



Retail Innovation and Success Begin With the Right **Network** **Foundation**

verizon
business

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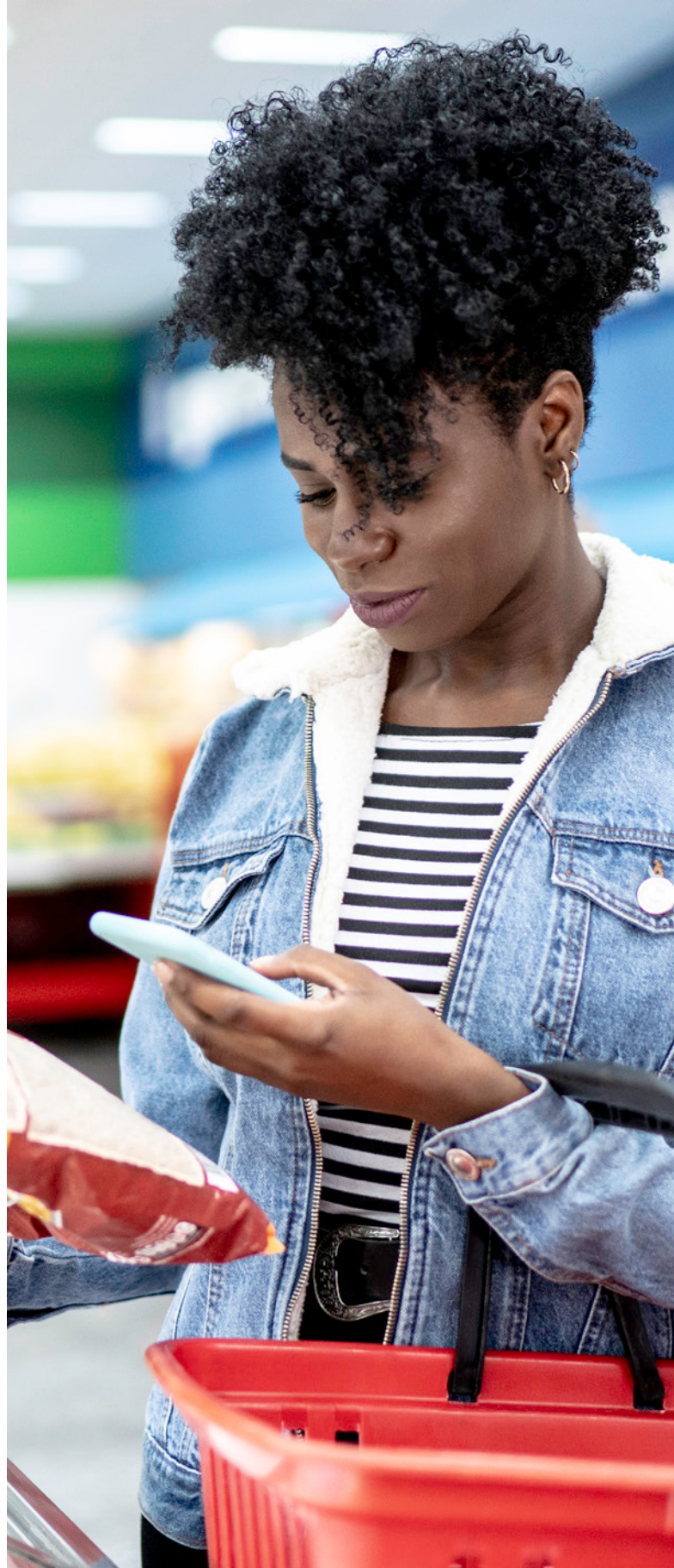
Introduction

Innovation in retail is at an all-time high. The storefront has been reimagined as an experiential space, a community gathering place, a fulfillment center to pick up online orders and an artful showroom – to name just a few examples. Stores are expected to be a blend of the best of the digital and physical worlds.

With the recent proliferation of artificial intelligence (AI) tools and greater automation capabilities, retailers also have a host of new mechanisms that improve their operations beyond the customer experience. They are leveraging predictive analytics, demand forecasting, smart checkout and inventory tracking to meet customer expectations for seamless omnichannel experiences while managing costs. This has become especially important in the current moment, as labor challenges, economic uncertainty and inflation are creating pricing pressures and business unpredictability.

A strong network foundation is crucial for retail innovation and operational efficiency.

All of this innovation relies on the foundation of reliable, secure and fast internet access. Retailers need integrated systems and a strong, resilient network foundation to meet today's customer needs and expectations. Although there are a number of solutions available in this regard, fixed wireless access (FWA) has quickly become a cutting-edge solution that is affordable, scalable, flexible, dependable, secure and easy to deploy.



Improving operational efficiency

For many of today's retailers, improving operational efficiency is a high priority. Retail stores rely heavily on network solutions for everything from point-of-sale systems (POS), guest Wi-Fi, mobile associate tools, inventory tracking and surveillance cameras to augmented reality (AR) tools.

As the cost of wired broadband cable networks has increased, retailers have begun seeking an alternative solution that would provide reliable, secure connectivity while reducing costs and enabling profitability. Using their existing infrastructure, companies can deploy enterprise-ready wireless routers optimized for 5G and FWA, cutting operational expenses.

Fixed Wireless Access (FWA) is a cutting-edge, affordable and reliable network solution for retailers.

With the proper network foundation in place, retailers can leverage innovative technologies to improve operational efficiency, and are also leveraging:



IoT real-time inventory tracking to maintain optimal product levels, reducing storage costs and lost sales and effectively meeting customer expectations across channels.



Electronic shelf labels to update pricing and product information instantaneously and remotely, reducing tedious manual labor tasks of printing and affixing price labels to shelves.



Digital signage and retail media networks to display promotions to influence buying decisions in real time and generate incremental ad revenues.



Camera vision to identify patterns and queues to better respond to customer needs and inform retail strategy.





Increasing employee productivity

Another area of focus for retailers is increasing employee productivity and efficiency. Providing mobile communications, inventory scanners, mobile point-of-sale capabilities and access to customer relationship management systems empowers employees to better serve customers in every interaction. It also improves omnichannel strategy, allowing employees to suggest another way to purchase when the preferred product is not in stock.

Other ways that technology is increasing employee productivity and satisfaction include:

-  **Video training** to reduce the time it takes to train employees, while enabling alignment of strategy and quick deployment of new procedures.
-  **Wayfinding for pick/pack** to easily guide associates and warehouse workers to locate items for customers, saving employee time and making it easier for them to deliver great customer service.
-  **AR planograms** to visualize and manage product placement to test scenarios and remotely guide employees on how to set up merchandise and signage on displays.

Enhancing customer experiences

One of the greatest opportunities that technology enables for retailers is the ability to enhance customer experiences. Whether it's as simple as providing guests access to wireless internet while they're in a store or as complex as immersive experiences enabled by AR and virtual reality applications, the use cases are numerous:

-  **Wayfinding for products** to make it easier for customers to find products in the store.
-  **Personalized product recommendations** to demonstrate knowledge and understanding of individual customer needs and increase purchases.
-  **Cashierless checkout or scan-and-go apps** to reduce friction in the purchasing process and delight customers with seamless experiences.

FWA enhances customer experiences and employee productivity while supporting advanced technologies like 5G network slicing.

A strong network foundation as the base for innovation

For all of these technological capabilities to become a reality, retailers need a fully connected infrastructure and a strong network foundation. By providing connectivity from warehouse to storefront and across the entire network of stores, retailers can unlock unprecedented innovation and meet customer and associate expectations more efficiently.

For many retailers, the proliferation of devices and applications is stressing current networks and bandwidth. This is especially true as retailers adopt AI-based apps, many of which require large amounts of data and responsive, low-latency network performance.

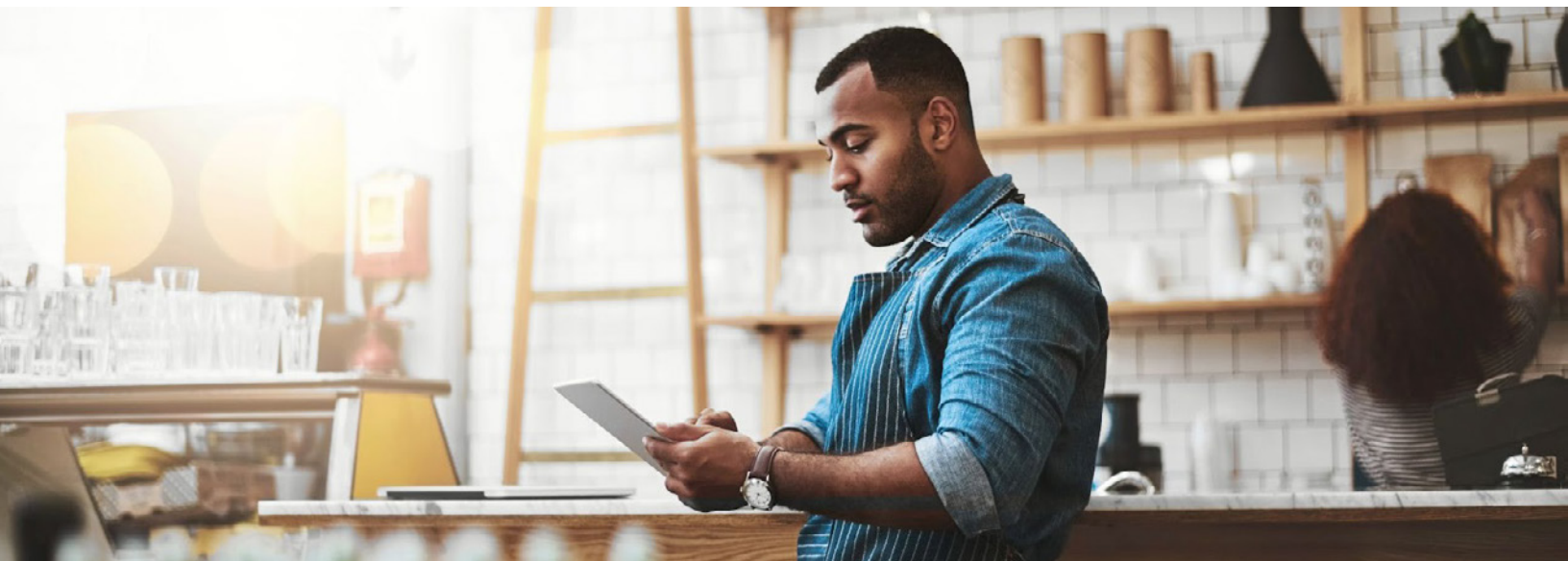
FWA – a type of 5G wireless technology that enables fixed broadband access using cellular radio frequencies instead of cables – is the ideal alternative to cabled internet systems that can enable a tech explosion for retailers. It can be deployed more quickly, is easier to install, has greater availability, and can be more cost effective.

FWA also enables stand-alone branch locations, such as office supply stores, to provide connectivity for third-party retail partners (store within a store), such as electronics purveyors. With FWA, the partners can quickly establish their own internet connection and activate their own routers to separate their business network from their host's network. This separation ensures data privacy at the same location and eliminates traffic or performance interference with each other's networks.

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As retailers continue to deploy more innovative solutions in stores, especially bandwidth-intensive AI-driven technologies, it is imperative to have a network foundation that supports the required performance.

Scott Lawrence, SVP-Product Management, Verizon Business



Other benefits of 5G FWA include:

- **Rapid Deployment:** FWA can be set up quickly compared to traditional wired solutions, which often require extensive infrastructure work. This enables retailers to establish or expand connectivity rapidly for new locations, temporary setups or pop-up stores in minutes versus weeks.
- **Cost-Effectiveness:** Without the need for extensive cabling and infrastructure changes, FWA can reduce installation costs and time. This is particularly advantageous for remote locations or areas where laying cables is impractical or expensive.
- **Flexibility and Scalability:** Retailers can easily scale their network to accommodate changes in business needs, such as expanding to new locations or increasing bandwidth for high-demand periods. FWA solutions can adapt to seasonal changes, temporary events, or shifting business strategies.
- **Reliable Connectivity:** FWA offers robust connectivity, often with lower latency and higher bandwidth compared to traditional cellular connections. This reliability is essential for critical applications such as point-of-sale systems, inventory management, real-time data analytics and guest Wi-Fi services.
- **Support for IoT Devices:** FWA is well-suited for connecting a wide range of IoT devices used in retail environments such as smart signage, security cameras, inventory sensors and vending machines. These devices require reliable connectivity to function effectively and provide valuable data insights.
- **Enhanced Security:** Combined with a level of security built into the network, FWA provides protections such as firewalls and intrusion detection. Private passwords can also be used to prevent unauthorized access to users attempting to connect to an FWA business network.



5G Network Slicing

5G network slicing will be an important consideration for retailers when configuring future network infrastructure. Network slicing will dedicate wireless spectrum channels within retail stores for specific purposes, such as POS systems, digital signage, and Guest Wi-Fi. Network slices allow for the separation of mission-critical applications for retail operations to run more quickly and efficiently.

Separating and isolating critical applications can enhance performance and ensure security to help prevent potential workplace disruptions or breaches. For example, a retailer may dedicate a network slice for mobile point of sale systems, which require high reliability and secure data transmission. As a result, customers will get a faster checkout experience that will lead to greater satisfaction in the future.



Conclusion

FWA offers a network foundation that can enable great innovation for retailers. At a time when retailers are facing numerous challenges, FWA and network slicing offer ways to deliver better customer experiences more efficiently, while addressing critical business internet connectivity needs.

About Verizon and Ericsson

Verizon and Ericsson are global leaders in FWA solutions that combine cloud, security, and software-defined networking, including Edge compute and Edge containers. Verizon's connectivity, paired with Ericsson's Cradlepoint wireless routers and wideband adapters, provides a fast, secure and cost-effective alternative to wired broadband internet service.

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