EMV-Enabled mPOS Made Easy

A Simple Guide to Enabling Mobile Applications with EMV Payment Acceptance

ingenico
Mobile solutions

Introduction

The introduction of point of sale (POS) systems revolutionized the merchant/consumer payment experience by replacing cash registers. More consumers today are using credit cards and mobile wallets such as Apple Pay® to make purchases, thus driving an increasing number of merchants to implement the systems needed to accept these various payment methods. While the implementation of payment acceptance devices has continued to see steady growth over the last few decades, one technology in particular that has more recently gained a lot of momentum is mobile point of sale (mPOS). According to a report by Credence Research, the mPOS terminals market is expected to reach $43.32 billion and 242.97 million units by 2022. The emergence of NFC-based payment options and the introduction of EMV is also expected to drive growth for mPOS terminals during the forecast period.[1]

EMV made its way to the U.S. in 2015, and now it is imperative for mPOS solutions to keep up with the market and be ready to accept this new payment method among other emerging payment types. However, the process of implementing EMV-enabled mPOS solutions can be complicated, time-consuming, and expensive. This guide is aimed to educate and inform Independent Software Vendors (ISVs) and developers on how to streamline this process in order to successfully build and deploy their own EMV-enabled mPOS solutions.

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Why We Need EMV

Since the dawn of credit cards, magstripe has ruled the market as the primary method of cashless payments. Over the years, payment technology has evolved and so have the ways to steal that credit card information. This rise in cyber crime has resulted in a significant amount of credit card fraud. According to an article in Business Insider, credit card fraud cost the U.S. $7.9 billion in 2015 alone – a **60 percent increase** from five years earlier.[2]

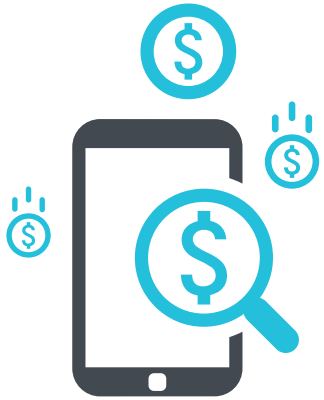
This is where EMV comes into play. Here are three reasons why we need EMV in the U.S.:

- **EMV helps curb credit card fraud.** According to a 2014 study by Aite Group, counterfeit credit card fraud in the U.K. fell 56 percent since the country rolled out EMV cards in 2005. In Australia, counterfeit fraud is down 38 percent and in Canada, it's down 49 percent.[3]
- **EMV is more secure than magstripe.** An EMV card used at an EMV-enabled terminal is more secure than magstripe due to the unique code generated for each transaction and validated by the bank.
- **EMV's global interoperability.** EMV is a global standard and will be for years to come. ISVs can help U.S. merchants with EMV-enabled payment solutions to align themselves with this global payment method. This will also help attract visitors from countries where EMV is the norm, as most foreign customers expect to use their chip cards and are often reluctant to revert to magstripe cards.

> *One bad transaction resulting in a charge-back will cost more than the EMV upgrade for most small businesses.*
>
> *– Randy Vanderhoof, head of the EMV Migration Forum[2]*

Why We Need mPOS

Over the last decade, mobile point of sale (mPOS) has had an enormous impact on the payments landscape. Globally, mPOS has been successful in disrupting the payments industry in many ways:



1. It has provided an easier, more cost-effective way for merchants to start accepting credit card payments

2. It has enabled new payment providers to emerge and start competing with more traditional players in the market

3. It has changed the way consumers and merchants interact by bringing the point of sale to wherever the sale may be

Why We Need mPOS

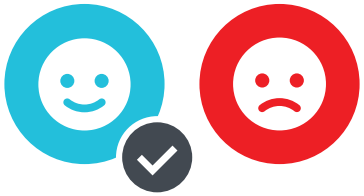
mPOS has evolved and grown due to the immense value that it provides to both merchants and consumers. Let's take a look at some of these key benefits:

Mobility

mPOS solutions provide merchants with the means to drive sales in different environments. Whether it is in-store, out-of-store, curbside, or even at a customer's home, merchants can use mPOS to extend and grow their business by enabling new use cases and locations to transact.

Quick checkout

A sales representative equipped with an mPOS solution can help customers avoid waiting in long lines and checkout right from the aisle – this has proven to be especially useful during the holiday season, as well as other high traffic occasions throughout the year.

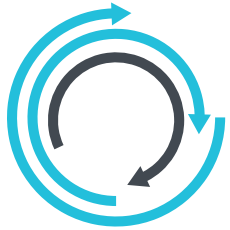


Better customer experience

With an mPOS solution, in-store sales representatives have the opportunity to provide real-time recommendations and offer complementary products to their customers. This not only creates cross-selling and upselling opportunities for the merchant, but it also provides a more personalized experience for the consumer.

Customized business solutions

As the mPOS market has matured, a variety of solutions have emerged that go beyond basic payment acceptance. These solutions have been customized for specific industries and use cases and are able to offer real business value to merchants – from providing real-time customer data and purchasing history to tracking inventory and product performance.



Greater flexibility

mPOS solutions provide merchants with an often less expensive and more flexible way to implement and upgrade their payment acceptance infrastructure in order to support the latest technologies and payment methods, including EMV chip cards and NFC/contactless payments such as Apple Pay.

Building EMV-Enabled Solutions Can Be Complicated

Today in the U.S., there is a broad range of ISVs and developers who specialize in developing innovative business applications that are designed for a specific market or vertical. These applications also include the features and functionality required to meet the unique needs of the ISV's customers. Some of these ISVs have already integrated payment acceptance into these applications while others are just now realizing the benefit that payment functionality can provide to their customers and the huge opportunity that entering this market presents.

For the ISVs looking to enter the payment market for the first time, their main focus is to figure out how to integrate payment acceptance into their existing applications while ensuring they're meeting the necessary security requirements and providing the best user experience to their customers. For the ISVs and developers already providing payment acceptance solutions to merchants, their number one priority is to upgrade their solutions to support EMV. This will ensure the ISVs are meeting the latest payment standards and are helping their customers avoid the potential liability of chargebacks due to credit card fraud. In both of these cases, building an EMV-enabled mPOS solution can be a complicated, expensive and time-consuming task.

complexity

costs

time

Here's why building an EMV-enabled mPOS solution can be a complicated, expensive and time consuming task.

EMV solutions are complex to develop:

From an integration perspective, an EMV transaction is much more difficult to perform than a traditional magstripe transaction, as multiple streams of data are being sent back and forth. For ISVs and developers whose core competency is in developing software applications rather than payments or the EMV communication flow, this makes the process for developing EMV-capable POS applications very challenging.

Certification process costs time & money:

The EMV certification is a long and laborious process. First, an ISV needs to integrate their business application with an EMV-certified payment solution (terminal or mPOS device) and integrate to their processor of choice. Once this technical integration is done, the ISVs are required to submit their complete payment solution for certification by both the processor and the card brands (Visa, MasterCard, etc.). What's important to note is that this certification is for the end-to-end system, meaning that if ISVs make any changes to the system components they would have to go through a recertification all over again. This whole process can be very expensive and take anywhere from a number of weeks to a few months, thus delaying the ISV's time to market and ability to react to changing market demands.

Certification bottleneck:

Right now a large portion of the ISV community is trying to get their solutions certified at the same time. This creates a backlog of certifications, which the processors are forced to prioritize. This certification bottleneck tends to add more waiting time before the ISV can get to market with their complete solution.

Launching a Successful EMV-Enabled mPOS Solution

At this point, you've learned about the need for EMV and the benefits of mPOS, and you also got a glimpse into the complex world of EMV integration and certification. As an ISV, you must be wondering: *"How can I overcome these obstacles in order to quickly get to market with an EMV-enabled mPOS solution without breaking the bank and falling behind the competition?"*

ISVs can get to market with an EMV-enabled mPOS solution in three easy steps:

Step 1:
Begin with the SDK

Step 2:
Choose Your mPOS Card Readers

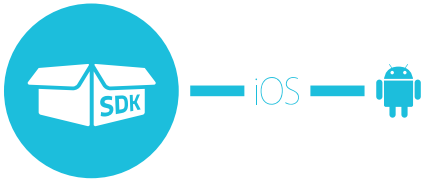
Step 3:
Select an EMV Payment Gateway

The following section will outline these three steps in greater detail and explain how each component can help ISVs bring a successful EMV-enabled mPOS solution to market.

STEP 1:

Begin with the SDK

The integration tools are at the core of developing a successful EMV-enabled mPOS solution – they're what connects all of the components and makes them work together. To help with the integration, ISVs should look for a robust SDK that provides them with the necessary tools for building an EMV-enabled mPOS solution. You're now probably asking yourself, *'What should I look for in an SDK?'* Let's take a look:



Developer-Friendly & Native Integration

Whether you are developing for iOS or Android, it's important that the SDK provide a native integration to seamlessly blend with the rest of your application and user experience. Regardless of the platform, integrating with a poorly written or documented SDK can be a nightmare, especially if you are not familiar with a subject as complex as payments. Look for an SDK that provides a complete set of resources to get you up and running, including documentation, sample code, test applications, and more.

Semi-Integrated Approach

Dealing with sensitive payment data can be tricky. If this data interacts with non-payment related systems such as the business application, the complete solution would fall within PCI audit scope and would need to be EMV certified. This will add additional time and money before the solution can get to market. Using a semi-integrated approach, the sensitive payment data is segmented from the business application and routed directly to a processor or gateway for secure processing. If payments is not your core competency, you need to make sure the SDK uses a semi-integrated approach to avoid dealing with that sensitive payment data.

Card Reader Management

Managing hardware updates to your existing mPOS solution can be tough. Any small change or upgrade to the mPOS card readers that are being used as part of the mPOS solution might mean re-integrating those new readers with the business application – which can be both expensive and time-consuming. To avoid this, you should look for an SDK that allows you to easily integrate with multiple readers using a single codebase, enabling plug and play switching of devices.

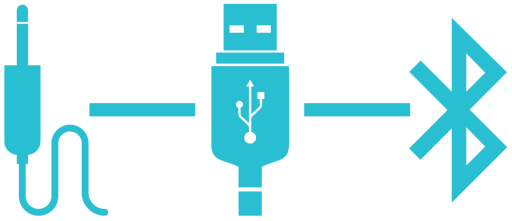
Look for an SDK that:

- is developer friendly
- helps build native user experience with iOS and Android SDK
- takes a semi-integrated approach to payments
- enables plug and play card reader integration

STEP 2:

Choose your mPOS card readers

An ISV's expertise lies in developing powerful software, and so dealing with payments related hardware can be a tough ask. Rather than building their own hardware competency, ISVs should look for a technology partner that has the experience and operational infrastructure to keep up with the market demand. There are many things ISVs need to keep in mind while selecting the appropriate hardware for their solution. Let's take a look at what they are:



Form Factor & Mobile Device Connectivity

mPOS card readers come in many shapes and sizes. How they connect to a mobile device is also an important consideration. ISVs should look for a hardware partner that provides a range of mPOS card readers offering a variety of connectivity options – some that connect with the mobile device via the audio jack, some via Bluetooth, and others with USB. This way, ISVs can support the use case that best fits their customers' needs.

Payment Acceptance Capabilities

With so many different form factors for mPOS card readers, different capabilities also come into the picture. It's important for ISVs to make sure they look for a range of mPOS card readers to choose from that are certified to accepts all forms of cashless payments, including magstripe, EMV chip & sign, EMV chip & PIN, and NFC/ mobile wallets. By supporting chip & PIN and mobile wallets, ISVs can future proof their solution.

Look for a range of mobile card readers that:

- accept all forms of cashless payment including EMV chip & PIN and NFC
- support both audio jack and Bluetooth connections to POS
- are all EMV certified

Why do I need chip & PIN?

Many countries including Canada and those in Europe use 'chip & PIN' for their EMV transactions. In chip & PIN transactions, the cardholder inserts their chip card and inputs a PIN to authenticate the payment. The U.S. is likely to move to a chip & PIN model to help reduce lost and stolen card fraud and to make EMV transactions more secure and uniform with the global standard.

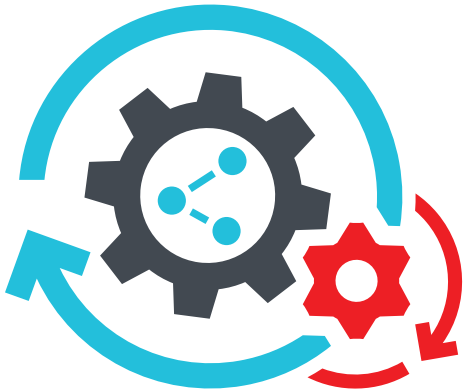
STEP 3:

Select an EMV Payment Gateway

The third and final element enabling ISVs to get to market with a complete EMV-enabled mPOS solution is an EMV payment gateway. A payment gateway is a service that communicates with banks to authorize credit card payments for businesses. A good payment gateway typically supports multiple payment types (including EMV), multiple processors and are of enterprise-grade to handle large transactions volumes. Choosing the right gateway can be a tough task and there are many things ISVs should keep in mind. Let's take a look at what they are:

Processor-Agnostic

A payment gateway is instrumental in helping ISVs connect their mPOS card readers to a processor. Since there are many processors in the market and not all merchants connect to the same one, ISVs should look for a gateway solution that is processor-agnostic. This way, merchants can stay using the processor of their choice. Having a processor-agnostic payment gateway solution will also help ISVs expand their potential market to a broader base of merchants. ISVs will also save time and money by avoiding the laborious process of integrating and separately certifying the solution with multiple processors.



Updated Certifications, Compliant with Latest Payment Standards

A payment gateway that doesn't stay up to date with the latest security protocols and software changes would be of no use to an ISV. It's important for ISVs to look for a payment gateway provider that has a proven track record and can reliably and quickly address changing security standards and maintain EMV certifications to the major processors.

STEP 3:

Select an EMV Payment Gateway (cont.)

Account Management API

ISVs should look for a payment gateway that provides an account management API, which allows them to easily integrate with their business application and back-end. This API should provide account management functionality, such as gateway user account provisioning, and user configuration, such as merchant's selected processor and merchant/terminal ID, so that ISVs can easily and programmatically onboard new users.

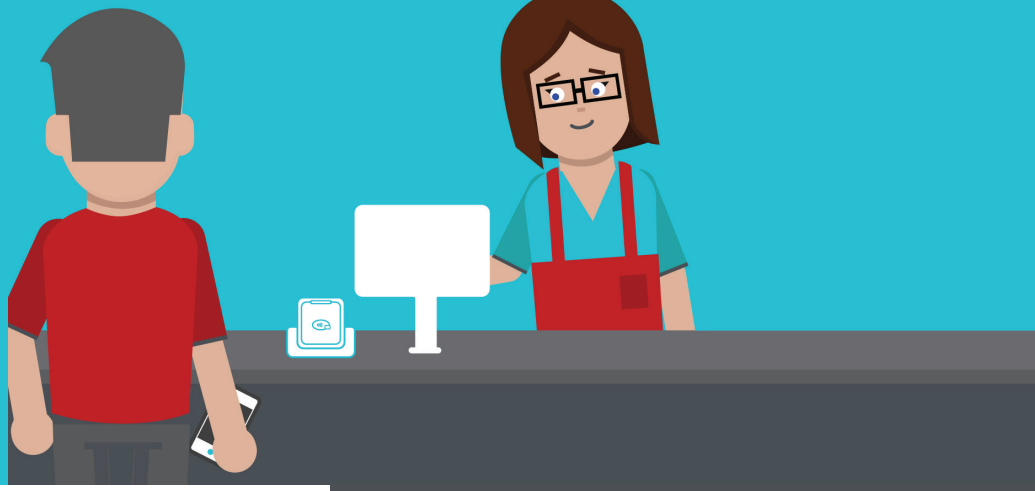
Reporting API

Getting meaningful data is important for any business to understand the ways they can increase revenue, save costs or even track inventory. ISVs should look for an EMV gateway solution that includes a reporting API that enables them to provide their customers with rich transaction data helping them refine their business strategy and enhancing the value of their application.

Look for a payment gateway that:

- provides certified connections to multiple processors
- is an enterprise-grade solution that can handle high transactions volumes
- supports multiple forms of cashless payments including magstripe, EMV & NFC
- keeps integrations up to date with current security standards
- provides account management & transaction reporting APIs

The Way Forward



Let Us Do the Heavy Lifting for You

Getting to market with an EMV-enabled mPOS solution can seem like an overwhelming task. ISVs servicing a broad range of industries are looking for the fastest and the most secure path to helping their customers start accepting EMV payments using their mobile device. A flexible and powerful SDK, coupled with a broad range of EMV-enabled mPOS card readers and an EMV payment gateway, provides the opportunity for ISVs to quickly get to market with an mPOS solution that accepts EMV chip cards and fits the unique business needs of their customers.

Integrating secure payment acceptance into an innovative business application takes time, money and resources. That's why it's important for ISVs to work with an SDK that does all of the heavy lifting for them, rather than trying to keep pace with the latest payment standards, certifications, and compliance requirements.

Ingenico Group's Combined Expertise in EMV + mPOS

With over three decades of leadership in the payment industry, Ingenico Group is the trusted, strategic partner of choice for both ISVs in the U.S. and worldwide.

Ingenico Mobile Solutions, the mPOS division of Ingenico Group, has experience in managing 70% of white label mPOS solutions in the U.S., allowing businesses to benefit from a wide range of mobile payment acceptance solutions.

Combining our deep experience and expertise in both EMV and mPOS, we've developed the industry's most flexible and innovative toolkit providing ISVs and developers with everything they need to quickly enable EMV payment acceptance with their mobile application. Now, instead of going to several vendors to build a complete solution and pursuing multiple time-consuming and expensive certifications, ISVs and developers can work with Ingenico Mobile Solutions to get everything they need in one place, from one partner, with support from an entire team of payment industry experts.

Learn more about Ingenico Mobile Solutions' mPOS EMV SDK here:
http://info.ingenico.us/mpos-emv-sdk

Visit our Developer's Portal to get started with the SDK:
http://developer.ingenico.us

If you would like to learn more about EMV, please download our EMV playbook:
http://info.ingenico.us/emv-playbook

Source Links:

1 https://451research.com/images/Marketing/press_releases/07.30.15_mPoS_Forecast_PR_Final.pdf

2 http://www.businessinsider.com/the-us-emv-migration-report-what-new-chip-cards-mean-for-consumers-issuers-and-merchants-2015-11

3 http://aitegroup.com/report/emv-lessons-learned-and-us-outlook

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