

# PAYPASS TOOLKIT FOR FINANCIAL INSTITUTIONS



**\$2.9 trillion** THE GLOBAL ADDRESSABLE MARKET FOR CONTACTLESS PAYMENTS, INCLUDING MOBILE, IS USD 2.9 TRILLION.\*

## ADDING PAYPASS

By adding *PayPass* to M/Chip™ or Magstripe issuance, you're opening the door to powerful benefits. In addition to adding convenience for your cardholders, *PayPass* can help you increase spending, displace cash, and reduce attrition.

With Near Field Communication (NFC) technology close at hand, enabling *PayPass* is your best entry into mobile payments. Those cardholders who use a card to tap for purchases today will be the customers who will use a phone to tap for purchases tomorrow.

### About this Toolkit

In this document you'll find all the information you'll need for successful issuance of today's most advanced—and convenient—payment option. From FAQs to issuance guidelines and best practices, MasterCard is here to help every step of the way.

### Potential Benefits of *PayPass* for Financial Institutions

#### Higher spend

- » Incremental spend—consumer not limited to cash on hand
- » Incremental transactions—results from increased usage
- » Expected increases in swiped/dipped transactions

#### Cash displacement

- » Replacement of cash purchases now paid with *PayPass*-enabled cards and devices

#### Reduced attrition

- » Reduction in incentives paid by bank toward account retention
- » Opportunity costs avoided—fewer customers switching banks or moving competitors' products to top of wallet

\* Datamonitor, "Contactless Payments: Waving Cash Goodbye," October 2011.

## Table of Contents

Welcome to <i>PayPass</i> .....	01
How it Works.....	02
Frequently Asked Questions .....	03
Six Steps to Issuance .....	04
1. Pre-issuance Planning.....	04
2. Card-Oriented Changes .....	06
3. Authorisation Host Changes .....	07
4. Clearing Host Changes .....	08
5. Live System Migration .....	09
6. Project Completion .....	10
Process Diagram: Adding <i>PayPass</i> Issuance.....	11
Issuance Best Practices .....	12
Additional Resources and Services.....	14



## Welcome to *PayPass*

Making payments has never been easier, thanks to *PayPass*. All the cardholder needs to do is tap their *PayPass*-enabled card or device on a *PayPass*-enabled reader or terminal. Within a fraction of a second, they'll receive payment confirmation, and be on their way.

### WHAT IS *PAYPASS*?

*PayPass* is a contactless payment method that gives your cardholders the convenience of making payments without handing over or swiping/dipping a payment card.

Instead, the cardholder simply taps their *PayPass*-enabled card or device (such as a mobile tag, mobile phone, key fob, or wristband) onto a *PayPass*-enabled reader.

The chip and antenna in the device securely transmits payment details wirelessly to a contactless reader connected to a merchant's point-of-sale (POS) system.

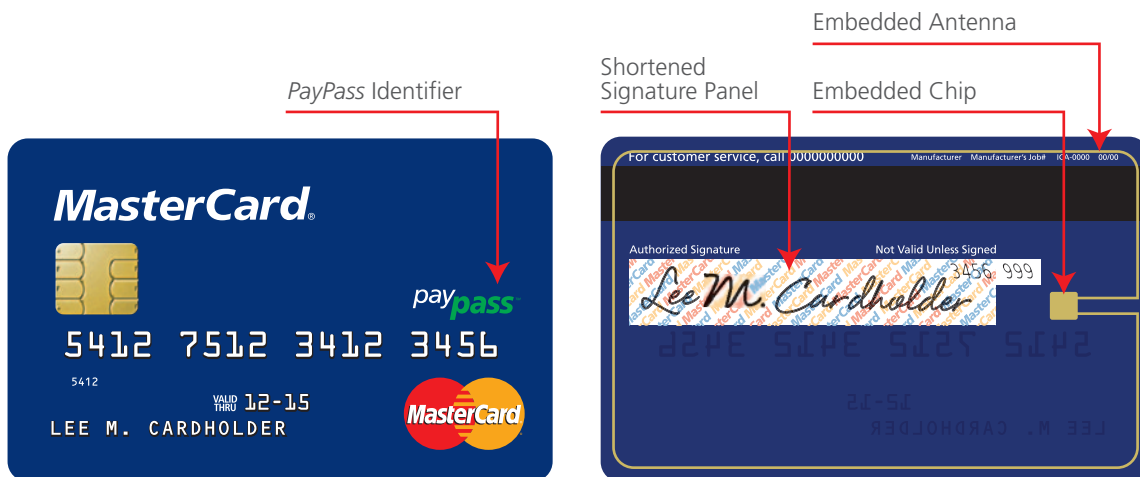
Account details are communicated directly to the contactless terminals and are then processed through the same acceptance network used for regular payment card transactions. Within a fraction of a second after a consumer taps the terminal with their *PayPass*-enabled card or device, they receive payment confirmation and can be on their way.

*PayPass*-enabled cards look similar to standard MasterCard and Maestro cards, except that they include the *PayPass* identifier and, as is true for all chip cards, a shorter signature panel on the back. Embedded inside the card is a contactless chip that stores and processes the payment account data and a connected antenna that typically runs around the perimeter of the card.

# 93%

Displace cash with *PayPass*. Approximately 93% of *PayPass* transactions in the U.S. are under USD 50, while 84% are under USD 25.

MasterCard, 3Q2012

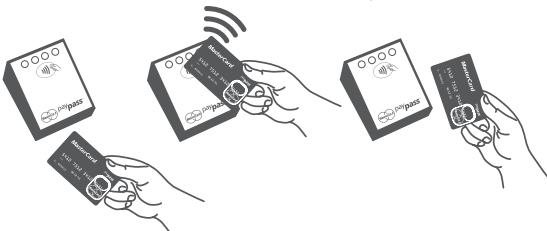


## How it Works

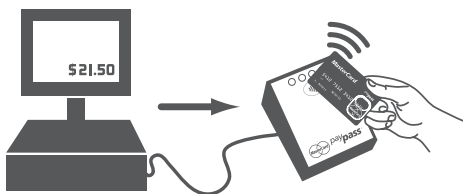
A computer chip in the payment card or device securely communicates with the merchant terminal. Within a fraction of a second, a light or beep indicates an approved transaction, and the cardholder is on their way.



Transaction details are sent to the PayPass-enabled terminal from the electronic cash register (ECR).



Card/device is tapped. Terminal activates and recognises the PayPass card/device and exchanges payment account details. PayPass card/device generates a dynamic cryptogram that creates a secure transaction in a fraction of a second.



Transaction data is transmitted to issuer along with payment account details via acquirer. Issuer validates the dynamic cryptogram, authenticates the data, and authorises transaction.

The PayPass M/Chip application offers you powerful tools to manage the risk presented by offline cardholder transactions. As there is no connection to the issuer for such transactions, it is the PayPass M/Chip application that decides whether to accept transactions offline on the issuer's behalf. Such offline transactions are processed by the issuer during the transaction clearing.

## FORM FACTORS

For cards, PayPass is available as both PayPass M/Chip and PayPass Magstripe. PayPass is also available on devices like key fobs, wristbands, mobile tags, and mobile phones. In fact, enabling for PayPass now can help put you ahead of the NFC adoption curve.

Interoperability is also a major PayPass requirement. PayPass-enabled cards or devices can be tapped and processed using PayPass-enabled terminals.

### PayPass M/Chip

- » Online or offline transactions
- » Requires an EMV payment issuing platform
- » M/Chip data used in contactless transactions if terminal is PayPass EMV compliant
- » Available for MasterCard and Maestro brands

### PayPass Magstripe

- » Online transactions only
- » Magstripe data with dynamic CVC3
- » Available for MasterCard brands

## GLOBAL ACCEPTANCE

This universal contactless symbol indicates that contactless payments are available. To pay with a PayPass-enabled card/device, the user must look for the MasterCard PayPass and/or Maestro PayPass logos on the terminal.



## SECURITY

MasterCard places a strong and consistent emphasis on security through the enforcement of compliance with product specification and other MasterCard requirements to safeguard cardholders, merchants, and other payment system participants.

## Frequently Asked Questions

### What is the latest consumer research on *PayPass* performance?

Since the original *PayPass* trials in 2003, we have continued to see strong usage and an increase in user adoption. *PayPass* is successfully displacing cash in environments where cash was traditionally the preferred payment method—where the average ticket is low. In fact, nearly 93% of *PayPass* transactions are under USD 50.\* Plus, *PayPass*-enabled accounts increase and maintain higher average spend per account than non-*PayPass*-enabled accounts: 53% YOY net lift in spend among *PayPass* credit accounts and 32% among *PayPass* debit accounts.\*\*

### How safe are these transactions—can someone intercept the data or get incorrectly charged for purchases when carrying the card?

Paying with *PayPass*-enabled cards and devices uses the same cryptographic techniques as paying with traditional contact cards where each payment is protected with a dynamic cryptogram, along with other safeguards built into the technology to ensure cards and devices cannot be easily compromised.

### Are signature and PIN requirements waived for *PayPass* purchases—is there a limit?

*PayPass* is ideal for low-value payments, but high-value payments are also possible in most countries. Depending on your region, signature and PIN requirements may be waived for *PayPass*-enabled transactions. For purchases above your region's CVM limit, signature or PIN is still required.

### What type of technology is used for *PayPass*?

In keeping with our overall strategy to create globally interoperable payment solutions, *PayPass* was built following an open industry standard for radio frequency communications: ISO 14443.

*PayPass* replaces cash at new merchant categories.

- » Airline In-flight
- » Cinemas
- » Electric Charging Stations
- » Festivals
- » Parking Meters
- » Public Transport
- » Stadiums
- » Taxi Cabs
- » Toll Roads
- » Vending Machines

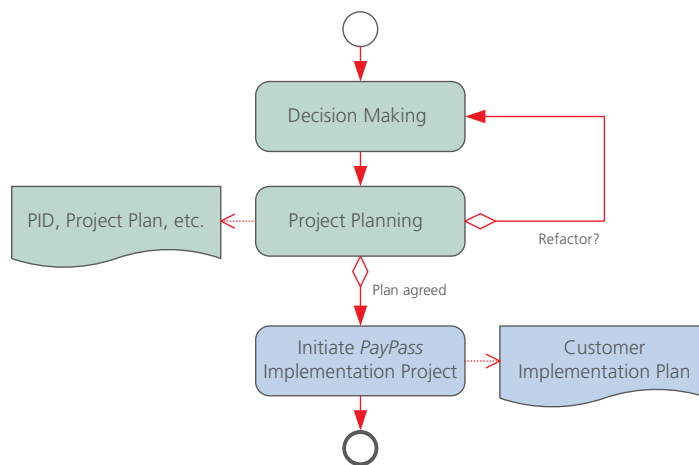


\* MasterCard, 3Q2012  
\*\* MasterCard, FY2011

## Six Steps to Issuance

This section suggests how you, as a financial institution, can plan and execute, adding *PayPass* to your existing M/Chip or Magstripe issuance.

### 1. Pre-issuance Planning



#### PROJECT INITIATION

The first part of pre-issuance planning is project initiation. This phase entails the following:

- » **Decision making**, which addresses business requirements and the technical means that you use to achieve those requirements. These decisions directly affect how you will implement adding *PayPass* to your M/Chip or Magstripe issuance and therefore affect the planning required.
- » **Planning the implementation**, where you take the business decisions and construct a project plan to determine how you will implement those decisions in the most efficient, cost effective, and timely manner.

MasterCard can also assist you with the following:

- » *PayPass* strategy support and decision making
- » *PayPass* business case support
- » Workshops covering business, technical, and security needs

#### Decision Making

As part of initiating a project, various decisions need to be made that will affect the project. Once the project initiation decisions have been made, you can begin to plan your project. Many of the decisions that you need to make affect each other and will also affect your planning, and vice versa. You may have to do more than one pass through decision making and project planning tasks before they are fully established and you can start the implementation.

#### Project Planning

When planning your project, it is recommended that you do so against a suitable framework covering the variety of disciplines and activities required within your project.

There are several ways that you can build a work breakdown structure for adding *PayPass* to M/Chip or Magstripe card issuance. The one proposed here should not be considered as universally suitable for all projects. Your project manager(s) should be prepared to customise the specifics to suit your particular projects.





The activities within these phases comprise tasks that are:

- » Internal processes that are proprietary to your circumstances (shown in green)
- » Collaborative processes with MasterCard and approved Service Providers to initiate services or obtain certification as certain key milestones are reached (shown in blue)

After formalising your business decisions, you need to contact your regional MasterCard representative to initiate a *PayPass* Migration Project. MasterCard will assign a MasterCard project manager, who will, with your help, produce a Customer Implementation Plan which details the services and support that MasterCard will provide during your project.

## CHANGE COMMUNICATION

Throughout the project, and particularly during the implementation phase, you need to communicate to staff and cardholders the changes that you will introduce with *PayPass*, and leverage the Tap & Go™ brand message.

With any new programme or product launch the goal is to have as little customer impact as possible while trying to drive incremental usage through added customer value. Communications should be specific and engaging, and explain how this will benefit the customer. Additionally, employees are often a main contact point for your customers and they need to not only be aware of the product or feature capabilities, but also be an advocate of its use.

MasterCard has marketing templates, FAQs, and training materials available to help you develop your communications and marketing messages. There are sample POS materials as well as cardholder-specific materials. Having an appropriate communications plan will contribute to the overall success of your programme.

## LICENSING

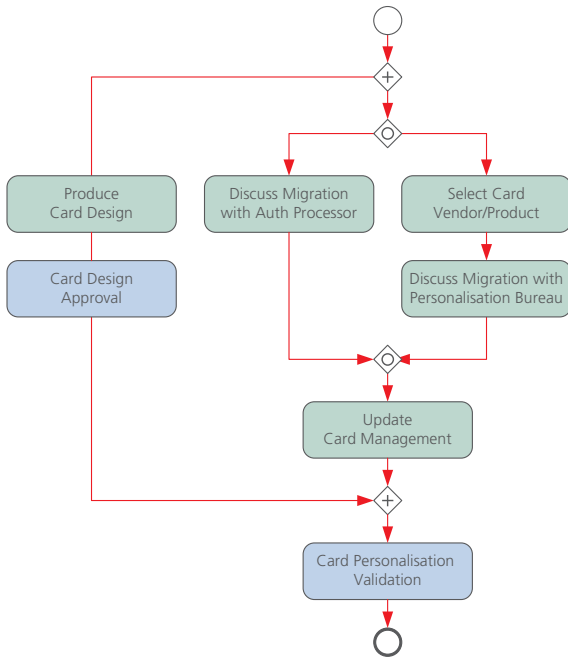
To issue *PayPass* cards, customers must enroll in the *PayPass* programme. Vendors are required to enter into a license agreement with MasterCard before developing and selling *PayPass*-enabled cards and devices. All cards, devices, and readers used for performing *PayPass* transactions must be approved and licensed by MasterCard prior to their use. Customers must only purchase and deploy cards and terminals from properly licensed vendors. Detailed information about the type approval process can be found at [paypass.com/vendors](http://paypass.com/vendors).

Issuers must start a project with the relevant MasterCard project team in order to define and complete various certification steps that are required. This can include Network Interface Validation for issuers or Terminal Integration Process for acquirers. Questions about the enrollment or license process should be directed to [license@paypass.com](mailto:license@paypass.com).

## IMPLEMENTATION

Once you've completed your pre-planning, you're ready to move on to the technical changes that are necessary to add *PayPass* to M/Chip or Magstripe issuance.

## 2. Card-Oriented Changes



### Design Cards and Obtain Card Design Approval

Redesign your cards to carry the *PayPass* logotype and obtain Card Design Approval.

### Discuss Migration with Your Authorisation Processor

If you use an authorisation processor, discuss with them your plans to add *PayPass* functionality to M/Chip or Magstripe and how they can help you achieve this.

### Select a Card Vendor/Product

Select a card vendor who offers card products that meets your business requirements.

The vendor must be part of the Global Vendor Certification Programme (GVCP), and the vendor product must meet and maintain compliance with other MasterCard requirements, specifically Compliance Assessment and Security Testing (CAST) and Card Quality Management (CQM). The card product itself must meet and maintain

Card Functional Approval (CFA). The device selected also needs a valid non-expired LOA for the product (Maestro/MasterCard) they intend to issue.

Refer to [paypass.com/approved-products.html](http://paypass.com/approved-products.html) for the list of approved *PayPass* products.

Alternatively, you can choose to develop your own product, under license, based on the *PayPass* specifications and MasterCard requirements. Your product will need to obtain approval.

### Discuss Migration with Your Personalisation Bureau

If you use a personalisation bureau, discuss with them your plans to add *PayPass* to M/Chip or Magstripe and how they can help you achieve this.

The data required for personalisation is similar to that for M/Chip, so you will need to consider the impact this will have on additional data elements you may need to provide to the personalisation bureau.

### Update Card Management

You need to make changes, if necessary, to your card management system, such as preparing and sending additional data for personalisation.

### Obtain Card Personalisation Validation

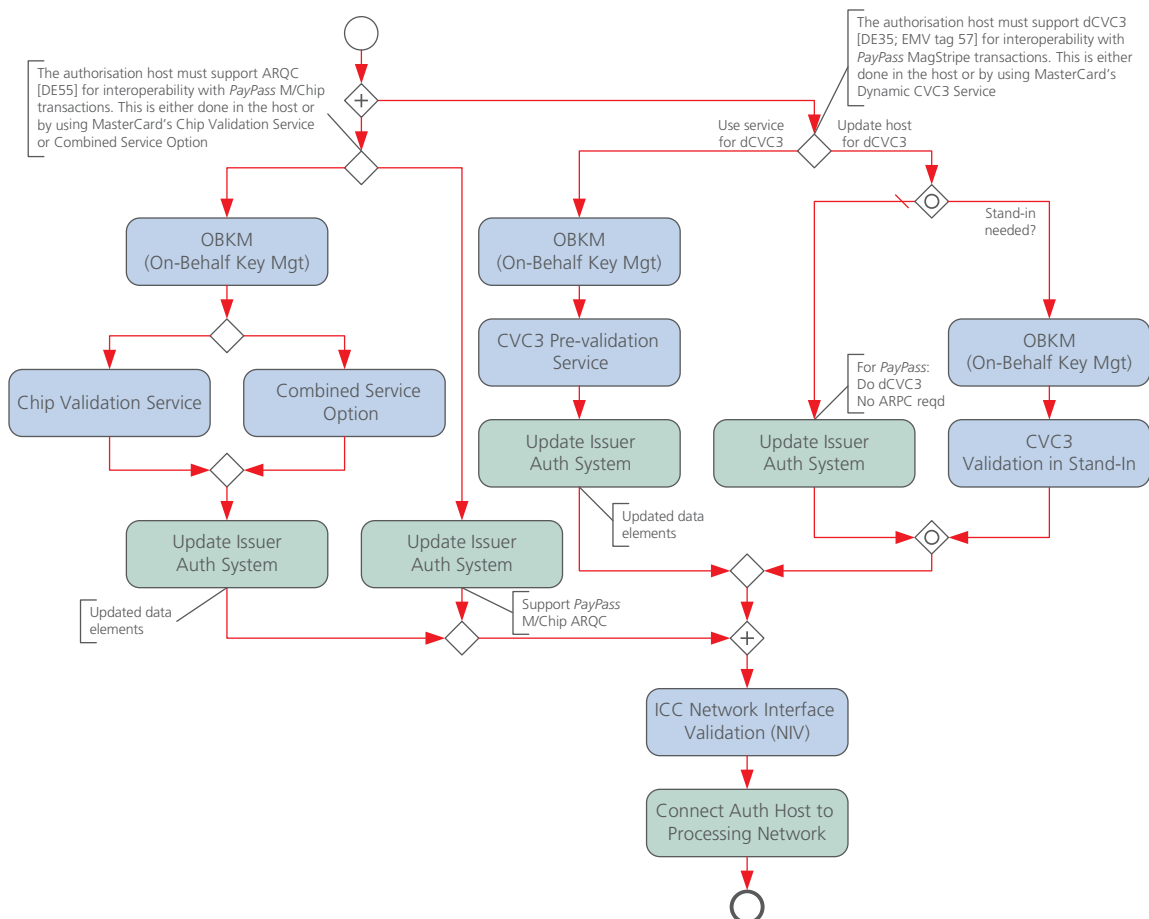
Your *PayPass*-enabled cards must obtain Card Personalisation Validation (CPV) to ensure that the personalisation parameters in them meet all contact, *PayPass*, and other MasterCard requirements.

MasterCard recommends that you use standard personalisation profiles to quickly accomplish CPV. Using non-standard personalisation profiles will result in a longer and costlier CPV due to the need for more extensive testing and analysis.

MasterCard further recommends that you test your cards before submitting them for CPV. This may be achieved by requesting assistance from a test laboratory or by using one of the available qualified test tools.



### 3. Authorisation Host Changes



#### Update Authorisation Host with Support for Authorisation Response Cryptogram (ARQC)

Your authorisation host must be able to support ARQC processing for interoperability with *PayPass* M/Chip or Magstripe transactions. Based on your business decisions, you will do one of the following set of changes:

- » Update your authorisation host to support ARQC
- » Use the Chip Validation Service or the Combined Service Option and update your authorisation host to cope with changes to values in existing elements

#### Update Authorisation Host with Support for Dynamic CVC3

The authorisation host must also support dynamic CVC3 for interoperability with *PayPass* Magstripe transactions.

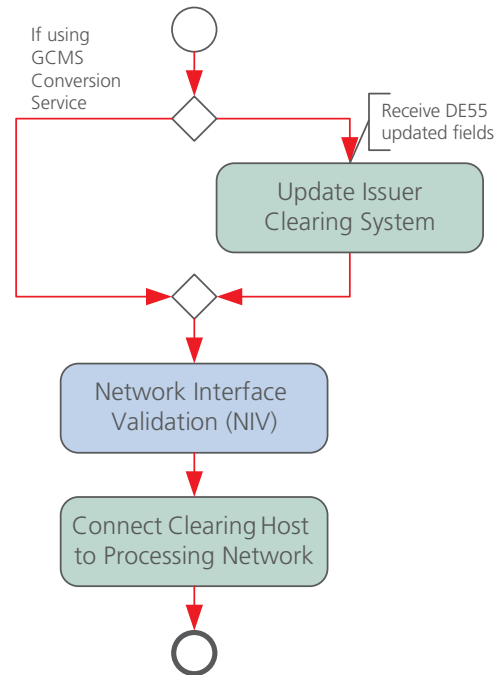
Additionally, order the MasterCard CVC3 Validation in Stand-In Service if you decided to use this for business continuity reasons.

Alternatively, if you decided that your authorisation host would not be updated to directly support dynamic CVC3, you may leverage *PayPass* On-Behalf Services (see back cover).

#### Obtain Network Interface Validation (for Authorisation)

Obtain Network Interface Validation (NIV) to ensure that the changes you made to your authorisation host infrastructure are compliant with MasterCard requirements.

## 4. Clearing Host Changes



### Update Clearing Host

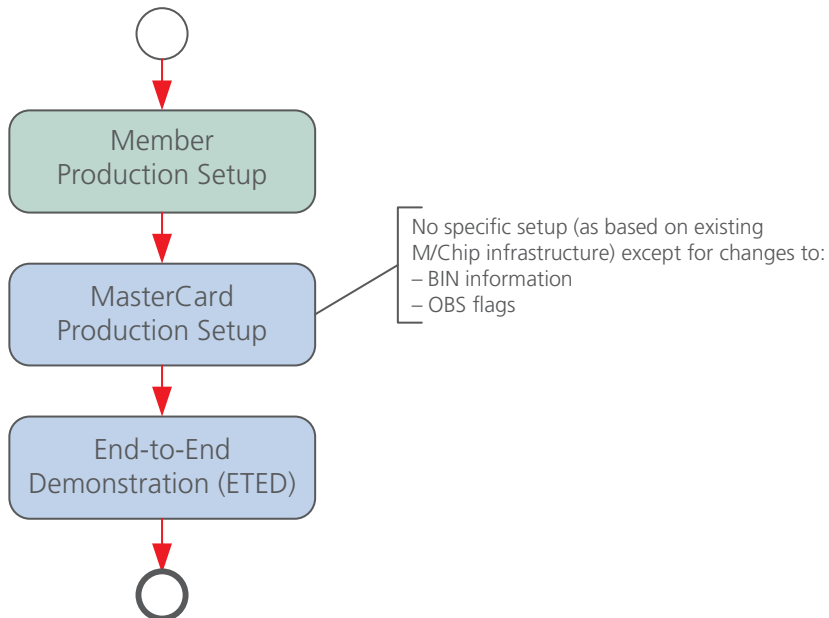
You will have to update your clearing system to accommodate different values in existing data elements for *PayPass* transactions.

Alternatively, if you are already using the MasterCard Global Clearing Management System (GCMS) Chip Conversion Service in your M/Chip or Magstripe implementation, you do not need to do anything further.

### Obtain Network Interface Validation (for Clearing)

Obtain Network Interface Validation to ensure that the changes you made to your clearing environment with regard to accepting *PayPass*-related transaction data are done in a compliant manner.

## 5. Live System Migration



### Production Setup

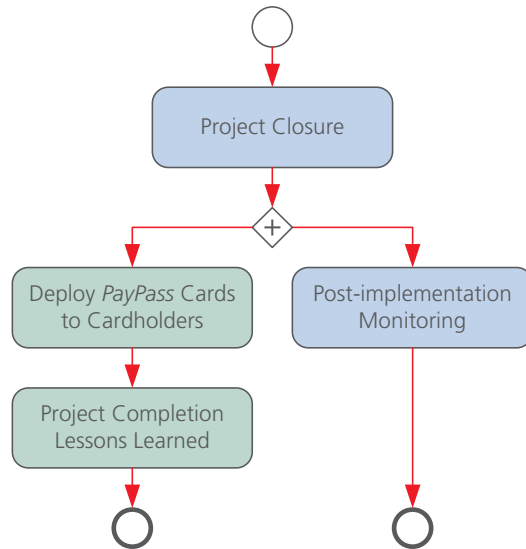
Allow for the time needed to move from development to production:

- » Switching network connections from development to production
- » Enabling BINs for *PayPass* cards
- » Ensuring that personalisation uses live keys instead of test keys

### Obtain End-to-End Demonstration

Obtain a successful End-to-End Demonstration (ETED) to validate that you are able to issue live *PayPass* cards that can be accepted and operate in the correct manner in a production environment.

## 6. Project Completion



### MasterCard Project Closure and Post-implementation Monitoring

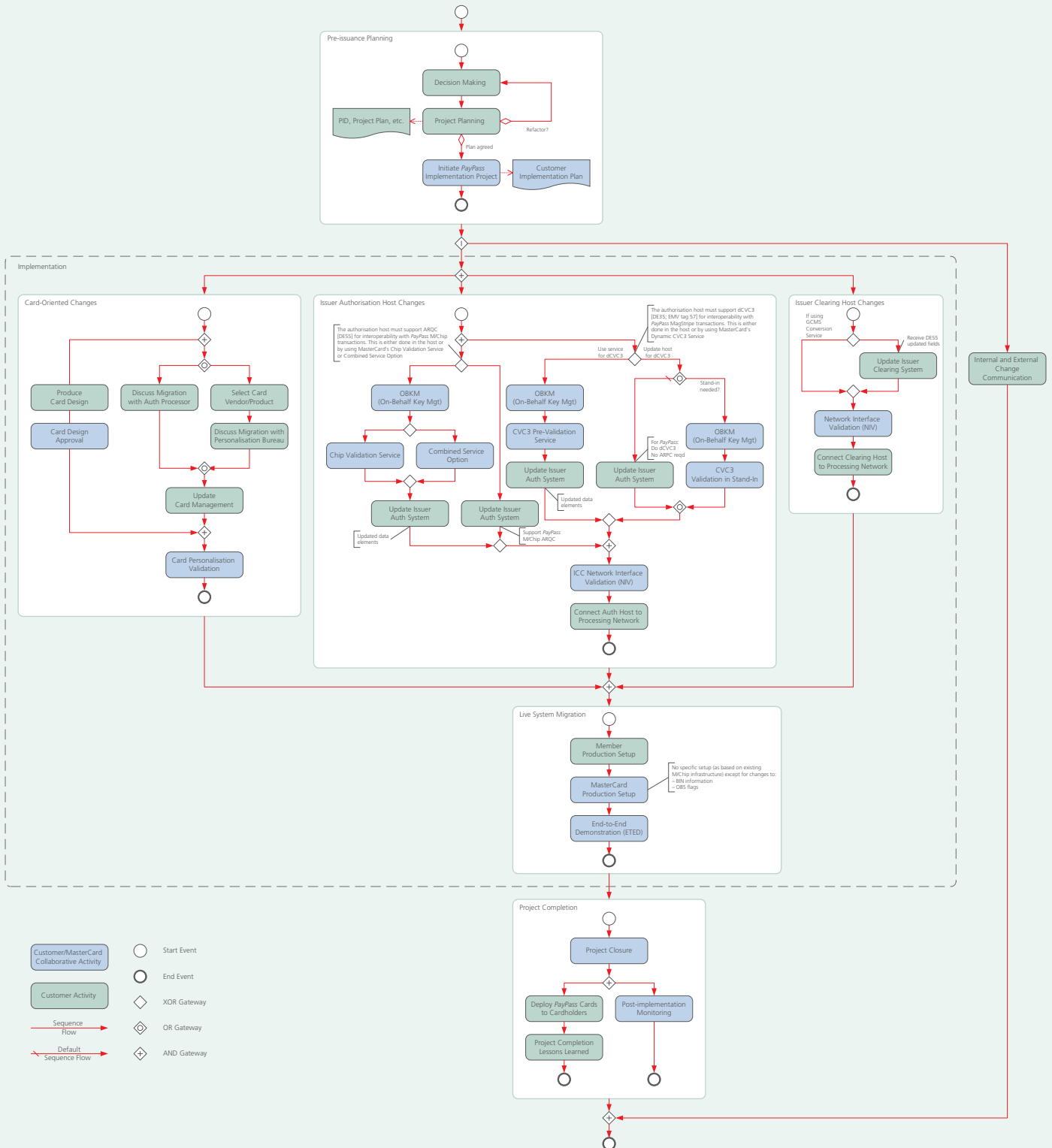
Following a successful ETED, MasterCard Optional Product Delivery will close the project on its side and will start post-implementation monitoring for 30 days to watch for any problems that may occur as your live *PayPass* transactions begin.

### Deploy Cards to Cardholders

Deploy the *PayPass* cards using the deployment strategy that you decided upon.

Ensure that you communicate appropriately to your internal and external audiences, as migrating to *PayPass* will have a profound impact on your internal organisation and your cardholders.

# Process Diagram: Adding PayPass Issuance





## Issuance Best Practices

In our extensive work with financial institutions, MasterCard has identified these best practices for issuing *PayPass*-enabled cards and devices.

### SEGMENTATION STRATEGY

Identify and target specific cardholder segments that have been shown to be early adopters, like frequent card users. A targeted consumer strategy is designed for programme launch and must include a framework for full rollout.

### CARD DESIGN

Card designs vary by issuer, but there are two critical components of any card design:

- » Adhere to approved *PayPass* brand standards
- » Place *PayPass* branding on the front of the card

### TEST PLANS

A comprehensive test plan helps ensure all goes smoothly in a rollout.

**Personalisation Testing (required):** MasterCard will validate the personalisation of a *PayPass* card/device with the issuer (or an issuer-designated payment processor).

This testing covers the requirements for checking that the correct data is being personalised onto *PayPass* products to be issued.

### SECURITY SAFEGUARDS

Payment security depends on all stakeholders working together to adopt best practices and implement required solutions:

- » Use only type-approved MasterCard payment applications and chips
- » Successfully complete the required testing

Follow safeguards to authorise valid transactions by checking POS entry mode and dynamic authentication to avoid the misuse of *PayPass* data.

### PERFORMANCE MONITORING

Ongoing performance monitoring is necessary in order to effectively evaluate the performance of the *PayPass* functionality on any portfolio, and to design programmes that further promote usage.

Issuers need to ensure that they are able to identify their *PayPass*-enabled cardholders and determine when they swipe/dip vs. tap their card/device.

To evaluate the impact of *PayPass*, they can do performance testing. Important elements are:

- » Clearly identify metrics to measure
- » Define test period
- » Identify target group and split into test and control segments
- » Evaluate impact

### EMPLOYEE TRAINING

Specific *PayPass* training must be incorporated into any ongoing employee training programme. Guiding principles include:

- » Educate employees at least four weeks before customers get *PayPass*
- » Train employees immediately after announcing its launch
- » Generate excitement with all communications
- » Consider an employee promotion or sweepstakes during the rollout phase

Customer-facing employees should be knowledgeable about *PayPass* and act as an advocate of its use. The objective of training is to:

- » Give customer-facing employees product and benefit information so they can answer questions
- » Highlight typical customer questions and give employees rebuttals that could help in the sales process
- » Encourage employees to promote the card and highlight usage opportunities

### CONSUMER MARKETING

In order to get customers to activate and use the card/device right away, issuers need to:

- » Highlight the benefits of the functionality, including how and where to use it, as well as the security and fraud protections available.
- » Market to card member in a consistent, frequent, and multi-phased manner.



MasterCard  
Worldwide

otpbank

Ugyintézés **Egyenleg feltöltés** **Lekérdezések**

## ÉRZEM, HOGY FÉL ÁRON MÉSZ A SZIGETRE!

Meglévő, névre szóló MasterCard®  
vagy Maestro® PayPass™ kártyáddal  
most fél áron vehetsz Sziget hetijegyet!

**Mi ez és miért jó?**  
A PayPass™ egy érintés nélküli fizetőeszköz. Gyorsan, és biztonságosan intézhetsz vele kis összegű fizetéseket.

**Hol használhatom?**  
A legtöbb kedvenc helyeden már most is fizethetsz vele. Kattints, és nézz szét a teljes bolt-választékban!

**Akarok én is!**  
Igényelj PayPass™ kártyát, vagy matricát egyszerűen! Megmutatjuk, hogyan!

Consumer Marketing in Hungary: OTP Bank's webpage provides easy access to PayPass information (landing page especially recommended) and highlights benefits and ease of use.

台灣大車隊

免找零

Carrefour

免簽名

Starbucks

免等待

謹慎理財 信用無價

## MasterCard PayPass™ 就是快人一步

有了MasterCard PayPass，更快滿足你的享受。結帳免簽名、免找零、免等待，搭台灣大車隊、逛家樂福、看電影、喝咖啡、逛百貨，統統可以快快享受，每一個快樂都不錯過。

自2011/7/1-2011/8/31止，搭乘台灣大車隊計程車刷萬事達卡信用卡(含PayPass)交易，每筆交易不限金額，就有一次iPad2(16GB WiFi)抽獎機會，共計30台。

自2011/7/1-2011/8/31止，持萬事達PayPass卡，在全台家樂福實體店以PayPass刷卡交易，單筆消費滿新台幣1500元(含)以上，即可獲得「山水台榭九號白米300公克」乙包(全台限量30,000個)。更多活動詳情請上www.mastercard.com.tw查詢

萬事皆可達 唯有情無價

Consumer Marketing in Taiwan: Statement inserts and emails focus on the availability and benefits of using PayPass-enabled cards and devices.

## Additional Resources

We don't expect you to know everything there is to know about *PayPass*. But we do want you to know how to find the answers. Here are a few other resources.

[paypass.com/tap\\_and\\_go](http://paypass.com/tap_and_go)

This is your go-to resource for all things *PayPass*. Connect to country-specific *PayPass* sites and find implementation information and marketing support specific to merchants, issuers, and acquirers.

Consumers can also use this site to access the *PayPass* Merchant Locator tool which helps them find *PayPass*-accepting merchants around the world—online or through an app for mobile.

[paypass.com/vendors](http://paypass.com/vendors)

This site provides *PayPass* support for vendors with information regarding documentation and products & services including the approved *PayPass* products list.

[mastercardconnect.com](http://mastercardconnect.com)

MasterCard Connect™ offers products and services to help you manage your payments business better.

## Additional Services

### **PayPass On-Behalf Services**

In an effort to help you implement and manage a successful programme, we also offer *PayPass* On-Behalf Services. You can leverage our most advanced security and risk management features and introduce the latest innovations of *PayPass* Modular Solutions to your customers. On your behalf, we can provide:

- » CVC3 Validation Services
- » *PayPass* Mapping Service



**Should you have any questions, be sure to contact your MasterCard relationship manager, or email a representative at [paypass@mastercard.com](mailto:paypass@mastercard.com).**

MasterCard Worldwide is at the heart of commerce. Our understanding of how and why commerce is conducted allows us to create more advanced methods of payment that fuel economic connections and drive real business value.

©2012 MasterCard. Proprietary and Confidential. All rights reserved.  
MasterCard is a registered trademark and PayPass is a trademark of MasterCard International Incorporated.