Fixed wireless access is an incredibly powerful and cost-effective option for shoring up connectivity for businesses operating in both rural and urban/suburban areas while also streamlining the connectivity experience for businesses with distributed locations.

Understanding How Businesses Can Leverage the Fixed Wireless Access Opportunity

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Questions posed by: T-Mobile for Business
Answers by: Jason Leigh, Research Manager, Mobility

Q. What is fixed wireless access (FWA)?

A. Fixed wireless access is an internet service delivered wirelessly to the customer's home or business. It goes by several different names — FWA, fixed wireless broadband, and wireless internet, among others. FWA differs from mobile broadband in that the service location — home or business — is a static, nonmoving location, which generally relies on a single transmitter for service. The customer premises equipment (CPE) can be as simple as a desktop router or, in some instances, may leverage an antenna attached to a single spot on the building for an optimal signal. Connectivity is then dispersed through the location via wired or wireless means, such as Wi-Fi.

While 5G is bringing a renaissance to this type of connectivity, it is important to note that FWA is not new. LTE offerings of FWA have been around for years, largely in the form of smaller wireless internet service providers serving rural communities. But 5G's ability to deliver faster speeds, along with guaranteed service-level agreements (SLAs), is renewing interest in FWA.

Much like the wired broadband offerings from the cable companies, FWA will have performance tiers depending on what spectrum is used for the service. FWA on millimeter wave (mmWave) will offer the 1–2Gbps+ speeds touted by many 5G marketers. But that flavor of 5G FWA will be available in only very narrow footprints within urban cores.

Midband spectrum will provide markedly better availability — entire city footprints and suburban reach — with speeds in the 100–900Mbps range. Low-band 5G FWA produces speeds in the 50–200Mbps range and is scalable nationwide.

Q. What is FWA's appeal for business and for mobile operators?

A. The biggest benefit of FWA is its ability to cost effectively deliver broadband connectivity to businesses, especially as the pandemic has shown connectivity's importance for businesses and educational institutions. Depending on the organization's bandwidth needs, FWA can serve as a primary means of connectivity, or it can support business continuity plans as a backup, or failover, solution when the company's primary connection is disrupted.

FWA has other benefits beyond base connectivity. With a shorter deployment cycle than wired broadband, FWA can allow a growing business to stand up new locations faster, driving agility and accelerating growth. This is particularly helpful in mining and construction where the job sites may be remote and/or temporary in nature.

As carriers expand FWA service, businesses have the opportunity to consolidate and streamline broadband access through a single provider, which simplifies deployment and results in cost savings through quantity discounts. Moreover, as companies enable remote workforces, they may choose to leverage FWA for a dedicated business-only broadband connection to an employee's home. Setting up such a connection can be a cost-effective way of ensuring productivity and improving security. It is also more efficient than reimbursing employees for their home broadband connection.

For operators, using the same 5G network for both mobile broadband service and FWA means getting more bang for the capex buck. On a 5G network, there is no need to install additional RAN infrastructure, and managing multiple services on the same core network becomes easier because of 5G's ability to leverage software-defined networking and virtualization. 5G aside, FWA allows carriers to offer a new service to bundle with their mobile service, driving revenue growth. Given the cable MVNOs' early success bundling broadband with mobile service, carriers offering FWA may see similar gains as they package both services in price-compelling models.

Q. What are the biggest barriers to widespread adoption of FWA?

A. Outside of rural areas, the most common objection to FWA is that an established business already has sufficient connectivity for its operations. While the 5G variant of FWA offers improved speed, lower latency, and the potential for enhanced security benefits, many business leaders are challenged to see a significant enough material impact from those improvements to warrant switching providers on price alone, especially for a single location. However, for multilocation entities, it is easier to demonstrate FWA's value when looking at streamlining vendor selection and the prospect of bundling broadband with mobile service. Moreover, when an organization is in growth mode, cutting the timeline for adding connectivity to locations and employees is a significant business advantage.

Another challenge is that few business leaders have a strong grasp of the specific connectivity performance requirements of their company. Though they may be aware of how much inbound and outbound data traffic the company consumes and generates, often there is little understanding of whether a 25Mbps connection versus a 100Mbps connection impacts how the data moves. FWA vendors can help leaders assess the connectivity performance requirements of their business and align their connectivity purchasing to ensure they are not overbuying or underbuying for their business needs.

Even when companies believe they have adequate primary connectivity via other means for their operations, FWA can provide cost-effective failover service for business continuity. Ensuring business continuity and connectivity regardless of external challenges is increasingly a nonnegotiable factor for operations and customer satisfaction benefits from the company being "always" accessible during a crisis. Additionally, if the business' primary connectivity provider experiences network slowness, FWA provides additional bandwidth to keep operations flowing smoothly.

Q. Which companies and industries can best benefit from FWA?

A. Those that stand to benefit most from FWA initially will be multilocation businesses with a dispersed, nationwide footprint. These locations typically have predictable bandwidth needs and a reasonable employee head count at each site. As many companies pull back from large, formal offices, growth is expected in small branch or field offices, where employees such as road sales reps may drop in only periodically. These locations are excellent candidates for FWA given the lower costs of installation and the relatively light performance requirements. Small and medium-sized businesses (SMBs) will find the flexibility, cost, and ease of standing up FWA connectivity are well suited to their operating needs and the business resilience FWA provides beneficial in the face of ever-changing external and industry dynamics. Additionally, FWA can appeal to other businesses with relatively low to moderate bandwidth needs, such as smaller retail outlets like gas stations, restaurants, and fast food locations, where connectivity needs are largely in support of POS and inventory management systems. Further, mining and construction companies, which run frequently transient, remote operations, can benefit from the ability to establish reliable, high-quality connectivity onsite. Typically, these locations either install fixed-line service or simply use their smartphones for connectivity, which is hardly optimal for running more sophisticated business operations.

While the previously mentioned companies and industries make strong candidates for utilizing FWA as a means of primary connectivity, every business can benefit from FWA connectivity as the foundation of a strong business continuity program.

Q. What should a business consider to successfully deploy FWA?

A. There are several things that an organization can do to ensure that FWA truly aligns with its business needs and can deliver the benefits promised.

The organization should begin with a "connectivity inventory" of business operations to understand how it is using connectivity. What is being connected? Where is it being connected? Does the company utilize wired, Wi-Fi, cellular, or even LPWAN technologies? If so, how will FWA integrate with other types of connectivity? There also needs to be a firm grasp of performance requirements for each use case. How much bandwidth is needed? What role does latency play in operations?

From there, the organization should consider how connectivity plays within its strategic agenda. Is there planned expansion to new locations? Will the organization be adding more employees or revising its work-from-home model?

Once there is a clear fit for FWA, the next step is to choose a vendor. As with mobile service, network coverage and reliability are critical in FWA vendor evaluations. If a provider doesn't have coverage within the company's footprint, it is time to move on. Part of the coverage equation for those considering 5G FWA is ensuring the available spectrum performance, as noted previously, meshes with the business' operating requirements. After that, pricing dynamics and consumption models come into play. Further, because connectivity rarely exists in a vacuum, organizations should consider what additional services the vendor offers. Organizations may leverage the FWA provider for managed connectivity services and offerings such as cybersecurity, SD-WAN, and voice.

About the Analyst

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Jason Leigh is responsible for 5G and mobile operator research. Jason's research focuses on the strategic implications and market opportunities presented by the emerging 5G ecosystem, including commercial availability, installed base forecasts, regional adoption trends, content and services enablement, device impacts, 5G's role in the Internet of Things (IoT), and innovative use cases leveraging 5G.

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