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

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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.

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.

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 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 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.

If using GCMS Conversion Service

Receive DE55 updated fields

Update Issuer Clearing System

Network Interface Validation (NIV)

Connect Clearing Host to Processing Network

Receive DE55 updated fields
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.

No specific setup (as based on existing M/Chip infrastructure) except for changes to:
- BIN information
- OBS flags
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.
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.
Consumer Marketing in Taiwan: Statement inserts and emails focus on the availability and benefits of using PayPass-enabled cards and devices.

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

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.