrum investments to enhance multigigabit residential and multidwelling unit solutions
- Varied approaches to broadband expansion, balancing wireless and fiber technologies

Some carriers are more cautiously approaching FWA, focusing instead on expanding fiber infrastructure to drive broadband adoption. The overall market demonstrates a strategic pivot toward flexible, high-speed wireless connectivity solutions as an alternative to traditional wireline networks.

Small and medium-sized enterprises and residential customers prefer bundled services to drive cost efficiencies and the idea of no-downtime service with a very high availability. With the service evolving to honor higher speeds, it will be interesting to see the market evolution and enterprise adoption.

“If the three companies meet their growth goals, they will collectively have almost 20 million broadband customers in 2028 – almost as big as Charter or Comcast today,” Doug Dawson of CCG Consulting wrote while outlining the FWA offerings from T-Mobile, AT&T, and Verizon.

How it works

CSP partners can access the optional FWA services which are available as add-ons to IoT Control Center. Cisco's "Cloud Managed eSIM for Cisco SD-WAN" offer also enables CSPs to enable FWA access out of the box for Cisco devices with zero touch provisioning. As the foundational component of Cisco's Mobility Services Platform, IoT Control Center stands as the industry's leading connectivity management platform, serving over 250 million subscribers today.

With the first option, CSPs can choose from one of two integration options: a full-stack IoT-as-a-service solution, which is easy to consume and highly recommended by Cisco, or integration of the CSP's core network with Cisco's Dynamic Policy and Charging add on to help drive quota-based service prioritization and data throttling for premium plans.

With the second option, CSPs and Mobile Virtual Network Operators (MVNOs) can partner with Cisco to establish a unified digital buying workflow orchestrated through IoT Control Center's REST API portfolio, which enables zero-touch provisioning, activation, and onboarding of a Cisco FWA gateway with an embedded eSIM. The gateway can be managed automatically on IoT Control Center or using a third-party Connectivity Management Platform (CMP).

Alternatively, an active IoT Control Center Enterprise can leverage self-serve capabilities to order a network slice-based FWA service on demand with end-to-end assurance to get secure wireless connectivity for a branch office.

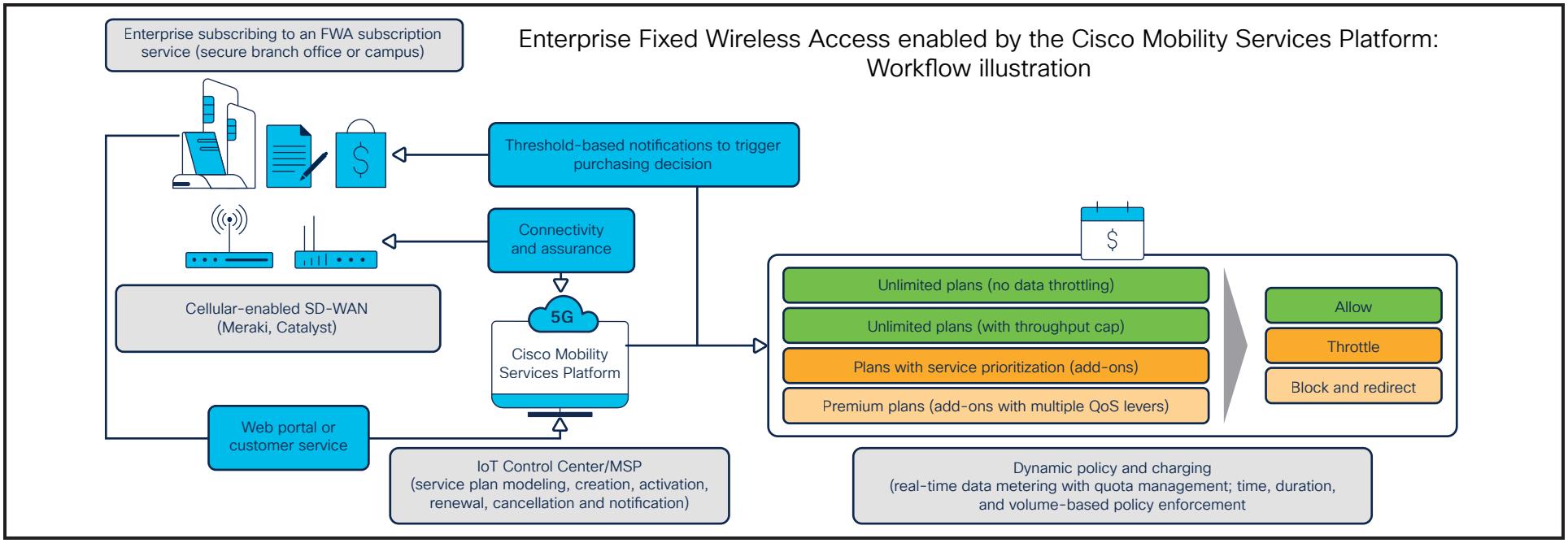

Figure 1. Enterprise FWA enabled by the Cisco Mobility Services Platform

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Use cases

Table 1. FWA use cases

Industry	Use case
Retail outlets and remote branch office	Cost-effective secure branch office connectivity
Manufacturing and logistics	Inventory management, barcode scanning, fleet management, audits, etc.
Educational institutions	Blue light emergency systems for security patrolling, video streaming, in-building connectivity to connect various assets
Automotive and transportation	High-speed wireless connectivity for law enforcement vehicles, FirstNet responders in stationary locations (command center, emergency operation center etc.), traffic management for public transport companies
Service providers and Infrastructure providers	Backup connectivity for SD-WAN deployment
Government	High-speed broadband wireless internet to connect various devices in a secure facility or FEMA disaster response location or kiosks in various government locations (DMV, courthouse, registrar's office, etc.)
Healthcare	High-speed broadband wireless internet for telemedicine, remote patient monitoring, and baseline connectivity for medical devices

The Cisco Advantage

As a foundational component of Cisco's Mobility Services Platform, IoT Control Center stands as the industry's leading connectivity management platform, serving over a quarter billion subscribers today. Fixed Wireless Access service, an optional feature of Cisco IoT Control Center, provides a robust technology stack and intuitive consumption model (UI/API) for CSPs to bring innovative, mobility-based enterprise solutions to market quickly and efficiently. Cisco also provides connectivity services for more than 50% of these subscribers, built on a robust foundation – an industry-leading converged 5G standalone packet core. With our comprehensive enterprise networking portfolio, Cisco understands the unique needs of our enterprise customers. Accelerate your 5G transition with Cisco's seamless migration solutions, helping ensure that your network remains cutting-edge during the critical LTE to 5G evolution. Our goal is to build innovative features that can deliver tailored outcomes across industries, connecting people, places, and things through various offerings (private 5G, mobile IoT, consumer broadband, etc.). Most importantly, our efforts are centered around driving monetization up through the connectivity value chain, creating new revenue opportunities for our customers.

Learn more

Leverage Cisco to launch and monetize fixed wireless access services

Are you a CSP looking to diversify your spectrum holdings and offer FWA services with a differentiated quality of service, through a digital buying experience? Are you an enterprise using IoT Control Center looking to stand up a secure branch office location and need a fixed wireless access service on demand with levers to control the quality of service?

To learn more about Cisco IoT Control Center, please visit https://www.cisco.com/c/en/us/solutions/internet-of-things/iot-control-center.html.

To learn more about Cisco Mobility Services Platform, please visit https://www.cisco.com/site/us/en/solutions/service-provider/networking/mobility-services-platform/index.html.

To learn more about Cisco Cloud Managed eSIM for Cisco SD-WAN, please see the solution overview at https://www.cisco.com/c/en/us/solutions/collateral/internet-of-things/iot-control-center/cloud-managed-esim-sd-wan.html.

To learn more about Cisco's on-demand network slicing capability, please see the solution overview at https://www.cisco.com/c/en/us/solutions/collateral/internet-of-things/iot-control-center/on-demand-network-slicing-assurance-so.html.

To learn more about the broader 5G IoT market landscape and how to unleash the power of 5G, please see the white paper at https://www.cisco.com/c/en/us/products/collateral/wireless/iot-mobility-services/5g-iot-services-wp.html.

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