



# Why banks need to rethink their approach to the cloud

Cloud-based ATM software will facilitate innovation to revolutionise performance and customer experience

*A white paper by Auriga*

Intense and dramatic innovation in payments and financial services is leading to the emergence of new business models. New challenger banks and fintech businesses are competing against banks which have been established as leaders in the market and have long dominated the space. These businesses, often start-ups, are gaining ground by providing improved customer service. Supported by a technologically advanced architecture and a culture of innovation, they are more agile than traditional banks and more open to exploiting new opportunities.

However, the situation represents a great opportunity for traditional banks. Over the past 20 years, they have been brought into the digital era, through services like internet banking and mobile banking. Utilising a customer-centric approach has allowed them to reap the rewards. One of the driving factors that enabled banks to embrace internet banking so successfully was the ground-up approach to designing these services. With fewer pre-constraints, banks were able to build agile, effective offerings that met customer expectations. This represented a big step in decoupling banking from the cashiers and phone staff. Internet and mobile banking have taught consumers to trust self-service technology for their banking. Moving such services to a cloud is now a

smaller step for consumers to accept.

While key banking channels that are hugely important to customer engagement are nearly all in the cloud, the ATM has been left relatively untouched by cloud technologies and locked away from the potential benefits. With increased pressure for banking to become even more customer-centric, this omission is something that banks need to address as a priority. To deliver improvements in the quality of service to customers, banks need to rethink how they run their ATM channel and associated managed services.

Banks have traditionally run their ATM fleets using a “Fat Client” approach, with the ATM software relying entirely on the processor power, decision and logic systems of each ATM. To ensure service keeps pace with new demands and requirements, this approach depends on resource-intensive software roll outs, and there is an increased scope for errors to occur within the machine itself. The opposite of this is the “Thin Client” approach which has a lightweight hardware requirement, relying instead on a remote server to provide the “brains” to process transactions. This approach is vulnerable to network or telecommunications outages and issues, and also limits the hardware options for the bank.

When ATMs were first introduced, a hardware-centric approach, in which the hardware vendor was also providing the software, delivered the resilience and assurance banks needed to build public trust. This has changed in recent years, with the development of a multi-vendor approach, and the arrival of several independent software specialist companies, where software is able to run on a variety of vendor machines – where either the software provider creates hardware or is completely independent of any hardware interests.

Technology teams in the banking industry understand the conceptual benefits of the cloud, and have already successfully deployed it across multiple digital channels. It is a scalable and flexible technology, which enables improved customer experience, and streamlined back-office operations. When applied to the ATM, many of these advantages become even clearer. However, these benefits cannot be realised without the adoption of a smart, cloud-based omnichannel architecture.

Exploiting cloud technologies provides the best approach which sits somewhere in between the fat and thin client models – a solution often known as a “Smart Client”.

The fat or thin client approaches have limits and constraints compared to a smart client solution. Smart clients are able to take the best elements of both strategies while minimising downsides such as intensive software roll outs or being susceptible to network outages. A cloud technology strategy for ATMs untaps a hugely valuable resource that has been trapped in a silo. ATMs exploiting cloud technology could be a seamless part of an omnichannel strategy. Auriga’s specific implementation of the smart client approach fits with both omnichannel and cloud strategies for banks.

## **Why banks need the cloud**

Cloud-based architecture makes managing ATM networks significantly more cost effective and productive. It offers the capability and resources to quickly update ATMs centrally, which allows new services and interface alterations to be rolled out quickly and effectively. And these services can be shared with other channels such as mobile and

Internet banking. Given that an ATM network is spread across a country, a smart client approach allows updates to be rolled out remotely, without physical access to the ATM being needed.

An omnichannel infrastructure manages the ATM stock in a more efficient way, and can be setup to integrate core systems that would typically be too complex for banks to substitute. This enhances the customer experience, enabling rapid deployment of new products and services, and dramatically reducing the total cost of ownership.

From a business strategy perspective, this is a simple concept. A seamless experience for customers and transactional integration that boosts opportunities for customers to use services – for example, a cash withdrawal could be started on a phone and completed on an ATM. A cloud-based ATM architecture recognises that the logic for a transaction (e.g. a bill payment) needs the same resources and process, irrespective of whether the transaction is initiated in a branch, on a mobile device, or from a mobile internet-enabled device. The only differences lie in how the customer is identified and in the customer interface. If this logic is centralised through the cloud and the authentication is tokenised, then transactions can be re-used and delivered through a range of customer service channels. This is already the case across many European countries.

## **Market structures and legacy systems**

The consumer benefits of the cloud for the ATM are clear, as are the benefits of enabling a wider omnichannel strategy. So, why haven’t all banks already adopted this technology? Market structures and legacy systems, as well as the separation of the ATM team from the digital team, have kept ATMs siloed for several decades.

Most of the global ATM fleet is currently deployed using the fat client approach explained above. The ATM hardware vendors typically prioritise the processing power of the ATM over a cloud-based approach, as this fits their commercial strategy. A clear disadvantage for banks is that a hardware-centric approach increasingly relies on

expensive devices.

When a bank is in the process of upgrading, or implementing, an ATM solution, the separation of the processes for hardware and software selection is key. This means the bank is more likely to decide based on the best architecture available, and therefore enable it to offer more services to customers.

## **A Third Way for ATMs in the Cloud**

As banks look to make ATMs part of their omnichannel strategy, we have seen the development of a middle ground in how ATMs are managed. A vendor independent, smart ATM approach, powered by a cloud-architecture, combines device development with host development, offers an ample range of advantages in terms of integration, security challenges faced by banks, costs and time-to-market.

Running cloud-based ATM software is likely to trigger much faster innovation by offering faster time-to-market for promoting new services and functionalities to customers and prospects.

Thanks to modern modular web and cloud-based architecture, banks can transform standard ATMs into platforms which offer a much wider set of services, including selling tickets, making bill payments or charity donations, and even allowing international money transfers. Cloud technology can simplify issues like outsourcing, where models such as Infrastructure as a Service can provide several benefits.

Understandably, given the data and currency held in ATMs, and the access they provide as endpoints to the rest of a bank's network, the security of customer channels is a vital consideration for the banking industry. ATM vulnerabilities typically come from a malicious end user with access to the machine itself, which is the tactic used in the majority of successful attacks. ATM software suppliers who are approaching this topic with banks must have a proper plan in place to manage security concerns. Encryption, masking and whitelisting are all available in a cloud-based approach to manage ATM security and prevent attacks on the endpoint.

## **Future of the cloud and ATMs**

Looking ahead, we're likely to see an omnichannel banking system based on a cluster of private clouds in front of a proprietary cloud. However this picture may change depending on regulatory requirements. In an era of open APIs, banks have little choice but to open up their systems if they want to offer engaging services that ensure customer retention. This requires a carefully planned, integrated cloud implementation and security strategy.

Financial institutions should embrace cloud-based ATM software, because it improves the customer's experience, as well as generate extended IT-related cost savings. It enables better integration with other digital channels and with non-banking services. It vastly improves the customer experience, both at the ATM and for the customer with the bank generally. This significantly reinforces the relationship between the customer and bank – and that is the key to the future of banking.

Auriga has been cloud-centric since we began in the internet banking industry 25 years ago. We are built on the principle that self-service banking provides a better experience through the cloud, a concept which our industry is now acknowledging. Our Smart Client architecture provides operational robustness, which, coupled with central management of the ATM services, provides distinct advantages over the "thin-client" and "fat-client" alternatives.

