

WHITE PAPER

**HUGHES**<sup>®</sup>

# Bank of the Future



HughesON<sup>™</sup>

# Three Keys to “Bank of the Future”: New Networks, Security, and Wi-Fi

The business of retail banking is in the midst of a dramatic paradigm change. The rise of competitive financial technology (FinTech) companies, the focus on digital native consumers, and the impact of sustained low interest rates have created a perfect storm that is transforming retail banking. It is far more convenient for customers (and cost-effective for banks) to deposit checks virtually via a mobile app, than to visit a branch and interact with the teller. As the need to conduct in-branch transactions decreases, banks are turning to technology to drive higher valued services. For example, interactive kiosks provide extended hours for consumers, address a wide swath of personal banking needs, and still enable consumers to access a live agent via two-way videoconferencing. At the same time, mobile tablets and a growing portfolio of banking apps are expanding the role of teller into a “Universal Banker,” who is ready to assist with loan applications.

As banks become increasingly dependent on technology to differentiate the customer experience, they also become increasingly dependent on the network. Insufficient capacity and high levels of congestion can ruin a customer’s experience at the branch. When self-service transactions fail to complete or video calls with live agents are too choppy to comprehend, customers become frustrated and refuse to use the very solutions banks are dependent upon to distinguish their brand. In order to help shepherd in this new era of banking and support “Bank of the Future” initiatives, Hughes is leveraging innovative technologies to address retail banking’s demand for higher capacity access, robust network security, and high-performance Wi-Fi.



## Network Capacity: The Need for New Options

When it comes to Internet access, customers have extremely high expectations based on personal experience. At home, they enjoy the benefits of private broadband Internet access, typically with connection speeds ranging from 5 Mbps to 10+ Mbps. When customers visit a bank, they still want high-speed access and yet may find themselves sharing a much smaller connection (e.g., 1.5 Mbps) with several other customers and bank employees.

In terms of network access, banks are often caught between two untenable choices: reliable, expensive solutions vs. cost-effective, unreliable solutions.

The industry norm of T1/MPLS provides consistent, enterprise-grade performance at an expensive premium. With the wave of digitization taking place in banking, a T1 (1.5 Mbps) is proving insufficient to satisfy these evolving business requirements. The alternative broadband solutions (e.g., DSL, cable) provide extremely cost-effective bandwidth, but with inconsistent performance. Due to varying levels of congestion, transactions may experience significant delays and VoIP/video calls may become garbled. Neither approach is a viable method to meet current market requirements. The first provides insufficient capacity at a cost-prohibitive price point, while the second provides inconsistent performance, which is not commercially viable at any price point.

The problem with broadband is that dynamically changing capacity negates traditional Quality of Service (QoS) solutions. Traditional QoS policies only prioritize the entry of data into the network and have no influence on the transport of that data once it is inside the network. When the network suffers from congestion, it compensates by randomly discarding data that exceeds the circuit's capacity. This packet loss ruins application performance which, in turn, ruins the customer experience.

Hughes employs innovative technologies to achieve consistent, enterprise-grade service over broadband connections; addressing random packet loss by

continuously taking real-time measurements of these dynamic connections. Hughes then deliberately shapes the data traffic to fit within the available capacity, avoiding packet loss resulting from insufficiency. In addition, Hughes enforces QoS policies to ensure network utilizations align with business priorities.

In order to meet enterprise-grade Service Level Agreements (SLAs) and provide consistent performance, Hughes augments typical broadband offerings with a real-time, end-to-end QoS. To maximize available capacity, Hughes leverages byte-level compression technologies to virtually magnify high-capacity connections for even greater performance. Hughes also dramatically simplifies policy management with a heuristic-based traffic shaping methodology. By managing data traffic on the basis of behavior, Hughes eliminates the need for dozens, even hundreds, of prioritization policies. With Hughes, banks are able to extract enterprise-grade performance out of higher speed, lower cost broadband connections with streamlined network policy management.

## Security Must Be a Core Competence

With increasingly frequent and sophisticated cyber-attacks, network security is vital to a bank's strategy. As evidenced by recent high profile credit card breaches, affected retailers can suffer significant losses in both sales and brand reputation. Customers simply won't visit locations or organizations they do not trust.

In the past, retail banking networks were simplistic: a private network with the singular task of supporting core banking applications. Today's digitization of retail banks requires a significant shift. Providing access to cloud-based banking applications and supporting a consumer's need for mobile banking often require open Internet access. The once modest private network requirements to safely address back office needs now must accommodate both the customers' and employees' need for Internet access.

When it comes to network security, the strength and scope of any solution must exceed the severity of the threat. Powerful Next Generation Firewall (NGFW) with Unified Threat Management (UTM) capabilities are required to deliver the strongest security possible. Hughes has partnered with leading network security firm, Fortinet, to natively integrate their market dominating portfolio of network security products with Hughes innovative WAN optimization capabilities.



## Wi-Fi Provides Critical Customer Insights

After network capacity and security, the final piece to supporting in-store mobility lies within the bank itself – in the air. To drive customer adoption of a bank's mobile application and employee utilization of Universal Banker tablets, banks need a flexible and robust Wi-Fi infrastructure that can deliver great performance and easily adapt to rapidly evolving market requirements.

Because five seconds now feels like an eternity to the customer, the ideal model for in-store mobility starts with a high-performance experience. Since mobile devices in the hands of customers and bankers compete for the same network capacity, a robust solution must provide proper access management aligned with business objectives to ensure an optimal experience for both groups. During periods of congestion, hard choices must be made. For example, the customer engaged in a two-way video call with a loan officer should take priority over the customer downloading the bank's mobile app. Wired and wireless networks must work together, automatically and dynamically, to deliver and ensure a high-quality customer experience.

In addition to supporting mobile initiatives, Wi-Fi in the branch addresses a variety of cross-functional requirements. For Marketing, Wi-Fi provides practical insight into the customer mindset. With insight into mobile browsing behavior, a Universal Banker can know which customers are seeking small personal loans

versus buying new homes. For Operations, Wi-Fi enables measurement of critical key performance indicators, such as employee responsiveness or customer wait times. For Human Resources, Wi-Fi can provide employees with greater accessibility to training and corporate communications. Future Wi-Fi-enabled initiatives may include location-based marketing, concierge services, and even live event broadcasts. These types of customer- and employee-based insights that can drive new initiatives are made possible by smart analytics but are only as good as the data that can be captured by the Wi-Fi solution.

## The "Bank of the Future" Requires a Powerful Network

The digitization driving the industry's transformation represents a strategic opportunity for banks to differentiate their customer experience and gain a competitive edge. To ensure success, banks need a powerful network with cost-effective and optimized bandwidth, comprehensive security, and leading edge Wi-Fi solutions that are flexible enough to adapt to rapidly evolving market requirements.

## About Hughes

Hughes Network Systems, LLC (Hughes) is the global leader in satellite broadband for home and office, delivering innovative solutions and a comprehensive suite of HughesON™ managed services for enterprises and governments worldwide. HughesNet® is the #1 high-speed satellite Internet service in the marketplace, with offerings to suit every budget. To date, Hughes has shipped more than 5 million systems to customers in over 100 countries, representing approximately 50 percent market share. Its products employ global standards approved by the TIA, ETSI, and ITU organizations, including IPoS/DVB-S2, RSM-A, and GMR-1. Headquartered outside Washington, D.C., in Germantown, Maryland, USA, Hughes operates sales and support offices worldwide, and is a wholly owned subsidiary of EchoStar Corporation (NASDAQ: SATS), a premier global provider of satellite operations and digital TV solutions. For additional information about Hughes, please visit [www.hughes.com](http://www.hughes.com).

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