



## Case Study

# Samba Financial Group

Leading Saudi bank gains innovative functionality and will achieve EMV compliance in ATM network using ATM Developer from Level Four Software.

Samba Financial Group (SAMBA) is one of the largest publicly traded banks in the Kingdom of Saudi Arabia. The bank took over Citibank's operations that were first established in the Kingdom in 1955. A merger with United Saudi Bank (USB) in 1999 has seen it become one of the largest and most profitable banks in the Middle East with capital of SR 6,000 million and with approximately 3,000 staff.

SAMBA has a reputation for being at the forefront of developments in the Saudi banking sector. For example, it was the first bank in Saudi to offer Priority Banking (Gold and Diamond), Phone Banking, Credit Shield, Saving Linked Insurance, Cash Deposit through ATMs, Speed Cash Remittance Service and Automated Signature Verification. In 2006, SAMBA won The Banker Magazine's 2006 Technology Award in the "Technology Innovation" category as the first bank worldwide to provide Straight Through IPO registration over all self-service channels. SAMBA has received the Best Bank in Saudi Arabia award for 2006 from both Euromoney and Global Finance.

The bank's IT group has a particularly strong quality assurance focus and is rated Capability Maturity Model Level 3 in software development.

## Case Highlights

### Background

Samba Financial Group (SAMBA) is one of the largest publicly traded banks in the Kingdom of Saudi Arabia, and one of the largest and most profitable banks in the Middle East. The bank currently boasts 64 branches, 382 ATMs, three Global Investment Centres, and 32 Speed Cash Centres within the Kingdom.

### Challenge

SAMBA required a solution to help automate testing and develop new screen content and functionality on its cash machines. It also wanted to ensure a smooth migration to EMV compliance, and the new national SPAN2 network, through the use of proven tools and methodologies.

### Solution

SAMBA has licensed Level Four's ATM Developer software to deliver a proven solution to the challenges faced by the bank.

### Results

Easier development and fault diagnostics for configuration files across a diverse ATM estate.

ATMs will meet upcoming standards for accepting EMV smart cards.

Automatically tests every level of functionality and every potential transaction possibility from end-to-end.

Desktop user interface provides a high level of visibility of all transaction logic.

“Level Four distinguished itself because of the depth and breadth of the product and the number of reference clients using it in live production.”

### Changes ahead

In 2003, the bank found itself faced with some major changes on the horizon that would have a serious impact on its payments infrastructure. All Middle Eastern countries were planning to upgrade banking and point of sale infrastructure to the Europay MasterCard Visa (EMV) standard for smart chip cards in 2006.

As part of this move, Saudi Arabia also planned an industry migration to SPAN2, the second generation of the Saudi Payments Network. This is being established to support the implementation of electronic banking services across the country and to create a secure infrastructure for electronic fund transfers.

To deal with these changes, and maintain its reputation for technical excellence, the bank realised that it needed to improve the support infrastructure for its ATM network. This included the testing tools that play an integral role in its quality assurance.

In 1998, SAMBA's own technology group developed a leading-edge simulator to repeat test types and deliver an element of automation. This brought major cost savings in conducting automated Y2K testing, but lacked the ability to support new developments such as EMV, an increasingly diverse ATM estate and more advanced functionality such as bunch note acceptance.

The bank's own simulator tool had attracted the attention of other banks when first developed. So with this experience under its belt, when it looked to the market for a new solution that would meet its needs, its expectations were high.

“Level Four distinguished itself because of the depth and breadth of the product and the number of reference clients using it in live production,” was the conclusion of SAMBA's evaluation process for various reputed simulators in the market.

After evaluating the technology, SAMBA licensed ATM Developer from Level Four. Using ATM Developer, SAMBA can customise ATM screens, rapidly introduce new ATM functionality and undertake end-to-end testing of its multi-vendor ATM network. Level Four's automated tools eliminate reliance on manual testing, which results in faster and more thorough testing processes.

EMV migration was an important part of SAMBA's evaluation because of the impending compliance deadline. Level Four not only has the right products, but also has a wealth of experience in this area because of the similar programmes it has implemented for other leading banks.

The bank also wanted support for new functionality that it is introducing to its ATM network: accepting cash for non-card initiated transactions such as bill payments; accepting cheque deposits and digitising the cheque image at the ATM; and support for modifications to help the visually impaired.

“Level Four’s tools give sound insight to our technical team, helping them to better understand the ATM network and the implications of EMV and SPAN2.”

#### **Proven solution from Level Four**

SAMBA is using ATM Developer to connect as a virtual ATM to their existing host system and test the operations of all of its ATMs in exactly the same way as a real ATM would.

This is particularly significant for SAMBA, which after the merger with USB now has machines from a number of vendors in its estate. It has 12 separate configurations of ATM hardware and services offered on them. The volume of testing required to implement or upgrade new services can be very intensive, proving to be both costly and time consuming. ATM Developer enables SAMBA to fully automate the testing process.

The bank is also using the EMV capabilities within ATM Developer to migrate ATMs under its management to the new EMV smart card standard. The software enables the creation of EMV compatible ATM configuration files and full end-to-end transaction testing directly from the chip card, through the ATM and up to the host system.

Additionally, SAMBA uses Level Four’s ATM Developer product to support its development team in the design and configuration of new content, graphics and screens across all its ATMs. SAMBA’s rich transaction set has been downloaded into ATM Developer so new types of transactions can be easily implemented and then automatically tested.

#### **Smooth migration to new network and functionality**

SAMBA prides itself on being an early adopter of advanced technology and Level Four’s innovative products are in tune with the increasingly sophisticated ATM landscape. SAMBA’s customers

will benefit from a smooth migration to EMV smart cards and, more importantly, faster deployment of new functionality at ATMs.

The bank’s new ATM cheque processing function is live and will be extended end-to-end as soon as the Saudi Arabian Monetary Agency (SAMA) upgrades the national payments infrastructure for country e-check clearing. At the moment, SAMBA is not automating right through to crediting the account, but just imaging and printing a receipt and taking manual action thereafter. With this already in place, SAMBA ATMs are keeping ahead of changes in the national infrastructure and future-proofing the bank’s technology environment.

Level Four is also helping the bank to comply with SPAN2 and cope with increased ATM usage by offering swift and centralised uploading of new functionality to the ATM network. SAMBA’s customers are the first to benefit from enhanced ATM features and service as the bank is part of the leading pack of Saudi Arabian banks in compliance with SPAN2.



“With such powerful development and testing tools SAMBA can now offer an even better quality service to its customers.”

### Ease of testing

ATM Developer has a highly visual and intuitive user interface, making it easy for staff to use, positively impacting productivity levels. Unique scripting capabilities enable a fast reaction to external events and internal developments, resulting in a much quicker time to market of new ATM functionality. ATM Developer enables the bank to maintain a repository of test cases, scripts and data for each product.

SAMBA's testers prefer to work from a PC with a GUI rather than standing in front of a bank of ATMs. SAMBA testers consider simulation is extremely valuable for composite testing with different events happening at the same time. It converts a lengthy manual process to a simple case of loading the initial values before running the simulation. This improves both productivity and efficiency. SAMBA testers can also store and audit all test results for an important quality gate.

This aspect of the solution has already proven itself as the bank has found it easier to identify errors that are not normally visible in a manual code review. Using ATM Developer it can check state tables in the ATM configuration file and identify and easily fix missing, hanging or redundant states.

### Sharing of expertise

SAMBA has gained many benefits from its relationship with Level Four, including being able to tap into the great technical knowledge within the company. "Level Four's tools give sound insight to our technical team, helping them to better understand the ATM network and the implications of EMV and SPAN2. With such powerful development and testing tools SAMBA can now offer an even better quality service to its customers" comments a senior SAMBA representative.

When SAMBA's technical team decided to upgrade the current environment, they realised that the team lacked field experience with EMV, so they looked to Level Four to show how the ATM and card interact in an EMV transaction. ATM Developer assisted the development team on the switch side, and combined with the excellent testing functionality within the software, dealing with any changes in the ATM infrastructure became much simpler.

#### European Sales & Support

Level Four Software Ltd  
Kidwells Park House  
Kidwells Park Drive  
Maidenhead, UK  
SL6 8AQ

Tel: +44 (0) 1628 674732  
Fax: +44 (0) 1628 634918  
Email: [enquiries@levelfour.com](mailto:enquiries@levelfour.com)

#### Middle East Sales & Support

Level Four Software Ltd  
Al Thuraya Tower 1, 2nd Floor,  
Office 209, Dubai Internet City  
P.O.Box 500274,  
Dubai, U.A.E

Tel: +9714 368 1808  
Fax: +9714 368 8091  
Email: [enquiries@levelfour.com](mailto:enquiries@levelfour.com)

#### Level Four Americas

Level Four Americas LLC  
12205 SW 132nd Court  
Miami, Florida, USA  
33196

Tel: +1 (305) 385 3000  
Fax: +1 (305) 388 3007  
Email: [americas@levelfour.com](mailto:americas@levelfour.com)

Internet: [www.levelfour.com](http://www.levelfour.com)

