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Empower Tomorrow's Banking Workforce

Transform business practices and revolutionize customer experience with Intel® Technology-based innovations

This solution brief describes how to solve business challenges through investment in innovative technologies.

If you are responsible for....

- Business Strategy: You will better understand how digital transformation can help you deliver more compelling services to your customers while enhancing branch performance and staff productivity.
- Technology decisions: You will learn how Intel technologies can support an integrated, industrystandards-based IT environment to drive digital transformation across your business.

Financial service providers must stay relevant in the face of huge disruption to the industry. The branch needs to deliver a truly outstanding experience to attract and satisfy millennials, a third of whom[2] believe that in the future they will not need a bank at all.

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Industry Strategic Challenges

Today's financial services providers face increasing pressures from every direction. Regulatory requirements and the ever-evolving threat posed by cyber criminals mean they must continuously ensure that their security measures and operational processes are keeping their customers' data safe.

Meanwhile, these customers want to interact with their banks in increasingly diverse ways. Mobile and online banking are now the norm for many, particularly millennials, many of whom no longer use bricks-and-mortar branches at all[1]. It is therefore critical that they receive a consistent and integrated customer experience across whichever channels they choose to do their banking.

Not only must the experience be consistent; it must also be highly personalized. Customers want their bank to know them as individuals, and to tailor the products and services it offers to them. Financial service providers that do not do this put themselves as a disadvantage in today's competitive banking landscape. However, for many this is easier said than done. Customer data may be held in multiple siloes across an organization's decades-old infrastructure, meaning that creating a single, 360 view of the customer upon which to build personalized services can be prohibitively costly or time-consuming, or simply impossible.

The day-to-day burden of delivering this next-level customer service while navigating data siloes, regulatory obligations and outdated workflows falls heavily on customer-facing branch employees. Rather than battling against existing processes and resources that may hinder their ability to do their jobs today, they need tools that will empower them to deliver on – and exceed – tomorrow's customer expectations.

Branch Transformation & Business Innovation

Dealing with these challenges – and whatever new ones come next – requires banks to re-think some of the most fundamental aspects of their business, such as how they engage with and understand their customers, and the role of the physical branch in the multichannel banking world. The steps they take next may well be disruptive, but they should drive a digital transformation that will position them well to compete as customer-centric, multi-channel financial service providers.

There are many opportunities for digital transformation in banking, including:

- **Workplace transformation:** introducing new technologies and access to richer data for employees, to enable them to overcome productivity barriers, collaborate more effectively, reduce administrative burdens, and offer customers a richer, more personalized service.

- **Boosting security:** using the latest in multi-factor authentication and biometrics to protect customers' data from unauthorized access, while also ensuring all employee devices get the latest security patches and updates.

- **In-depth analytics:** breaking down data siloes to create a centralized view of all the data the bank holds about any individual customer, and then applying advanced analytics to identify the most relevant and timely offers and communications for that customer.

- **Operational efficiency:** using Internet of Things (IoT) sensors and gateways, combined with analytics, to automate the monitoring and maintenance of properties such as ATMs, predicting and even preventing issues to maintain high levels of service.

Branches and their staff can play an active role in supporting these innovations by:

- Providing proactive education on digital banking tools to their customers

- Focusing on developing their role as advisors and providers of value-add services

- Empowering employees to make issue resolution into a strength by responding to and resolving problems faster using digital tools.

A Day in the Life of a Digital Branch

Each financial organization must make its own decision about how and where digital transformation can best and most immediately impact its own business and customers. However, let's explore a typical customer journey with a fully digitally transformed bank.

At home

Customer speaks to bank's call center

Call enters bank's central data repository

Bank performs advanced analytics on all customer data to decide next action

Intel® Solid-State Drives
Intel® Xeon® processor-based servers
Saffron Technology™
Intel® Nervana™ technology
Cloudera Enterprise Data Hub* (EDH)

Customer receives targeted offer from bank

Secure touch-to-pay, enabled by FIDO-certified Intel® Online Connect

At the branch

Account manager checks customer's account details on her 2in1 device

Intel® vPro™ Technology
Intel Authenticate Technology
Intel® Solid-State Drives (Intel® SSDs)
Intel® Data Guard

Account manager shares details with customer

Intel® Unite™ solution

Customer signs new contract

Digitized Biometric Signature software

Intel® Active Management Technology

Account manager leaves device at office for remote updates

Customer leaves bank with new contract

At home

Chris has been a checking account customer of Good Bank for a number of years. He also has travel insurance with the bank, as he often travels to Germany on business. In a recent conversation with the bank's call center, he mentioned that he is thinking of purchasing an apartment in Frankfurt to make his long trips away from home a bit more comfortable.

Good Bank's central data repository holds all these details about Chris in one place, pulling in details from structured data sources like its checking account database, and unstructured sources like its call center recordings. By applying analytics to this data, the bank automatically identifies the opportunity to upsell to Chris by offering him a mortgage for his new apartment. It can also offer him a very favorable rate, as his years of reliable credit card repayments have shown him to be a low-risk customer.

The next day, Chris uses his notebook PC to check his account online. He uses his fingerprint to authenticate his identity as part of his log-in process. He finds a message from his bank, with some initial details of the offer and an invitation to come into the branch to discuss it with his account manager. Chris typically does all his banking online, but as this is such a timely and compelling offer, he is willing to make the trip and benefit from speaking to an expert advisor about his new mortgage product.

In the branch

Priya is Chris's account manager at Good Bank. She uses a 2in1 device to access all the programs and data she needs throughout the day, and to conduct business with her customers. This enables her to work both in the branch, or at a customer's home or office. Before her meeting with Chris, she checks her schedule and can see not only his name and the mortgage offer details, but also an overview of his entire history with the bank. At the same time the bank's system uses advanced analytics to compare Chris's history and situation with those of similar customers to provide additional recommendations to Priya around other products or services that may be of interest.

With so much sensitive client data at her fingertips, it is essential that only Priya is able to use the device. It is secured using hardware-based, multi-factor authentication, which controls access to the device, the operating system and the bank's local data, as well as the network and any cloud applications, all based on corporate policies. The factors she may use to authenticate her identity include a protected PIN, proximity to another device (like her mobile phone), or biometric features such as her fingerprint. Hardened data encryption also works in the background to protect her files. It can create a 'digital fence' around Priya's machine and data, helping keep separate trusted and untrusted zones, and ensuring a full audit trail is in place of all data use.

During their meeting, Priya wirelessly connects her device to the display screen on the wall of her office, so that she and Chris can both easily view and comment on the documents they are discussing. She talks Chris through the mortgage offer, and is able to make changes to it on the fly.

She can check details of Chris's existing accounts instantly, and can even create customized tables or charts to show how adjustments to his repayment terms would impact his day-to-day cashflow.

Once Chris and Priya have agreed the details of his new mortgage, Priya pulls up the contract on her 2in1 device. Chris signs the electronic document on the device's touchscreen. The device runs digitized biometric signature (DBS) software that captures and encrypts his signature to create a legally robust copy of the signed contract. This document is then saved directly to the bank's system. Priya sends a copy of it to Chris's email for his records and shows him how to download the bank's app, where he can also access the details of all his accounts and transactions. The app is secured using FIDO Alliance frictionless, industry-standard authentication.

When Chris walks out of their meeting, his mortgage is in place. He has enjoyed a proactive, personalized and efficient service from his bank, while Priya has completed her tasks efficiently and securely. She also has the satisfaction of being able to focus on the parts of her job that add value for her customers, rather than spending a lot of time on paperwork.

That evening, Priya switches off her 2in1 device and leaves it at the office when she goes home. Overnight, the bank's IT team remotely accesses her device to run any updates and security patches that are needed to ensure her core tool remains secure and reliable. Even on days that Priya chooses to take her device home with her, these updates can still be carried out remotely overnight.

Solution Summary

Intel works with a broad ecosystem of financial technology specialists to design and build the right digital transformation journey for each of its customers. The core technologies that these solutions are based on include:

Advanced Analytics: Intel® Solid State Drives (Intel® SSDs) and Intel® Xeon® processor-based servers power big data repositories and frameworks such as Apache Hadoop* and the Cloudera Enterprise Data Hub*. Not only does this enable banks to achieve a 360-degree customer view. Machine learning and artificial intelligence solutions such as Intel® Saffron and Intel® Nervana™ can help make sense of complex data sets and generate deeper, faster insights – for example potential fraud threats can be flagged and resolved more quickly and proactively.

Employee and Customer Devices: 2in1 devices powered by 7th Gen Intel® Core™ vPro™ Processors deliver strong computing capability, hardware-enhanced security and give control with remote manageability. New devices deliver 70 percent[4] productivity increases, and offer busy employees a reliable 10 hours[4] battery life to see them through the work day. Performance automatically adjusts to where it is needed most, enabling a 60 percent[5] increase in multi-tasking.

Devices also feature:

- Intel® Online Connect, which unlocks locally stored private encryption keys using biometric characteristics as part of a multi-factor authentication process for customers logging onto their online accounts. This aligns with the goals of the Fast Identity Online* (FIDO*) Alliance, of which Intel is a member.

- The Intel® Unite™ solution, which powers productive and secure collaboration. Meetings start fast with easy wireless content sharing to room displays and other devices connected to the corporate network. Security and access can be configured with protected guest access and integrated controls for other room and collaboration technologies.

- Intel® Active Management Technology (Intel® AMT - a feature of Intel® vPro™ Technology), which uses integrated platform capabilities and popular third-party management and security applications to allow IT or managed service providers to better discover, repair, and protect their networked computing assets. Intel AMT also saves time with remote maintenance and wireless manageability for your mobile workforce.

- The Intel® Authenticate solution, a hardware-enhanced identity protection solution that delivers customizable multi-factor authentication options to fit your IT policy needs while giving you a comprehensive solution that is easy to deploy.

- Intel® Data Guard provides hardened data encryption that protects files on IT-managed PCs and works with existing IT tools. The solution is simple to use and provides flexibility for employees to easily control their file properties.

Find the solution that's right for your organization. Contact your Intel representative or visit **intel.com/FSI.**

Solutions Proven By Your Peers

Intel Solution Architects are technology experts who work with the world's largest and most successful companies to design business solutions that solve pressing business challenges. These solutions are based on real-world experience gathered from customers who have successfully tested, piloted, and/or deployed these solutions in specific business use cases. Solution architects and technology experts for this solution brief are listed on the front cover.

You may also find the following resources useful:

Partner Solution Briefs
- Saffron - Addressing Financial Services Challenges with Cognitive Analytics
- Intel® Nervana™ Platform Delivers Deep Learning Analytics

Other Useful Resources
- FIDO – Banks Seek to Stop Fraud in its Tracks with Simpler, Stronger Authentication
- Biometric Signature Solution

Product and Technology Resources
- Intel® SSDs
- Intel® Authenticate
- Intel® Data Guard
- Intel® Unite
- Intel® vPro™ Technology

Solution Provided By:

[1] BBVA: 'Millennials' are Driving the Digital Transformation of the Banking Sector, July 2016, https://www.bbva.com/en/news/economy/technology/millennials-are-driving-the-digital-transformation-of-the-banking-sector/

[2] Scratch: The Millennial Disruption Index http://www.millennialdisruptionindex.com/

[3] As measured by the overall score of SYSmark* 2014, which is a benchmark from the BAPCo* consortium that measures the performance of Windows* platforms. SYSmark tests three usage scenarios, including office productivity, media creation and data/financial analysis using real applications from independent software vendors such as Microsoft* and Adobe*.

[4] As measured by Windows 10* EEMBC Browsing Bench Component Average Power. 7th Generation Performance Measurements and Battery Life Projections: Intel® Core™ i5-7300U Processor, PL1=15W TDP, 2C4T, Turbo up to 3.5GHz, Memory: 2x4GB DDR4-2133, Storage: Intel® SSD 535 Series, Display Resolution: 1920x1080. Intel® HD Graphics 620, OS: Windows® 10

[5] As measured by SEG562, which is an office productivity and multitasking workload using Microsoft Word* (save to PDF), Excel* (recalc), PowerPoint* (slide sort), and NXPowerLite Desktop* (to shrink contents with office documents, kind of like compression), all while playing video in the background (simulating the watching of a business training or webcast).