RS Software Apple Pay Capability

Introduction

On the 9th of September 2014, Apple announced the launch of Apple Pay, a mobile payment and digital wallet service that lets consumers make payments in-store using an iPhone 6. Apple Pay delivers a more secure payment experience by protecting card credentials and digital transactions via tokenization, EMV-like cryptography and biometrics-based authentication.

The entry of Apple into the digital payments space has renewed the momentum and support for technology that facilitates making payments with digital devices. In addition to the major card networks, more than 700 financial institutions have signed up to offer their customers and members Apple Pay. In addition, a number of other players supporting the payments infrastructure are working on projects that will support Apple Pay.

Enabling Apple Pay for In-store Purchases

Issuers and Acquirers
One of the areas most critical to a successful rollout of Apple Pay involves identifying and implementing the changes to core processing applications that are required such as those related to authorization, risk prediction, fraud detection and dispute resolution.

RS Software has been key partner in several projects involving the development and update of these applications to accommodate the Apple Pay integration and rollout.

We have taken the following steps in each project to ensure that the changes to core processing applications are completed within the scope and timeline required for deploying Apple Pay:

- Engage with architects to develop the conceptual approach for the changes required while outlining associated change controls.
- Develop general design upgrade to support Apple Pay initiated transactions.
- Deploy a support infrastructure including live monitoring and issue resolution from a command center specially created for the purpose of the Apple Pay implementation.
- Investigation and resolution of all issues faced by end users using Apple Pay during enrollment and transaction processing including areas such as token assignment, token vault, NCC, LnP and authorizations.

In addition, we ensure that all features and impact points across core functional areas are integrated into the overall solution design and development. These include:

- New features that allow Issuers to create new fraud detection / prevention rules using tokens provisioned in Apple Pay.
- Efficiency improvements for fraud detection and prevention in real time.
- Service upgrades that support both NFC initiated authorizations and ecommerce purchases.
- Detection of fraudulent scenarios for both NFC initiated authorizations and ecommerce purchases.
- Split routing for Issuer entitlement where both card and token are present.
- Routing changes in dispute systems for documentation automation, copy request and fulfilment service.
- Reporting changes based on token display.

Enabling Apple Pay for In-App Purchases

Merchants

The in-app purchasing feature of Apple Pay is attractive to consumers since it eliminates the need to type in payment information on a small screen. However, significant effort is required to integrate the in-app feature into a merchant's e-commerce infrastructure. Our work with early adopters of the Apple Pay in-app feature has included work in the following functional categories:

- Integrating Apple Pay with the merchant's mobile app to enable payments.
- Transaction reporting services.
- Apple Pay integration using 3rd party payment libraries and SDKs.
- Developing a framework that quickly renders required white label and customizations features (e.g., embedded end client Identity/secret key, branding and skins) and then publishes to the App Store as an end client application.

End to End Testing for Apple Pay

As an e-payments expert with more than two decades of experience, RS Software has a proven pedigree in functional, regression, integration, user acceptance and end-to-end testing. From a functional perspective, there were two different aspects of the testing that we performed in relation to Apple Pay implementations:.

- Testing of the core processing for tokenization occurring in transaction switching, authorization and other applications. All data flow, message formats, processing rules, and encryption services that are exercised are validated.
- Integrated testing with Apple, the telecom operator and the issuer to review and execute the overall testing. Work with the external parties to make sure that the end user experience is optimized.

Within these two broad categories, we delivered these types of testing services:

- Testing and validation of several encryption services involved in the different stages of provisioning a card including usage of RSA-2048, TDES, CBC (Cipher Block Chaining), AES-128, ECC-256 encryption in the different stages of check card, consumer authentication, link and provision and application of provisioning scripts through SEI-TSM.
- Test design and planning for message flows, cryptographic functionalities and token life cycle management.
- Test execution across risk rules and profiles, data feeds and updates to rules and profiles, and token transactions.
- Review of end to end test cases from Apple and suggested modifications to ensure better test coverage, maintain oversight, monitor and control the end to end test execution, and track defects till closure.

Why RS Software?

With more than two decades of experience in the payments industry, no other solution provider delivers more industry-specific knowledge and experience to deliver technology projects than RS Software.

Our proven delivery methodology and knowledge transfer processes mitigate risk, improve time to market and deliver attractive price performance. In addition to our successful projects involving Apple Pay, we have delivered numerous tokenization, EMV and biometrics projects on time and on budget. Our specific expertise with tokenization and Apple Pay comes from the experience in several such initiatives. Our focus in digital payments has enabled us to be an early adopter and implementer of the technology. As one of the few firms with a dedicated practice in digital payments and a partner with a number of early adopters of Apple Pay, we are well positioned to help your organization. For more information, please contact **info@rssoftware.com**.