

Getting Started with Arkos

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Introduction

Arkos is a software framework that eases and accelerates to build any payment acceptance system. Developing a payment application using our framework requires good software skills, basic payment expertise, and a good understanding of the API development.

The benefits of using Arkos framework are:

- The solution has already been certified in the past on different platforms
- The solution is already deployed on the field in major markets
- The solution is flexible and may be adapted to any payment acceptance context
- The solution is maintained against the latest card schemes and processors specifications

The following section describes the usual steps for a EMVCo L3 development project with Arkos.

Step 1: Qualification Phase

At the early stage of discussion, the qualification phase aims to share a common view of the solution to be developed using the Arkos framework, by representing where that solutions starts and ends, and modeling its interfaces with the external world.

Platform Qualification

The purpose of the platform qualification is to assess the use of the platform, and to identify any constraints or challenges that might arise at the course of the project. In average, between 8 and 12 weeks are required to port the software onto a new platform.

For each targeted platform, we would need:

- EMVCo Level 2 Letter-Of-Approval (or LOA) to ensure the compliance of the payment contactless kernels
- Platform product datasheet to validate the technical characteristics
- Platform SDK and SDK Documentation
- Payment terminal devices (optional)

Processor or Acquirer Qualification

The purpose of the processor qualification is to assess the effort to support the card network or processor's requirements. This also allows to identify any gap with the standard card payment business processes between a payment terminal and a processor.

For each targeted processor, we would need:

- Messages Exchange Protocol Specifications
- Transport Protocol Specifications
- Security Specifications

Terminal Manager System (TMS) Qualification

The purpose of the TMS qualification is to assess the effort to support the maintenance requirements. This also allows to identify any gap with the standard maintenance and monitoring business processes between a payment terminal and a TMS.

For each targeted TMS, we would need:

- Messages Exchange Protocol Specifications
- Transport Protocol Specifications
- Security Specifications (if applicable)

Sale System Qualification

The purpose of the Sale System qualification is to assess the effort to support the retail requirements. This also allows to identify any gap with the standard sale business processes between a sale system and an acceptor.

For each targeted Sale System, we would need:

- Exchange Protocol Specifications
- Transport Protocol Specifications
- Security Specifications (if applicable)

Step 2: Project Execution

Based on the qualification phase, a dedicated team will be assigned to your project and follow-up the successful project execution.

- Project Planning
- Solution Requirements
- Development

Step 3: Project Acceptance

The project acceptance phase is a formal acceptance of the project deliverables. It is usually based on:

- The User Acceptance Tests plan provided by the customer
- EMVCo L3 White certification (optional)

Step 4: Certification

There are three levels of testing requirements prior to deploy a standard payment terminal:

1. EMVCo Level 1 (L1) covers the physical, electrical and transport level interfaces of the hardware,
2. EMVCo Level 2 (L2) ensures the compliance of the payment kernel,
3. EMVCo Level 3 (L3) ensures that network specifications and acquirer requirements have been met.

Arkos is part of the L3 Certification scope. Below is a non-exhaustive list of Terminal Integration Tests generally required by card networks and processors.

Card networks or Processors	Terminal Integration Tests
Visa	ADVT (Acquirer Device Validation Toolkit) CDET (Contactless Device Evaluation Toolkit) VPTP (Visa's payWave Test Tool kit)
MasterCard	M-TIP (Mastercard Terminal Integration Process)
AMEX	AEIPS (American Express ICC Payment Specifications)
Nexo Standards	NIS (Nexo Implementation Scope)
Fiserv	Fiserv EMV testing and certification (including Visa, Mastercard, AMEX, Discover, DNA, INTERAC)

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