
WHITE PAPER



Digital Transformation In Retail Banking

BUSINESS & CUSTOMER
FOCUS



TABLE OF CONTENTS

INTRODUCTION	3
USE CASE #1: DIGITAL ENGAGEMENT	3
USE CASE #2: DIGITAL BUSINESS TRANSACTIONS	4
USE CASE #3: CUSTOMER CENTERED BANKING	4
USE CASE #4: DIGITAL CHANNELS	4
USE CASE #5: LOCATION BASED DIGITAL MESSAGING	5
USE CASE #6: DIGITAL WORKSPACES	5
USE CASE #7: DIGITAL FINANCIAL ADVISEMENT	5
USE CASE #8: DIGITAL INSIGHTS	5
USE CASE #9: DIGITAL CONNECTIONS	6
USE CASE #10: DIGITAL BANKING TRANSACTIONS	6
SUMMARY	6



INTRODUCTION

Next Gen Retail Banking

The rise of digital online only banks and the growing threat from Big Tech as they expand their footprint in retail banking is imposing competitive pressures on traditional brick and mortar retail banking institutions. Big Tech has been launching banking products such as; a credit card from Amazon in partnership with Synchrony Financial, an e-money license from Lithuania for Google that extends Google Pay capabilities across the European Union, a digital currency called Libra from Facebook, and Apple Card from Apple and Goldman Sachs.

In the current digital era, consumer willingness to trust and purchase financial products from Big Tech players is growing. Against these rising threats, traditional brick and mortar retail banking institutions are being forced to reinvent their retail banking models and adapt to the digital age to stay competitive and relevant to their customer base. Furthermore, amidst the COVID-19 pandemic and an uncertain economic environment, retail banks are expected to ensure business continuity, accelerate efficiency programs and reduce technology & operating costs across thousands of brick and mortar banking centers while simplifying and transforming the user experience with high tech, high touch digital channel engagement.

At the core of any digital transformation is a suite of transformative application services supported by infrastructure. Aruba's suite of wired and wireless infrastructure, and edge to cloud platform as a service portfolio, positions retail banks to securely on-board and operate disparate end point infrastructure while helping retail banks accelerate all services to digital. This end point infrastructure can exist anywhere; within banking centers, at campus sites and in the current COVID-19 situation increasingly at employee homes.

In this white paper we review transformative digital use cases with a business and customer-centric focus, supported by Aruba, a Hewlett Packard Enterprise company.

USE CASE #1: DIGITAL ENGAGEMENT

On Premise Customer Wi-Fi

Retail banking institutions are deploying Aruba Wi-Fi for a number of reasons. The foremost is enabling customers to download their mobile banking apps at banking centers. A large retail banking institution in the US with stagnated mobile banking growth deployed customer Wi-Fi at banking centers and over the last 4 years experienced its mobile



banking adoption rate tick up 10% year over year, currently standing at 29+ million mobile users. This retail banking institution realized early on that banking center customers were unwilling to consume their cellular data plans to download the mobile app. They quickly positioned free customer Wi-Fi as a first step towards digital engagement & over time met with a high degree of business success. The Aruba ClearPass policy and access control solution, allows for branded captive portal authentication at scale enabling thousands of unique customer device connections per day.

The latest advancement in Wi-Fi standards, namely Wi-Fi 6 comes with seamless and advanced encryption to which Aruba led and contributed to. It overcomes the security limitations of prior Wi-Fi access schemas and facilitates a frictionless secure customer connection. Wi-Fi 6 with Wi-Fi Protected Access 3 (WPA-3) security supports Open Wireless Encryption (OWE) and Simultaneous Authentication of Equals (SAE) which deprecates prior Wi-Fi pre-shared key based security mechanisms and eliminates the inherent exposure with open Wi-Fi (i.e. no pre-shared key/password required). From a retail banking perspective, both of these prior customer Wi-Fi access options were cumbersome and left open the potential for off-line brute force dictionary attacks on guessing the pre-shared key and/or "man in the middle" attacks in the case of open Wi-Fi.

With Aruba's Software-Defined Branch (SD-Branch) gateway, customer Wi-Fi at banking centers is no longer required to be hauled back and forth to data centers for Internet access which can at times result in a poor customer experience. In this traditional model, besides contending with banking center traffic, bandwidth consumed by customer Wi-Fi is paid for twice; once for consumption between the remote banking center and data center and then yet again between data center and the Internet. Aruba ClearPass, Gateways, and management solution called, Aruba Central provide for centralized policy enforcement & mgmt. with deep packet inspection (DPI), web filtering, stateful firewall, and



intrusion detection/prevention system (IDS/IPS) functions. This provides secure local egress of customer Wi-Fi traffic at banking centers via a business Internet broadband access link with visibility, control, event alerting and logging functions while making efficient use of access links, and optimizing cost.

Customer Wi-Fi brings increased mobile digital engagement and transactions with customers and employees, that is transforming the traditional customer banking center experience, enabled by digital apps that are replacing legacy paper transactions. These range from e-account opening and e-signatures to personal/home/auto loans, mortgages and other e-business financial transactions. Banking institutions are no longer referring to their remote sites as branches, they are now called “banking centers” and/or “banking cafes” where customers can come, relax and get all of their questions answered and financial needs met.

USE CASE #2: DIGITAL BUSINESS TRANSACTIONS

Smart Mobile Roll-out to Employees Operating within Banking Centers

In conjunction with customer Wi-Fi, retail banking institutions are deploying corporate Wi-Fi at banking centers and equipping their employees with tablets to digitally engage with customers 1:1, at the same level as the customer. The smart hand helds being deployed are typically iPads which provide for site wide mobility. The Aruba Wi-Fi platform provides a high-quality mobility experience throughout the banking center. This blanket wireless coverage at banking centers is a key factor to employee satisfaction and increased levels of productivity with employee and customer digital engagement.

USE CASE #3: CUSTOMER CENTERED BANKING

Cross Selling Opportunities at Banking Centers

Together with traditional consumer and small business banking transactions, retail banking institutions are increasingly looking to expand their services portfolio to include other lines of business that have traditionally existed at separate remote sites or in corporate/campus locations. State of the art Aruba switching and Wi-Fi infrastructure provides for increased edge security, high I/O capacities, increased wireless speeds with high density supporting an expanded service footprint and application portfolio. These financial services now include customer access to home, auto

and small business loan specialists, wealth and investment management field advisory, all armed with iPads or smart mobiles running customer focused business applications.

USE CASE #4: DIGITAL CHANNELS

Digital Signage and Marketing

The potential for digital marketing consolidation across different lines of businesses and/or the potential to bring digital marketing in house is made possible with Aruba switching, Wi-Fi, ClearPass Policy Manager, and Branch Gateway platforms. Real time advertising or marketing content can be securely streamed to HDTV displays on premises either via the corporate network link or via the public Internet broadband link securely supported by the Branch Gateway.

In this use case, the HDTV display is representative of an Internet of Things (IoT) device connecting into the network. For retail banking customers this IoT scenario presents a significant security challenge. Aruba ClearPass' centralized role based policy management and dynamic segmentation capability identifies the IoT device which in this case is the HDTV and automates the HDTV switch port security configuration. Together with the Branch Gateway, centralized role based policies are auto enforced ensuring that all HDTV and/or IoT traffic is solely allowed to known and allowed destinations with effective isolation from the rest of the banking center and internal network.

Security functions within the Branch Gateway include deep packet inspection (DPI), web filtering, stateful firewalls and intrusion detection/prevention system IDS/IPS. Each configured and managed via Aruba Central, this provides for centralized policy enforcement and management with visibility, control, event alerting and logging functions. All of these security functions have long been mandated by security teams to mitigate threats with public Internet exposure at banking centers.

As a cost effective alternate to HDTV screens traditionally used for marketing, low cost Electronic Shelf Label (ESL) displays currently available now mirror the size of a letter size page. These ESL displays can be used to replace business paper fliers posted on premises or at banking center entrance doors to visually denote “Open” or “Closed” or business operating hours or any other banking center specific customer communications, all monitored & managed centrally.



USE CASE #5: LOCATION BASED DIGITAL MESSAGING

Personalized Messaging and Targeted Advertising

Through the Aruba Meridian platform, Bluetooth Low Energy (BLE) beacon technology, Apple IOS and Android Software Development Kit (SDK) integration into the consumer mobile banking application, lines of businesses operating within banking centers can deploy proximity based targeted digital messaging for customers using the mobile phone banking application. The Meridian platform can also be used to trigger the delivery of SMS push notification messages to customer's mobiles.

Zone based personalized messaging can include time of day greeting acknowledgement for customers entering the banking center with a prior scheduled mobile app appointment or they can be sent current home/auto/mortgage/business loan rates that are relevant to the customer. Meridian preset marketing campaigns and promotions defined and managed by the line of business can target specific banking center customers based on banking relationship, personal interest and relevance.

USE CASE #6: DIGITAL WORKSPACES

Intelligent Space Management

Aruba technologies such as Wi-Fi, Meridian cloud platform, Bluetooth Low Energy (BLE) beacon technology, Asset Tags and available Meridian SDK mobile app facilitate a number of workspace digitization opportunities in conjunction with partner ecosystem platforms and in some cases connect back as required into banking application platforms. Besides enabling full workspace mobility, these workspace digitization opportunities range from conference room reservation & signage, asset tracking, people directory & location awareness and real estate insights on workspace utilization and optimization.

Conference room reservations can be conveniently booked in real time via the mobile app and synched with an email calendaring system. Digital signage at conference rooms, display real time visual updates about scheduled meetings - "in progress" or "open/available." People directory & location awareness can be enabled via an employee mobile app and based on employee login and opt-in can be used to identify employee location on a floor/site with a blue dot path for location wayfinding. Through Wi-Fi and Bluetooth, conference room and workspace utilization can be monitored and

the floor/site usage insights generated over time can be leveraged for workspace restacking and optimization. This eliminates the traditional manual walk-through and point in time clipboard tracking of workspace usage by real estate personnel.

USE CASE #7: DIGITAL FINANCIAL ADVISEMENT

Real Time Video Conferencing

Positioning an immersive alternative to traditional audio calls via high quality live video conferencing, wealth & investment mgmt. field advisors can avail of video conferencing with institutional investors and high net worth clients from the comfort of their banking center office or homes connecting directly with clients at their home offices. Video conferencing options within remodeled banking centers include designated room space for video conferencing or site wide mobile video conferencing using an iPad or tablet. Aruba software is optimized to work with all of today's popular video conferencing solutions.

USE CASE #8: DIGITAL INSIGHTS

Customer Experience

In the case of banking center Wi-Fi offerings, the Aruba Central solution provides anonymized basic information on customer dwell times within premises for both types of customers; ones that sign on to the customer Wi-Fi network plus those customers whose mobile phones simply associate via Wi-Fi RF but do not sign on. Bluetooth and Wi-Fi connectivity data provide for foot traffic mapping and contact tracing within banking centers with rich business analytics provided by Aruba's partner ecosystem.

The business can now analyze and report on banking center customer visits based on time of day, day of week, week of month and month of year reporting on customer dwell times, foot traffic pattern analysis and site layout effectiveness. The business can gain insights into facility usage during business hours which can be useful when determining real estate site expansion, interior modifications and/or also assist in real estate closures based on real metrics and not unfounded assumptions. As an example, dwell times at teller terminals in the banking center lobby can be analyzed to understand average, peak customer waiting times.



USE CASE #9: DIGITAL CONNECTIONS

Reaching an Expert

Many retail banking institutions have been remodeling banking centers and consolidating financial service functions with supporting personnel within this remodeled real estate footprint. Besides traditional tellers, servicing includes personal and SMB loan specialists, home, auto, mortgage loan specialists and wealth management client advisors, making the banking center a one stop shop for all of the customer's financial needs. However, since remodeling banking centers come at a significant cost, normally only the highest tier banking centers are remodeled. This means that while finance specialist resources are consolidated, there is still a business need to make these limited specialist resources available to customers at non-remodeled banking centers and elsewhere. Through either the customer mobile banking application or a designated space in a non-remodeled banking center, customers can connect live via video conferencing to a financial subject matter expert (SME) armed with an iPad or tablet.

USE CASE #10: DIGITAL BANKING TRANSACTIONS

Next Gen ATMs

Advanced ATM machines combine the technology and convenience of ATMs with the human touch of a remote teller. These next gen ATMs offer live concierge banking services that go beyond traditional ATM cash/check deposit and withdrawal transactions, i.e. pay credit card balances,

process home mortgage/s, car loans, business loans, etc. The Aruba SD-Branch gateway's application centric Quality of Service (QoS) capabilities facilitate a rich quality of experience for real time audio and video application streams while simultaneously supporting the secure transport of financial transactions.

SUMMARY

Retail banking institutions will need to successfully navigate the digital curve while positioning for COVID-19 recovery. In this recovery phase and perhaps well beyond it, human transactions will increasingly be replaced by contactless digital transactions. Thus, retail banks will have to look inward and position for banking and customer servicing via applications and digital platform infrastructure that will also help them to thrive post COVID-19 with the rebound.

We have seen from the many transformative digital use cases outlined in this white paper, that Aruba's secure intelligent infrastructure from edge to cloud and platform as a service capabilities enable retail banking institutions to reinvent the employee and customer banking experience, ensuring high levels of employee and customer satisfaction with enduring brand relationships that persist well into the future.