



Building a Better Banking Ecosystem with Modern Network Connectivity



WHITE PAPER

The technology infrastructure most businesses rely on is rapidly transforming, with the cloud and AI-driven technologies becoming essential for companies to improve customer experience, optimize their operations, and address evolving regulatory requirements.

For banks, in particular, technology now underpins so many facets of the industry's operations – from customer onboarding and analytics to securing communications globally between financial institutions, their partners, and investors.

Connectivity will be the fuel to effectively operate all the tools and applications within the banking ecosystem. With the 5G revolution upon us, every business will need a robust network strategy to operate their ecosystem.

As consumer, commercial, private, and investment banks continue to invest in digital infrastructure, building out their network infrastructure along with it will lay the groundwork to unlock new digital innovations and transformation within this sector.

With our largest and fastest 5G network and innovative networking solutions, T-Mobile for Business is the optimal partner to help banks deploy the latest applications for faster transactions, expand access to underserved communities, and streamline audit and compliance processes. By partnering with T-Mobile, banks also can strengthen enterprise security across their ecosystem and innovate to transform their business into the financial firm of the future.



THE PRESSING NEED FOR NETWORK MODERNIZATION IN BANKING

Several trends are disrupting the banking industry and driving the need for network modernization.

Similar to other industries, banks have had to grapple with data sprawl. They have a high volume of structured and unstructured data coming into and out of their ecosystem, whether it's customer transaction data, PII, or their own operational data. As more mergers and consolidations have taken hold in the industry, this problem has only worsened, especially for big banks.

Modernizing legacy infrastructure is another challenge banks face. Legacy systems, such as on-premise data centers, perpetuate operational inefficiencies, and limit enterprise visibility and interoperability across the entire banking ecosystem.

All of this affects banks' ability to deliver a modern customer and employee experience at a time when these groups expect a frictionless experience. Consumers, especially younger ones, now expect around-the-clock convenience. In fact, recent research indicates 60% of millennials have increased their use of online and mobile banking. This trend is also prevalent among affluent customers, as the same research found 50% of consumers making more than \$100,000 a year are increasingly banking online.¹

Banks also must modernize to improve their employee experience. Too often, manual processes hamper employees' work and overall productivity. Additionally, employees often lack access to data analytics that could help them personalize customer interactions in real-time. For example, a data-driven dashboard could prompt an advisor to provide information for specific loan products to a small business banking customer based on what they see in that customer's profile, or offer guidance to a personal banking customer who wants to open a new savings account but wasn't aware of all the personalized budgeting and tracking tools in the bank's app.

As banks face increasing competition from fintechs, brokerages, and challenger banks, network modernization is critical to drive backend automations that support employees' work and allow these organizations to integrate new data-driven innovations and emerging technologies, such as digital asset platforms that support digital currencies or self-service tools that optimize customer transactions.

Modernization is vital from a security standpoint, as well. Banks are now high-priority targets for hackers due to the sensitive data they collect. The prevalence of mobile banking has increased the need for secure Wi-Fi, mobile device management, and threat detection systems. Remote and hybrid work also have expanded the attack surface for organizations, creating additional connectivity and security issues for financial institutions. Before the pandemic, only 29% of financial services companies had at least 60% of their workforce working remotely at least one day a week. Over the last two years, that figure has jumped to 69% of companies.²

At the same time, building customer trust is essential for banks to grow their business and reduce regulatory and compliance risks. Modern network connectivity can support technologies that provide more robust network and enterprise security, such as endpoint management and security orchestration, automation and response (SOAR) platforms that allow banks to better protect data within their ecosystem.

All of these factors create a compelling argument, that for banks, the time is now for network transformation. As these institutions try to modernize their operations, they'll need to expand their capabilities in several areas.

¹ ["60 Pct of Millennials Increased Online, Mobile Banking Activity"](#) – PYMNTS.com

² ["Financial Services Firms Look to a Future That Balances Remote and In-Office Work"](#) – PwC



NETWORK TRANSFORMATION: THE CORE CAPABILITIES BANKS NEED

As banks modernize their network infrastructure, several technologies can help them build their capabilities, including 5G, multi-access edge computing (MEC), private networks, software-defined wide area networking (SD-WAN), and managed WAN services.



Banks should consider partnering with a provider that offers the largest and fastest 5G network and expansive coverage in local communities.

Recent research indicates one of the key barriers to innovation banks face is that their main technology vendors lack the capabilities they need. Only 16% of financial institutions say their core vendors have meaningfully contributed to their transformation efforts, according to Cornerstone Advisors' 2022 "What's Going on in Banking" study.³

Not all technology partners — or all network carriers — are created equal. When it comes to 5G and network coverage, many companies don't own enough bands or spectrum to provide expansive coverage. T-Mobile also has gotten a head start in deploying ultra capacity 5G to over 210 million people. Nearly every 5G network globally relies on mid-band frequencies, but many carriers in the U.S. have been slow to increase their mid-band capacity. However, we made these investments several years ago, which has allowed us to build a modern, high-performing 5G network that delivers both capacity and speed.⁴

5G also offers several security advantages for financial institutions. It has anti-tracking and anti-spoofing features that make it more difficult for cybercriminals to intercept sensitive data, along with 256-bit encryption compared to 4G's 128-bit standard —providing greater data security and protection. This serves banks well in different parts of their operations, from supporting mobile and digital payments to improving fraud detection.

We also have wireline connections that provide secure, reliable, and scalable point-to-point connectivity, which helps banks better support distributed work environments and gain the visibility, control, and agility they need to meet new business and customer demands. Taken together, these technologies allow banks to maximize network availability to better support applications, securely transmit data, and increase business resilience.

³ ["The End of Digital Transformation In Banking"](#) — Forbes

⁴ ["The State of 5G."](#) — T-Mobile



Private networks

Private networks, supported by 5G network connectivity, provide the speed, capacity, reliability, and security banks need to power their ecosystem.

Private networks function in the same way public cellular networks do, but are dedicated and deployed within an enterprise. This solution supports enterprise mobility, providing a secure environment for wireless devices banking employees use to access mission-critical systems and applications, such as customer relationship management (CRM) and liquidity management systems, trading platforms, and data and information platforms. As more banks implement a hybrid work model, private networks will be invaluable for ensuring optimal connectivity from employees working from branch offices, supporting new capabilities like virtual call centers, and ensuring business continuity during significant disruptions. Private networks also can help banks innovate with artificial intelligence (AI) and IoT, whether it's supporting the creation of mobile branches and ATMs, virtual tellers, or analytics-driven digital signage.

Multi-access edge computing (MEC)

MEC is one of the [key IT investments for most companies today](#), mostly due to massive growth in IoT devices and cloud adoption. Rather than sending information back to a centralized data center, MEC processes data closer to its intended source, resulting in lower latency and faster data processing. MEC also saves costs because financial institutions no longer need to send all their data to the cloud.

MEC is a critical technology that can drive personalized banking experiences and a range of backend and front-end processes and services, including customer onboarding, touchless customer interactions, and machine-to-machine communications between banking systems. MEC also can help banks create applications and innovations that require ultra-low latency, such as new anti-money laundering (AML) and know your customer (KYC) platforms that improve fraud detection and reduce financial risks.

MEC underlies several key solutions within the T-Mobile product ecosystem, including business Wi-Fi services, dedicated internet access, cloud networking, SD-WAN, and managed WAN — all of which enable banks to build a modern, secure network infrastructure that can help them stay connected, increase their operational efficiency and deliver an engaging customer experience.

SD-WAN

Software-defined networks allow banks to move away from physical networking infrastructure. This virtualized solution prioritizes and speeds up the flow of high-priority network traffic and delivers scalable network connectivity and security. While companies can self-manage their own WANs, accessing these capabilities as a managed service can help them more quickly expand their IT capacity, so they can reallocate resources to other areas that drive business growth.

SD-WAN also serves as the foundation for advanced network connectivity solutions like our upcoming SD-Edge solution, which integrates various network security services with the WAN to deliver secure access service edge (SASE) capabilities as a service. This allows banks to enhance security and take advantage of network technologies and innovations like 5G and IoT to support cloud modernization, remote work models, and new security approaches like zero trust that strengthen identity and access management.

5G, MEC, private networks, and SD-WAN can serve as the backbone for a modern network infrastructure that builds a better banking ecosystem. These technologies can drive network transformation that allows consumer, commercial, private, and investment banks to better serve their customers, reduce their risks, and evolve into future-ready organizations.

THE POWER OF NETWORK TRANSFORMATION IN BANKING

Network modernization can support several strategic initiatives and goals across the banking industry:

Consumer Banks

Modern network connectivity can help consumer banks deliver an omnichannel customer experience. Along with powering touchless digital interactions, mobile branches, and virtual tellers, advanced connectivity can provide the low latency necessary to support customer service chatbots that answer routine customer questions. This can free up customer service agents and in-person tellers to deliver more high-touch, personalized service when they interact with customers.

Connectivity is also crucial for advancing equity. Extended Range 5G, for example, can expand network access to underserved communities and increase secure, equitable access to banking for the unbanked and underbanked.

Network transformation can help banks maximize their use of data, as well. With lower latency and faster data processing driven by MEC, 5G and other technologies, banks can access real-time data that influences and accelerates credit and lending decisions, perform secure financial data aggregation to power digital apps, and deploy new features that further engage customers and build their loyalty.

Commercial Banks

Network transformation is equally important for commercial banks, which focus on serving businesses and corporate customers.

Security is paramount across the banking ecosystem. However, in the commercial banking space, network modernization can provide the speed, capacity, and reliability required to support various risk management activities, such as predictive modeling to score customers based on their potential risks or using biometrics like fingerprints and facial recognition for real-time fraud detection and prevention.

Network modernization can positively affect the employee and customer experience. It can streamline the customer onboarding process by giving employees timely and secure access to the data they need to verify customers, accelerate authorization decisions and open new accounts. It can provide the speed and capacity necessary to support various employee engagement and workforce planning efforts within commercial banking, such as augmented and virtual reality-based training for remote and new employees, a communications infrastructure that reduces operational costs and increases enterprise mobility, and workforce monitoring technologies that enhance employee productivity and mitigate potential insider security threats.





Private Banks

Stronger network capabilities can empower private bankers to deliver a more engaging, personalized experience when they interact in-person with clients.

Connectivity can enhance advisor effectiveness via access to real-time data to drive more tailored client services and recommendations, such as suggesting donor-advised funds to minimize tax exposure for high-net worth clients or automating client communications around specific events, such as reminding beneficiaries when they're nearing the 10-year deadline to make penalty-free withdrawals from an inherited IRA. Additionally, network modernization can help private banks increase their operational efficiency as they implement new cloud services and solutions that reduce costs and optimize their operations, such as new customer data management platforms, integrations with third-party investing and estate planning platforms, or call center automation technologies that allow relationship managers to respond to clients more quickly. All these services and solutions are data intensive, so optimal network speed, capacity, reliability, and low latency are critical capabilities banks will need to drive greater ROI from these technology investments.

Similar to commercial banks, advanced network connectivity can strengthen security and reduce compliance risks for private banks. Along with risk and predictive modeling, network modernization can help private banks maximize the security benefits of platforms such as advanced endpoint threat detection and security information and event management (SIEM) tools. These tools are especially critical now as threat actors increasingly turn to AI and machine learning to optimize and automate their cybercrime activities. With modern network connectivity that speeds data processing for automated security tools, private banks will be better equipped to respond proactively to these threats.

Investment Banks

Network transformation can support many of the same security use cases for private banks as it does for consumer and commercial banks.

Additionally, network transformation can provide the speed and capacity necessary to automate various audit activities, making it easier for investment banks to meet evolving regulatory requirements. These activities can include things like environment, social, and governance (ESG) reporting, compliance reporting related to new SEC regulations, or underwriting IPOs. For example, T-Mobile for Business gives banks access to secure messaging, voice calling, archiving, and recording, enabling them to efficiently scale compliance and reporting activities as they engage with regulators. T-Mobile also has a global presence, so banks with operations in financial centers around the world can take advantage of its wholly owned and managed global wireline and wireless network services — regardless of zip code or geographic boundaries.

Network transformation also advances operational excellence for investment banks beyond audit activities. It can facilitate secure, faster data processing that streamlines data integration between customer relationship management (CRM) platforms and other systems. Advanced network connectivity provides the low latency and reliability necessary for efficient machine-to-machine communications that drive high-frequency trading — positioning banks to get a higher return on their trades, potentially avoid significant losses, and deliver better results for clients.

As consumer, commercial, private, and investment banks look to innovate their operations, they likely can't go it alone. Banks should consider collaborating with a strategic technology partner to help them build a modern network infrastructure.

THE VALUE OF A STRATEGIC PARTNER

As they assess network providers, banks should consider a partner that offers unrivaled industry experience, embraces a collaborative mindset, and is focused on building a true partnership with their organization.

T-Mobile offers all these benefits. We have industry segment advisors with relevant experience who act as industry consultants and partner with internal teams to collaborate and deliver customized business solutions. On the technology side, we offer network technologies that drive cost efficiencies, such as dynamically-optimized rate plans based on usage, automation that reduces staff time or the need for additional headcount, and solutions that reduce the ongoing expense of maintaining legacy systems. We also have expertise in emerging technologies, a comprehensive security portfolio, and ultra-capacity and extended range network coverage — not just across high-band frequencies. Banks need a network provider that can help them build a true ecosystem. As banks assess potential providers, they should prioritize these capabilities and choose a partner that largely checks all these boxes.

A network provider's partnership ecosystem is another important factor. T-Mobile collaborates with other vendors to bring holistic network, software, and hardware solutions to banking clients. We also offer global wireline services, giving financial institutions the flexible, scalable connectivity they need to build a more agile and connected enterprise.

A strategic partner should be more than just a facilitator, but rather an orchestrator that can effectively align an organization's strategic objectives with the right solutions to build their network infrastructure for the future. With our deep domain experience in the financial industry, ubiquitous capacity and coverage, and industry-leading connectivity solutions, T-Mobile can provide all the support banks need to grow their digital business, deliver a better customer and employee experience, and build a more connected, secure banking ecosystem.



To learn more about T-Mobile for Business financial services solutions [visit our website](#) or chat with us on 844-983-2351.

5G: Capable device required; coverage not available in some areas. Some uses may require certain plan or feature; see T-Mobile.com. Fastest based on median, overall combined 5G speeds according to analysis by Ookla® of Speedtest Intelligence® data 5G download speeds for Q4 2021. Ookla trademarks used under license and reprinted with permission. Extended Range 5G includes low-band 5G signals. Ultra Capacity 5G includes dedicated mid- and/or high-band 5G signals.