

Credit Card Payments on MobilePOS Infrastructure

AREA OF COMPETENCES: Embedded Systems and Microelectronics

INDUSTRY: Finance and Banking

CHALLENGE



M.POS Holdings had to design from scratch and market a mobile point of sale: a wireless terminal that allows merchants to accept card payments in any location. Our team was required to develop and implement the necessary software and drivers for the hardware built by the client; as well, different financial application systems needed to process financial and non-financial transactions from the mobile POS terminal to the host using customers' credit cards. On an upper layer, we customize these applications for each banking client identified by M.POS Holdings.

SOLUTION

MPOS Technologies were the owners of an interesting patent in mobile payment equipments, producing one of the world's first Mobile Point of Sale devices. Being such a innovative product, there were no "out-of-the-box" software products to cover it.



So, after a long due diligence process, MPOS selected IP Devel to provide the complete solution that would allow deployment of their technology into the market.

Due to the size of the targeted markets, the solution had to be built from scratch, providing extreme scalability, as well as a sophisticated financial and transactional middleware infrastructure, that allow to deliver error-free messages across a hybrid network of proprietary lines, encryption schemes and servers, to ensure a 100% execution rate for the credit card transactions.

The servers were implemented using custom developed software that allowed any new equipment plugged into the processing network to automatically download its configuration and start operating without any human intervention.

A complex database replication algorithm was being used in order to allow real time, critical data to be transferred across servers during the back up processes, since the system could not be stopped.

The biggest challenge of the project was to manage the integration of the MPOS solution with the international banks that were their first customers, mainly to the high level of proprietary applications and various mainframe implementations of their back-end systems.

In the end, we have created a communication gateway that provided connectivity to the bank systems, linking various middleware and database APIs in a single server, over X25 and TCP/IP based links. The terminal management application was created using the same SQL infrastructure already deployed, in order to allow easy and optimal management, configuration download and statistics upload of a terminal fleet of up to 10,000 terminals. Here the challenge was to provide a powerful database administration tool, with a lot of intelligence hidden from the end user, in order to replicate as much as possible for the configurations to all the fleet or to a group of terminals, without having the user do the same thing over and over again.

ABOUT OUR CLIENT

Based in Hong Kong, M.POS Holdings Limited was established in 1998 to develop mobile commerce services and products. At the heart of these products is M.Gate, a transaction processing gateway which channels services between clients, such as MPOS terminals, mobile phones, PDA's, PC's and other terminal devices, as well as service hosts, such as banks, telecommunications companies and merchant systems. M.POS Holdings operates actively in the People's Republic of China and Hong Kong.