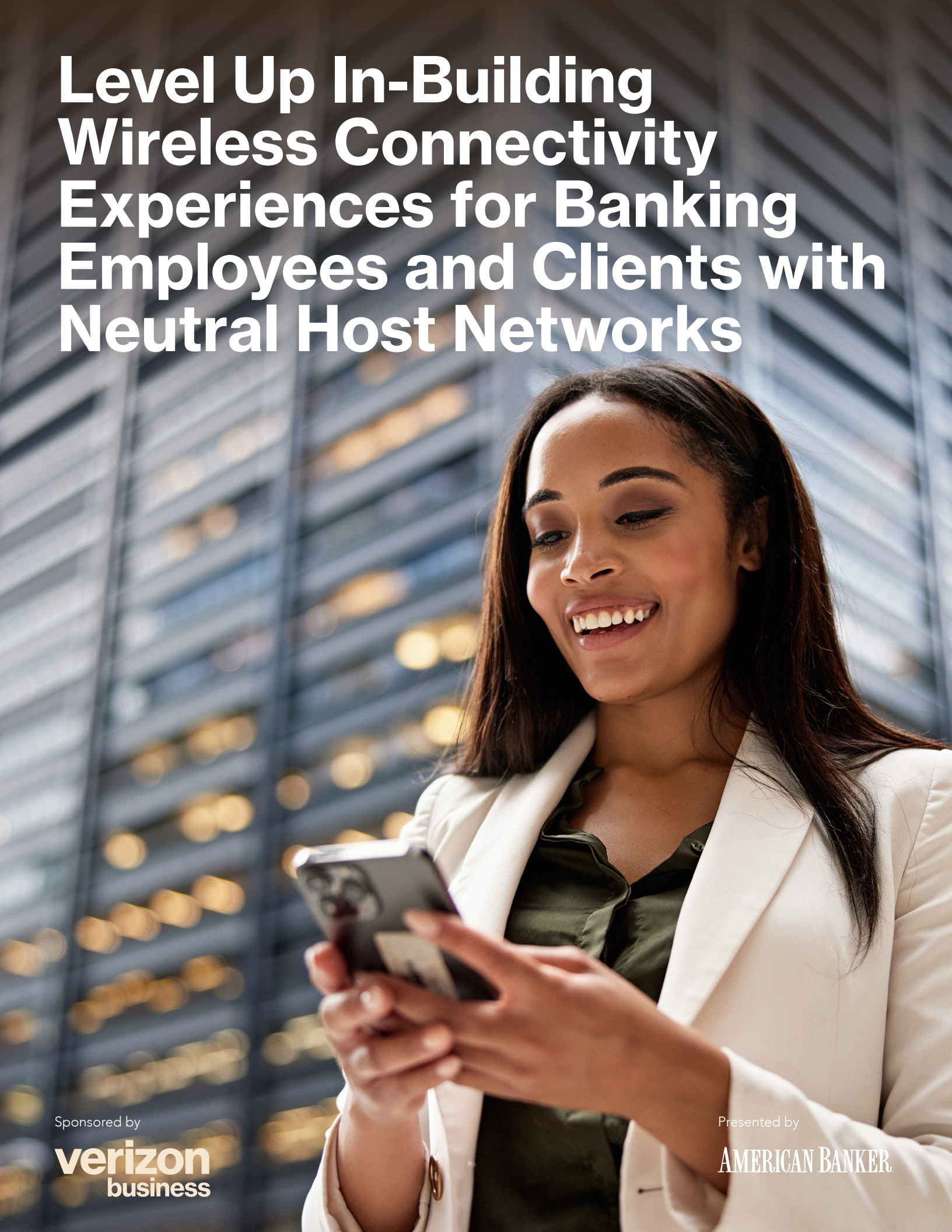
Level Up In-Building Wireless Connectivity Experiences for Banking Employees and Clients with Neutral Host Networks



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Within the four walls of a bank, credit union, mortgage company, or financial institution of any type, robust connectivity is foundational for digital services. Indoor wireless connectivity matters more than ever in financial services, especially as banks work to provide better and more innovative applications via user devices. Since banking employees, customers, and guests rely on an array of smartphones, tablets, and laptops — and their devices are powered by different mobile network operators — success hinges on reliable, consistent cellular connectivity.

On the street, in a car, or on the sidewalk, smartphone users outside bank buildings attach to their own public 5G networks, and the quality of the connection may wax and wane depending on their chosen mobile carrier and coverage. But when individuals enter the physical offices of a financial institution, they expect reliable wireless connectivity that will allow them to seamlessly and effectively perform banking duties, complete customer transactions, and communicate without fail. WiFi networks often fill the gap, but they are notoriously spotty and vulnerable to exploitation. WiFi alone cannot provide the necessary quality and stability of indoor cellular networks, which also allow for controls over access and privacy.

A new solution is available: the neutral host network. Banks and financial institutions are turning to newly available architectures that make this type of technology possible. They offer a cost-effective solution to high quality, in-building connectivity.

"The magic of what the neutral host network can provide to banking and financial services is a combination of public connectivity and private connectivity," says Eric McClanahan, Verizon's Director of Private 5G Networks. "Connectivity can sound and feel generic, but we all know how important it is for banking."

In today's competitive and fast-evolving financial services marketplace, too many firms are hampered by challenges with in-building wireless coverage. To stay innovative and provide superior customer experiences, firms require stable, high-quality wireless connectivity as a foundation. Providing consistent connectivity is increasingly necessary as more mission-critical applications move to employees' personal devices. While many banking applications currently operate on WiFi networks, these are inherently less secure than cellular networks.

Banks and financial institutions often face connectivity challenges, such as:

- **Limited wireless connectivity.** Employees, guests, and customers require access to a robust and responsive cellular network inside banking buildings and campuses.
- **Network congestion**. Inadequate capacity during peak times, conferences, or events leads to frustration, poor experiences, and decreased productivity.
- **Complex carrier management.** Coordinating multiple carriers presents operational challenges and service limitations.
- **Sustainability.** Firms must consider how to meet connectivity demands through responsible resource consumption.
- **Complicated deployment.** Traditional in-building systems require separate, costly installations and modifications.
- **Future-proofing.** The ongoing digital transformation of financial services requires a scalable cellular network that supports current and future needs.

Neutral host networks are game changers for financial institutions when it comes to powering their digital transformation. "Historically, it's been cost-prohibitive for firms to support all three major mobile network operators," McClanahan says. "When people with smartphones enter your buildings and you don't know which mobile service provider they are bringing in the door, it's difficult for banks to ensure that employees, guests, and customers all have a consistent experience."

Financial firms can achieve superior connectivity and control by investing in a neutral host network, which comes with the option of installing a private 5G network. Neutral host networks offer a cost-effective alternative to the distributed antenna systems (DAS) that are traditionally used in large banks, convention centers, office buildings, or other structures that are difficult to service with regular cell towers. The economics of neutral host networks appeal to all types of financial firms that need to enhance connectivity while lowering operational and management costs. Further, banks can gain additional agility, control, and robustness by adding a private 5G wireless network within their walls.

What is a neutral host network?

In simple terms, the neutral host network is a single, shareable wireless infrastructure that enables improved connectivity for employees, customers, or guests that use multiple mobile carriers. It uses licensed spectrum (radio frequency bands reserved for use by mobile network operators) to power a financial institution's evolving digital strategy. It is reliable, flexible, cost-effective, and scalable to meet future needs.

By installing a neutral host network, firms also gain the option to provision their building with a private 5G wireless network. A private network enables better connectivity, control, and security for the cellphones, laptops, and other devices that users bring into the building.

With a private 5G wireless network, "You give access via a SIM card. For those without permission, there is no access and the network is effectively invisible," McClanahan explains. "It's exciting because it allows banks to offer a secure, reliable cellular connection in certain use cases and to drive outcomes, without having to worry about unauthorized access to those applications or that network."

With a neutral host network, financial firms are able to:

- Improve in-building connectivity
- Control access to applications
- Expand to edge computing
- Move applications on premise
- Increase data security
- Lower network costs compared to DAS

The strategy of making indoor networks more broadly accessible allows financial institutions to reduce capital expenditure and power consumption while ensuring employees, customers, and guests have access to high-performance indoor connectivity. The costs for a specific building will depend on the density of the structure and the number of inhabitants but generally speaking, neutral host networks are about a third less costly than traditional DAS, McClanahan points out.

Use cases for banking and financial services

With a neutral host network and high-performing indoor cellular connectivity, banks and financial institutions can advance business outcomes and improve customer experiences. Here are some use cases of the neutral host network in the financial services industry:

1. Superior in-building connectivity

The neutral host network foundation significantly enhances in-building cellular signal strength and reach, reducing network congestion at peak times of day or during conferences and events. "It's ultra critical to have strong connectivity to drive operations, enhance productivity, and maintain safety and security. If you're a trader or an analyst, you need mission-critical information via your laptop or smartphone — but, if you step into a part of the building that lacks the necessary connectivity, there could be millions of dollars at stake," McClanahan explains. "Without good connectivity, your innovation on user devices — such as when you're looking to deploy services on the edge — falls flat."

2. Controlled access to applications

Banks and financial institutions can improve compliance through greater ability to control access to mission-critical applications and the flow of data between departments. Geofencing is a prime example of controlling proper access. For example, within an investment advisory firm's research group, research analysts may have offices on the third floor, where they have access to the private 5G wireless network. Traders, meanwhile, work on the sixth floor. When individuals move beyond a designated area, the access from their devices is shut off. "When that analyst's iPad moves from the third floor to the sixth floor, I want that iPad to lose access to the private network," McClanahan emphasizes. “That’s possible with a neutral host network.”

3. Expanded edge computing

Edge computing is another capability of a neutral host network. Multi-access edge computing brings technology resources closer to the end user. Financial institutions can increase productivity by moving critical applications out of the cloud, instead processing and storing the data at the network's edge.

"The closer the application is to the device that’s accessing it, the faster and better it will perform. Instead of a data call from New York City to a data center across the country in Salt Lake City and back again, we bring the application on site for direct and immediate access," McClanahan explains.

For example, consider an investment firm trader on the trading floor who's working on a laptop. By moving to edge computing and reducing latency, the firm has a potential savings of 50 milliseconds on each transaction. Over time, this savings can translate to more and faster transactions and ultimately, increased profitability.

4. Critical applications on premises

The ultimate case of edge computing is onsite computing. Many mission-critical applications currently reside in the cloud, but this is less than optimal for speed and security. Neutral host networks allow banks and financial institutions to move these applications on premises to speed processing and help reduce opportunities for exploitation.

"Instead of going out of the network, out of the building, and down the street to a regional data center, the compute happens on the premises. When transactions only have to travel down to the basement, they are much faster and more secure, increasing overall productivity," McClanahan says.

Crowd analytics is another use case for on-premises computing. Financial institutions can use computer vision over a cellular network to understand the behavior of personnel within a building, determine the location of crowds, help assess crowd safety and security, and gain visibility into the flow of traffic. Firms have the ability to answer questions such as, How many conference attendees are in the auditorium? How busy is the cafeteria?

On-premises computing also helps support facial recognition technology, which can seamlessly manage accelerated access to secure areas. Traditional security processes are cumbersome, and may require employees to go through a multi-step process that can take several minutes: seeking access at a security desk, signing in, producing identification, and getting permissions verified. By contrast, a security process that employs facial recognition requires only a few seconds: The subject stands in front of a camera to gain authorization to enter. Similarly, any bank application can be moved into the building to be processed on premises, resulting in faster speeds and enhanced security.

5. Lower infrastructure costs

Neutral host networks require only a single network infrastructure to serve all needs. This means that installation costs and maintenance time are decreased. A centralized system simplifies management, consumes less energy and requires less equipment space. Plus, the same infrastructure is able to support multiple wireless solutions, such as a private 5G wireless network and multi-access edge computing.

6. Future readiness

With a neutral host network as the foundation, financial institutions will be prepared for the next wave of emerging technology trends and market innovations. Standardizing on a single platform allows for multiple entry points, maximizing infrastructure efficiency and flexibility. The neutral host network provides a scalable architecture supporting multi-operator networks, public and private network foundations, and centralized radio access network management.

Banks that choose a private 5G wireless network get a purpose-built network on neutral host network architecture that is designed for control and security and dedicated to the institution's desired applications. "As banking executives think about the next three to five years, they must make sure they have a reliable, flexible solution for their guests, employees, and users who carry mobile devices. A neutral host network is future-ready. As public and private 5G wireless network use cases become more prevalent, executives can enable those possibilities through software updates and slight hardware additions. They can evolve with it in a modular way," McClanahan says.

Next steps

Through Verizon-managed services, a neutral host network provides critical application support for coming advancements in computer vision, machine analytics, quality assurance processes and more. A neutral host network is a unique, cost-effective solution to power your financial institution's evolving digital strategy.

Learn more about how a Verizon neutral host network can enhance wireless experiences for your employees and customers, and improve business outcomes for your financial institution.