

Europay, MasterCard & Visa (EMV Smartcard – Chip & PIN) Frequently Asked Questions



1. What are the key issues that acquirers or merchants need to take into account when migrating to EMV?

Getting the terminal ready to process chip cards is only a small part of the process. Chip acceptance will require acquirers and merchants to be able to carry and process additional data that is included in EMV transactions, including the cryptographic message that makes each transaction unique.

MasterCard has published "An Introduction to Chip" document which is an excellent EMV introductory reading material. The chapter about Migrating to Chip provides useful information that you can make use of when answering customer enquiries.

2. What can Ingenico offer as a terminal vendor?

Ingenico, as a terminal vendor, can provide all kinds of assistance that our customers need at the terminal level. That includes

- EMV solutions for standalone terminal applications
- EMV solutions for integrated environment
- EMV level 1 and level 2 certification
- MasterCard TQM certification
- Contactless kernels certification, for MasterCard PayPass, Visa PayWave, Interac Flash, Amex ExpressPay and Discover Zip.

Note: the chip transaction process beyond the terminal level, e.g. how chip data are passed between acquirers and issuers, is out of scope of a terminal vendor's responsibility. When we're asked questions for process that is out of scope of a terminal vendor, we normally advise our customer to ask for help from card scheme, e.g. Visa, MasterCard, etc.

3. Can you provide more details regarding EMV Solutions for standalone terminal applications?

Standalone terminal applications are application that runs in Ingenico's devices. They have the capability to start and complete payment transactions without interacting to cash registers. They can be developed either in-house or by third party developers.

For Telium devices, Easy Path to EMV and Easy Path to CLESS can be used. Components provided in these packages drive the chip transaction flow and call back to the payment application for customization. A Telium EMV Library has been created to allow payment application to use the Easy Path packages in an even more user friendly manner. In addition to that, the EMV Library has also implemented the Interac specific chip requirements which are not available in the Easy Path to EMV package. Telium EMV Library supports both contact EMV and contactless payment transactions.

For U32 devices, VEGA (Versatile EMV Generic Application) is available to drive the transaction flow and call back to payment application for customization. Interac specific requirements are implemented in VEGA. VEGA supports both contact EMV and contactless payment transactions.

4. Can you provide more details regarding EMV Solutions for integrated environment?

In integrated environment, the main payment application functions are processed in an external machine such as cash register or PC. In such environment, Ingenico device acts as a card accepting device and/or a PINPAD. Usually external payment applications are developed by third party integrator.

For both Telium and U32 devices, currently VEGA is the application that is responsible for controlling the chip transaction flow. Since VEGA does not communicate with externally applications, CPX and UIA act as a communication helper to facilitate the communication between an external payment application and VEGA.

- For Telium devices, CPX + VEGA can be used.
- For U32 devices, either CPX + VEGA or UIA + VEGA can be used.
- We have published CPX, UIA and VEGA API specifications for third party developers' reference.

5. What kinds of certification are required for implementing contact EMV?

EMVCo defines and maintains EMV specifications. These provide global requirements to ensure interoperability. EMV Level 1 and Level 2 certifications are managed by EMVCo. The objective of these certifications is to prove that the device conforms to the EMV specifications. EMVCo does not own or operate any card scheme. Each card scheme defines its own implementation details in addition to the EMVCo's global requirements, e.g.

- Visa – VIS
- MasterCard – M/Chip
- Amex – AEIPS, etc

Each card scheme manages its own End to End Certification for payment application that supports the card scheme’s contactless requirements. All of the card schemes require EMV Level 1 and Level 2 certification as a pre-requisite for requesting the End to End Certification. End to End Certification is the responsibility of acquirers.

All Ingenico devices are delivered with EMV Level 1 and Level 2 certified

6. What kinds of certification are required for implementing contactless payments?

Unlike contact EMV requirement which was started off in a cooperation manner from Europay, MasterCard and Visa, contactless payment requirements were started off as competition. As a result, each card scheme defines its own contactless requirements which are totally different from each other. Thus, while there is only one contact EMV kernel in the device, it requires one contactless kernel for each card scheme’s contactless requirement. The contactless kernel certification is managed by individual card scheme. Contactless kernel certification is the responsibility of the Ingenico group. Currently:

- Telium devices are certified for Visa PayWave, MasterCard PayPass, Amex ExpressPay, Interac Flash and Discover Zip
- U32 devices are certified for Visa PayWave, MasterCard PayPass, Amex ExpressPay and Interac Flash

Payment application supports a card scheme’s contactless payment transactions will need to certify for the card scheme’s End to End Certification. Acquirers are responsible for the End to End Certification.

7. What is in scope of Ingenico's support during project development?

The followings are in scope:

- Use of Ingenico EMV solutions and tools in third party development
- Facilitate troubleshooting in third party application (note that debugging third party application is out of scope)
- Facilitate End to End Certification troubleshooting (note that the certification process is the responsibility of acquirers)

8. What is out of scope of Ingenico's support during project development?

The followings are out of scope

- Debug third party applications
- End-to-End Certification process