

# Welcome to Mobey Forum's member discussion: Apple Pay and its impacts on banks

Back-up slides for discussion and for Mobey's members

Chair: Kristian Sorensen, NETS  
Moderator: Sirpa Nordlund, Mobey Forum

17 Sept 2014

**Proud to say:** Apple will be speaking about Apple Pay and TouchID at Mobey Day  
-however, they wish to stay incognito and not mentioned in the agenda. We may share this for  
Mobey Forum members, but not for general public (=not googlable).

Thank you for respecting their wish.

**\* \* \* \* \***

**Discussion Continues** in our members' area: please see the posts for ALL the questions  
– you can comment for answers or further questions on comments- field:

<http://www.mobeyforum.org/apple-pay-business-models-and-roles/>

<http://www.mobeyforum.org/apple-pay-market-disruption-and-collaboration/>

<http://www.mobeyforum.org/apple-pay-tokenization-authentication-role-of-tsp/>

<http://www.mobeyforum.org/apple-pay-other-topics/>

If you have not registered, please visit [www.mobeyforum.org/register](http://www.mobeyforum.org/register)

THANK YOU FOR ATTENDING THE DISCUSSION - PLEASE SEE OUR SLIDE DECK.

# Apple Pay - flow



- User **can add a card** to Passbook by uploading it from their existing iTunes account or by taking a picture of their card with the Apple iSight camera
- Apple verifies the user's information with their bank and adds the card to Passbook
- Account goes through a tokenization process and is assigned a random string of numbers
- Encrypted account number is stored in the secure element within the phone

- User selects a card to use for the transaction through Passbook and places their thumb over the home button of their device
- Touch ID verifies the users' thumbprint as an authentication protocol for fraud protection

- User taps the top of their iPhone 6 to the payment terminal after Touch ID verifies their identity. The phone beeps, creates a small vibration and an on-screen "payment accepted" notification is shown to show the completion of the transaction.

# Partners

## Issuers

Partnered with the six major card issuers in the U.S., which represent ~80% of credit card purchase volume



Announced

Expected

## Payment networks

Works with major credit card schemes



Apple only disclosed Visa, MC and Amex cards with Apple Pay initially, but reports suggest that China UnionPay and Discover cards may be enabled as well.

Sources: Apple website, Want ChinaTimes, Financial Technology Partners  
Want China Times, "NFC-supported Apple Pay to work with China UnionPay", Sep 12, 2014. Digital Transactions, "As Questions Linger, Discover Says 'Me Too' to Apple Pay", Sep 10, 2014.

## Merchants

Accepted in over 220,000 stores in USA accepting contactless payments



## Mobile Commerce

Allows users to make payments in several merchants apps, more expected..



Sources: Apple website, Financial Technology Partners

# Google Wallet: Quick comparison

## Background

Apple introduced Apple Pay (AP) on September 9, 2014.

Google introduced the NFC-based Google Wallet (GW) in May 2011; in November 2013, the Company eliminated the secure element aspect of the wallet to a host card emulation (HCE) protocol for storage and retrieval of payment information.

## Technology

AP: The Apple iPhone 6 and Apple Watch product lines are NFC-based and utilize the a secure element in the phone to store the users' sensitive payment information.

GW: Many Android-powered devices that offer NFC functionality already support NFC card emulation; HCE is another method of card emulation that does not require the secure element and allows any Android application to emulate a card and talk directly to the NFC reader; utilizes cloud-based storage

**Big Data:** Apple Pay does not plan to track consumers' purchase information, which should take away fears by privacy-concerned consumers. In contrast, Google Wallet records information on consumers' purchases, such as merchant name, amount, date and time, method of payment, and potentially location.

## Overview

AP: The card to be emulated is stored in the secure element in the device. When the user holds the device over an NFC terminal, the NFC controller in the device routes all of the data from the reader directly to the secure element. After the transaction is complete, an application can query the secure element directly for the transaction status and notify the user.

GW: Through HCE, the data is routed to the host CPU on which the applications are running directly – instead of routing the NFC protocol frames to a secure element.

GW chose to depend on the MNOs and ended up being blocked the many MNOs –only really worked on Sprint Network - this lead to development of HCE.

Apple does not have a dependency on the MNOs.

# Business model (in USA)

## Regular case:

User buys for \$100

Issuer	Merchant gets	\$ 97,50
Acquirer / processor (First Data..)	Interchange	\$ 1,75
Payment network (Visa, MC..)	Merchant acquiring / processing fee	\$ 0,60
	Network fee	\$ 0,15

*Interchange represents fees paid to banks from merchants for handling credit / debit card payments.*

## \$100 with Apple Pay

Issuer	Merchant gets	\$ 97,50
Acquirer / processor (First Data..)	Interchange	\$ 1,60
Payment network (Visa, MC..)	Apple Pay fee	\$ 0,15
	Merchant acquiring / processing fee	\$ 0,60
	Network fee	\$ 0,15

*Apple is reportedly capturing 15 basis points of the interchange pie in Apple Pay transactions, thus reducing revenue that would have otherwise gone to issuers. The economics for merchants, networks and acquirers / processors will reportedly remain unchanged in Apple Pay transactions*

# Fees in the rest of the world?

There is no timeline yet for Apple Pay's launch in other parts of the world.

Apple starts in US, so that is not surprising, Europe is expected next (or Asia...)

- Business model will be difficult to export to Europe
  - Very different market dynamics – but Apple is used to handle that
    - But it took Apple 7 years to negotiate a deal with China Telecom
- Looking at the current proposal for regulation of interchange fees from the EU Commission, it seems that transactions will be capped at 0.2% and we have learned that Apple gets 0.15% pr. transaction in US. How realistic will it be for Apple to keep the same cut in Europe as there will only be 0.05% left to be shared among issuer, acquirer and payment network?
  - Fraud cost 3-10 basis points normally
  - Lower risk due to tokenization
  - Would prevent breaches like Target and Home Depot
  - Increased transaction volume

Person present – a new category (powered by tokenization)

- Pricing between card present and card not present interchange fees

Apple is not disintermediating the issuer -are willing to pay for that.

Affiliation with Apple is good for issuers brand.

Apple does not seem to cover any fraud costs as part of the solution.

# Some Impacts of Apple Pay

**POS:** Apple announcement will ensure all the POS terminals will be contactless also outside of NA. The mass usage of NFC & contactless payments is soon here. POS vendors will benefit from increase in POS sales (also driven by EMV migration in the US)

**PAYPAL:** Apple Pay is a very strong competitor to PayPal. PP can be one of the biggest potential losers in the new game. Wins PayPal's user experience at the moment. Hurts PP's offline plans.

**MOBILE PAYMENTS AND WALLETS:** Increased usage of mobile payments will generate the usage for other mobile wallets as well. Ease-of-use will be the driving force for any mobile payment and wallet, because of Apple's TouchID and no need to open an app. Apple Pay can be activated by tapping the iPhone 6 at the POS and holding a finger on the Touch ID sensor, a much simpler process to complete a transaction than many other existing solutions.

**Acquirers / Processors:** First Data has announced they are working with Apple and will be a token service provider (TSP) in 2015. Others will likely follow.

**NXP a big winner:**

\$250M extra sales for NXP (provider of the NFC controller in the phones)

**MOBILE COUPONING / ADVERTISING:** Currently missing from Apple Pay. One aspect might be that Apple passes part of the interchange fee revenue to merchants with / through mobile advertising? Online merchants who accept Apple Pay could potentially share some of the 30-50bps costs savings that Apple Pay would be able to receive.

**BIG DATA** One of the hot topics for a while within mobile has been the talk about big data and personal offers will be the fat cow of mobile payments. However Apple says that the payer will be 'anonymous' to the merchant and Apple them self will not keep any transaction data. Does that mean that the dream is dead?

# Impacts cont.

- **MCXTension with MCX retailers:** Apple Pay has not won Walmart or BestBuy (source: WSJ <http://online.wsj.com/articles/will-stores-warm-up-to-apple-pay-1410392952?mod=LS1>)
  - MCX was created to lower interchange (from 1,5-2%): Apple does not deliver on that
  - Many MCX merchants will not turn on NFC (even though they have upgraded their terminals for EMV compliance)
  - Some “hybrids” will be seen: e.g. Target using Apple Pay for e-commerce but not for in-store payments
- Apple needs to find a way to integrate private label credit cards in order to increase merchant adoption since these cards are a major revenue generator for the larger merchants
- Iphone’s **NFC will only work with iPhones** – no sharing/ paring with other devices (source: <http://mashable.com/2014/09/16/iphone-6-nfc-apple-pay/>)
- **Softcard’s (former ISIS) CEO Michael Abott** wrote in a blog post that Softcard is working with Apple to get its **mobile wallet** included on future iPhones. The company, which is a joint venture between AT&T, Verizon and T-Mobile, wants to enable Softcard wallet "using an integrated secure SIM-based hardware solution.“
- On the iPhone 6, Apple users can authenticate payments with a fingerprint. But what about the Apple Watch, which has no Touch ID sensor? Apple has a different process — it requires authentication every time the watch is put on, and locks it disabling payments when it's removed. It's a clever compromise but it makes the payment process **inconsistent across devices**.  
<http://www.cultofmac.com/295024/apple-watch-anti-theft/>

# ...Cont.

## **Compliance:**

How will the Apple Pay comply with the PSD2? I can mention that in the latest version (Italian presidency compromise dated September 11) parts of the ECB Securepay requirements are introduced directly (this is crazy but that happens when non-specialists try to be wiser than the specialists). One of the things they bring in is the fact that Strong Customer Authentication must be used for each transaction and one of the required two factors must be one that dynamically links the transactions to a specific amount and payee?

That means that TouchID is not sufficient.....

Another part of the legislation concerns KYC and there must be a strong link between the user and the payment card in a wallet and it is the responsibility of the wallet provider/operator to verify that. So it means that Apple will have to do strong KYC on all of their Apple Pay / AppleID users (they have not done that today), is that realistic?

# Discussion continues

Is TouchID secure?

- Has been hacked at some point
- Better than any other smart phone verification on the market
- ... and still better than username/password

Openness of the solution – access for 3<sup>rd</sup> parties to the Secure Element or NFC antenna?

**Discussion Continues** in our members' area: please see the posts for ALL the questions – you can comment for answers or further questions on comments- field:

<http://www.mobeyforum.org/apple-pay-business-models-and-roles/>

<http://www.mobeyforum.org/apple-pay-market-disruption-and-collaboration/>

<http://www.mobeyforum.org/apple-pay-tokenization-authentication-role-of-tsp/>

If you have not registered, please visit [www.mobeyforum.org/register](http://www.mobeyforum.org/register)