mc SYSTEMS

Digicel
TOP UP

REDEFINING THE TOP-UP INDUSTRY

MC Systems electronic top-up phone card solution changed Digicel's customer experience and created 5,000 new micro businesses.

A CASE STUDY

INTRODUCTION

When Digicel entered the Jamaican marketplace in 2001 it was the birth of a new era in the region's telecommunications industry. The company quickly gained traction as a strong competitor in the local market. Its mandate is to keep customers connected wherever they are with the best network, best service and best value. Customer demand and the need to ensure customers are served on the most convenient and efficient manner left Digicel needing a new solution to distribute electronic phone credit.

Digicel had a target from day one to ensure that electronic phone cards were widely and readily available to its customer base. So the company needed a partner that could deliver the service in Jamaica in order to achieve that target.

CHALLENGES

For example, though distributors would report sales of a billion dollars in cards to wholesalers over a particular period, when Digicel team members checked the results wouldn't match what was reported due to delays in seeing the actual dollar value sold.

To avoid these challenges, Digicel wanted to ensure that the company was:

- never out of stock
- alerted when cards were running low
- able to launch new products at any time
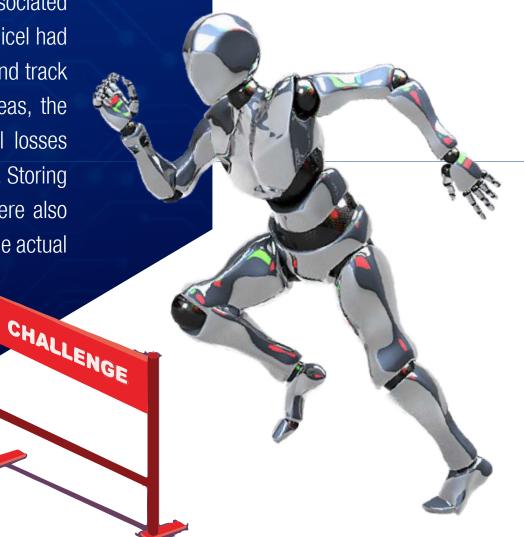- covering all parishes with available cards

- offering enhanced reporting using analytics to provide detailed customer information
- being secured from theft
- reducing distribution costs

CHALLENGES
CONTD.

Digicel realized the need for a much faster, more efficient way to distribute phone credit to customers at a lower cost. In addition to the high cost associated with the distribution of the physical cards, Digicel had a number of challenges having to distribute and track them. When importing the cards from overseas, the company would experience intense financial losses due to foreign exchange currency fluctuations. Storing the cards left major room for theft. There were also reporting challenges due to delays in seeing the actual dollar value of cards sold.

CHALLENGE

SOLUTION

Having seen MC Systems' terminals island wide, Digicel executives wanted to explore if these terminals could be part of the solution they sought. Through investigation, MC Systems was identified as the software developers managing said terminals. MC Systems met with Digicel, discussed the need for a solution and was given a month to present, demonstrate and go live with the product.

After securing the contact, in 2003 a team of three developers worked on this solution using structured query language (SQL) for transaction processing. Formerly known as SEQUEL, SQL is a domain-specific language used in programming for requesting information database. The development of the DigiFlex solution was guided by the Software Development Life Cycle (SDLC) process, which takes into consideration planning, requirements, design, development, testing and maintenance.

During the planning and requirement phases, MC Systems wrestled with a number of issues. Digicel had set a date by which the product needed to get to market, and at the same time MC Systems was constrained by the limited available resources to work on the project.

SOLUTION CONTD.

Since DigiFlex was the first such solution of its kind in Jamaica and the pilot was slated for Kingston, MC Systems decided to put in only the basic functionalities (unlocking POS terminal, logging in, selling vouchers, reporting and reconciliation) in the initial roll out, and added other features on a weekly basis to quickly provide for a richer experience in a short amount of time.

One major concern was that of placing an additional point of sale (POS) terminal on the counter top of those merchants who already have a POS terminal for processing debit/credit card transactions. As a result, a DigiFlex point of sale application was designed and developed torun in a multi-application environment on the VeriFone POS terminal platform, so that it could co-exist with other applications on a single POS terminal.

ISSUES IN THE DEVELOPMENT PROCESS

There were no mobile POS terminals at the time, only traditional dial up and ethernet, with the majority of merchants having infrastructure for supporting dial up only. However, having the POS terminal placing a call for the sale of each electronic Top-Up voucher would be problematic owing to the time it would take (especially for high volume merchants) and the cost associated with each phone call. To overcome these hurdles, MC Systems had to allow for more than one electronic voucher to be sent down to the POS terminal whenever it connects to the DigiFlex back end for a voucher request. This in effect allowed the POS terminals to carry inventory of encrypted electronic vouchers, with the number of inventory that a given merchant carries on the POS configurable from no inventory up to maximum allowed (for high volume merchants).

SOLUTION DESIGN

Consideration was given to the requirement for Interms of design, consideration had to be given to the requirement for hosting electronic vouchers (PIN bank), in an encrypted form in the DigiFlex Top-Up database, for satisfying voucher requests from the POS terminals.

After the vouchers are purchased from Digicel, MC Systems needed to secure transport them for loading in the DigiFlex database. To achieve secure transmission, they used public key infrastructure (PKI), in the form of pretty good privacy (PGP) key pairs, which allows Digicel to use the MC Systems public key to encrypt the file of electronic vouchers. Once received, MC Systems then use the matching private key to decrypt the file for subsequent encryption and loading into the DigiFlex database.

PROBLEM SOLVED!

VALUE

The MC Systems solutions proved to be extremely effective for Digicel, as it significantly reduced the time and cost associated with the usual phone card distribution process. Before, physical cards had to be packaged and delivered. After the solution went live, phone cards were delivered via encrypted email, which eliminated transportation time. A major improvement in distribution was that consumer behaviour wasn't restricted based on the card value that was available. The card distribution machine could give a customer whatever phone card amount required. So, retailers would never run out of a specific recharge amount. In the old model of recharge calling cards, merchants would customarily sell more of one recharge amount and often run out of stock.

RESULTS

With this solution, MC Systems was able to change customer perception and create social impact. Although initially merchants were apprehensive about the solution, they were challenged to handle their businesses differently. Protection of stock evolved from locking away physical cards to remembering codes. Merchants loved that stock was always instant and available and they appreciated the increase in revenue due to more phone credit being sold. Credit was easily accessible and people could get unlimited 100-dollar or 200-dollar cards, which were the more popular credit values. In addition, the solution created over five thousand new jobs for trade merchants who wanted to sell Digicel credit.

Over time, MC Systems added more versions to the solution which enabled Digicel to market new innovations in electronic Top-Up that were collectively packaged as DigiFlex. Such innovation included a swipe cards that customers used to add credit directly to their mobile account, an online Top-Up feature called Webflex, and a street merchant option called Streetflex. These added efficiency and personalization to the solution; giving more options and wider access to the consumer.

MC Systems was the first to market this type of innovative technology, helping to position Digicel Group as pioneers in electronic phone card distribution. This gave Digicel a competitive edge in the electronic phone card market. Soon after, competitors in the telecoms industry began offering similar options. The industry also saw a boost in distribution, as many other entities begun selling phone card through their terminals.

mc SYSTEMS

Specialises in the using the mix of ideas, expertise and emerging technologies to solve complex business problems. For this particular solution, MC Systems ensured that there was inclusion from this opportunity. As thought leaders, the aim was to use this technology solution to create opportunities for everyone. "Before, in order to sell physical phone cards, one had to have at least a million dollars in cash. Now, after the solution, the ordinary Jamaican can start out with just two thousand dollars on his account. He would then sell, make profit, and reload his two thousand dollars to continue his phone card business." said Dwayne Russell, General Manager. "Money is not the main priority - delivering technology solutions to everyone is." he added.

mc
SYSTEMS
● EXPERTS ● PIONEERS

www.mcsystems.com

solutions@mcsystems.com