



**Smart Card
Alliance**



Smart Cards in Mobile Payment / NFC

Welcome – Rori Ferensic

Director of Education and Professional Development, ETA

The Smart Card Payments Application Series

September 25, 2008





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Introductions

Randy Vanderhoof
Executive Director, Smart Card Alliance

Webinar Topics



Mobile Commerce & Mobile Payments: State of the Market

- Deborah Baxley, Partner, IBM Global Services and Chair, Smart Card Alliance Contactless and Mobile Payments Council



Near Field Communication (NFC)

- Charles Walton, EVP Payments, INSIDE Contactless and Former Co-Chair Smart Card Alliance Contactless and Mobile Payments Council



Contactless Payments & Proximity Mobile Payments

- Deborah Baxley

Conclusions

- Randy Vanderhoof, Executive Director, Smart Card Alliance

Smart Card Alliance

Smart Card Alliance mission

To stimulate the understanding, adoption, use and widespread application of smart card technology through educational programs, market analysis, advocacy, and industry relations

Over 170 members, including participants from financial, retail, government, corporate, and transit industries and technology providers to those users

Major activities

- **Industry and Technology Councils**
 - **Contactless and Mobile Payments Council**
 - Healthcare Council
 - Identity Council
 - Physical Access Council
 - Transportation Council
- **Conferences, symposia, web seminars and educational workshops**
- **Web-based resources and email newsletters**



Contactless and Mobile Payments Council

Mission: *Facilitate the adoption of contactless and mobile payments in the U.S. through education programs for consumers, merchants and issuers*

Over 48 active member organizations, including financial industry representatives and technology suppliers

Resources

- **Merchant and Issuer Advisory Groups**
- **Educational publications on contactless and mobile payments**
 - *Proximity Mobile Payments Business Scenarios: Research Report on Stakeholder Perspectives*
 - *Merchant ROI Model & Implementation Guide*
 - *Proximity Mobile Payments: Leveraging NFC and the Contactless Financial Payments Infrastructure*
 - *Contactless Payments: Frequently Asked Questions*
 - *The What, Who and Why of Contactless Payments*
- **Contactless and mobile payments resources and news**
- **Payments industry web seminars**





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Mobile Commerce & Mobile Payments

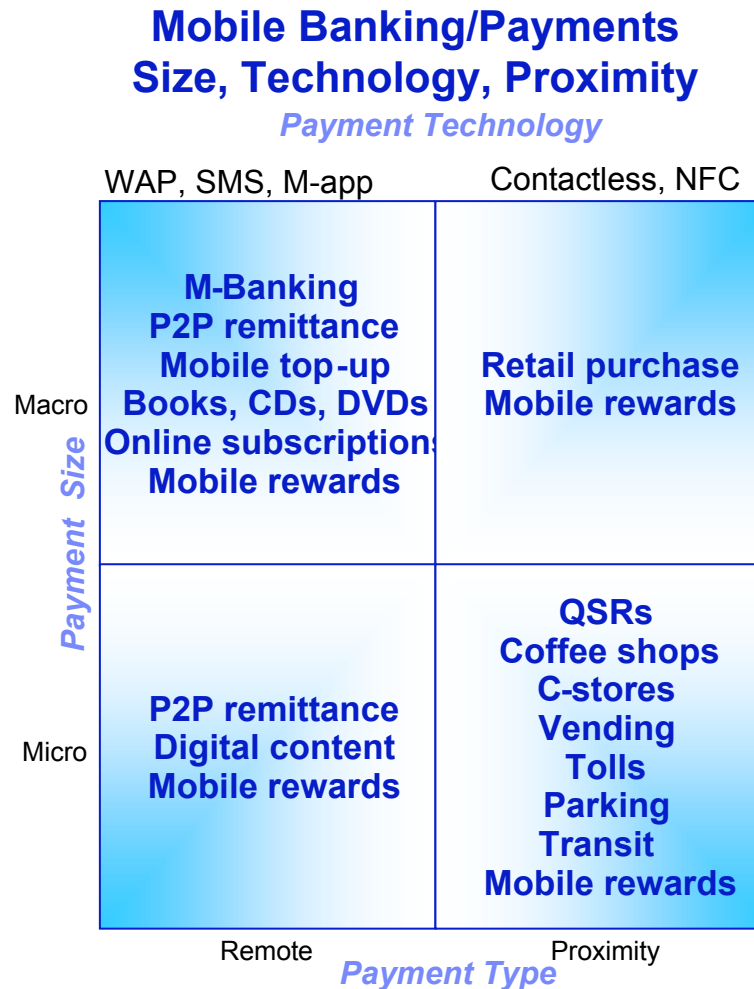
Deborah Baxley

Partner, IBM Global Services

Chair, Smart Card Alliance Contactless & Mobile Payments Council

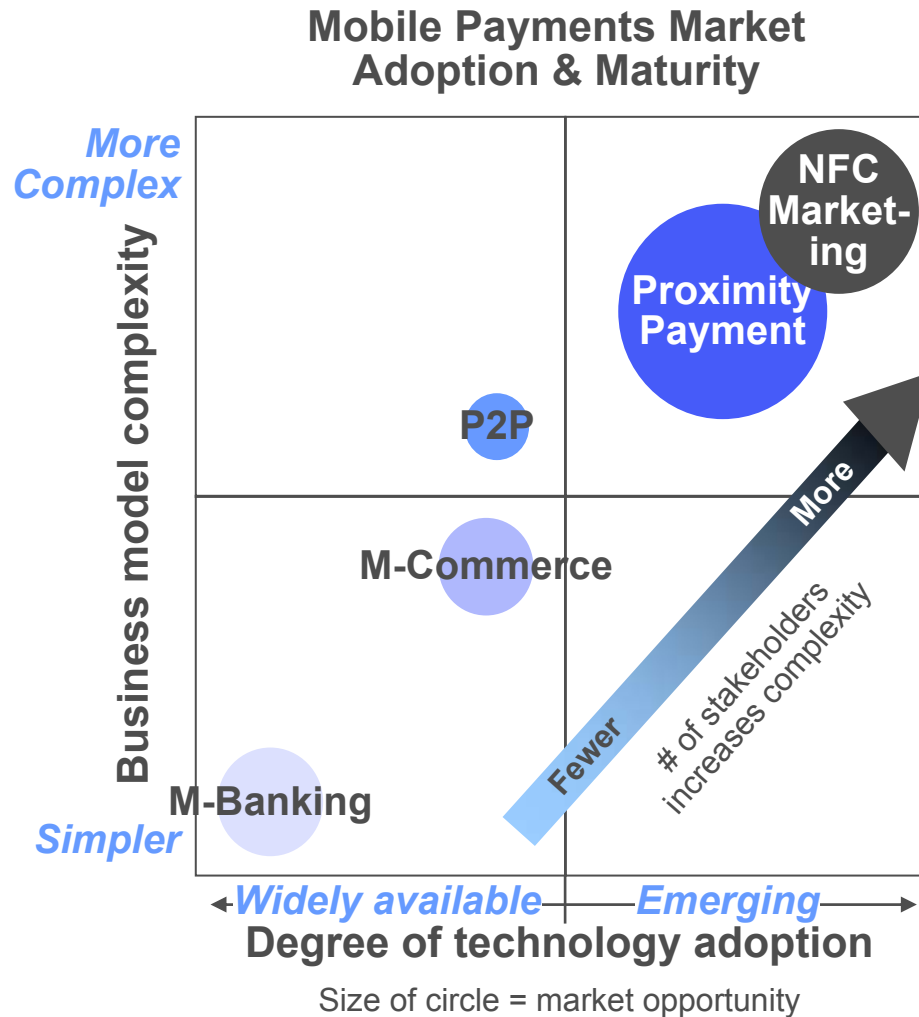


Mobile Banking/Payments Definitions: the type of purchase, the value and the technology are all interdependent



Source: IBM analysis, Mercator Advisory Group, "US Mobile Banking and Mobile Payments: Finding the Seams, Accelerating the Pace"

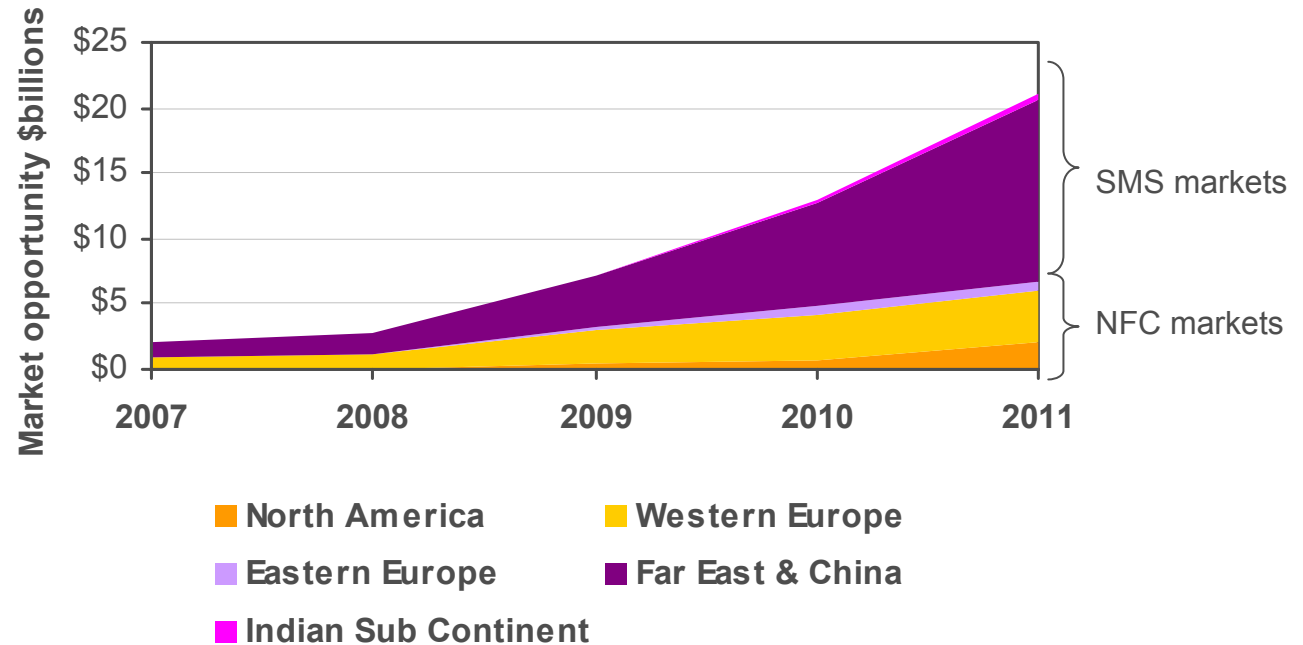
Many banks begin with m-banking, m-commerce and person-to-person payments to gain market presence and learnings from more mature mobile payments scenarios



Source: IBM analysis

The global market for mobile payments may exceed \$22 billion

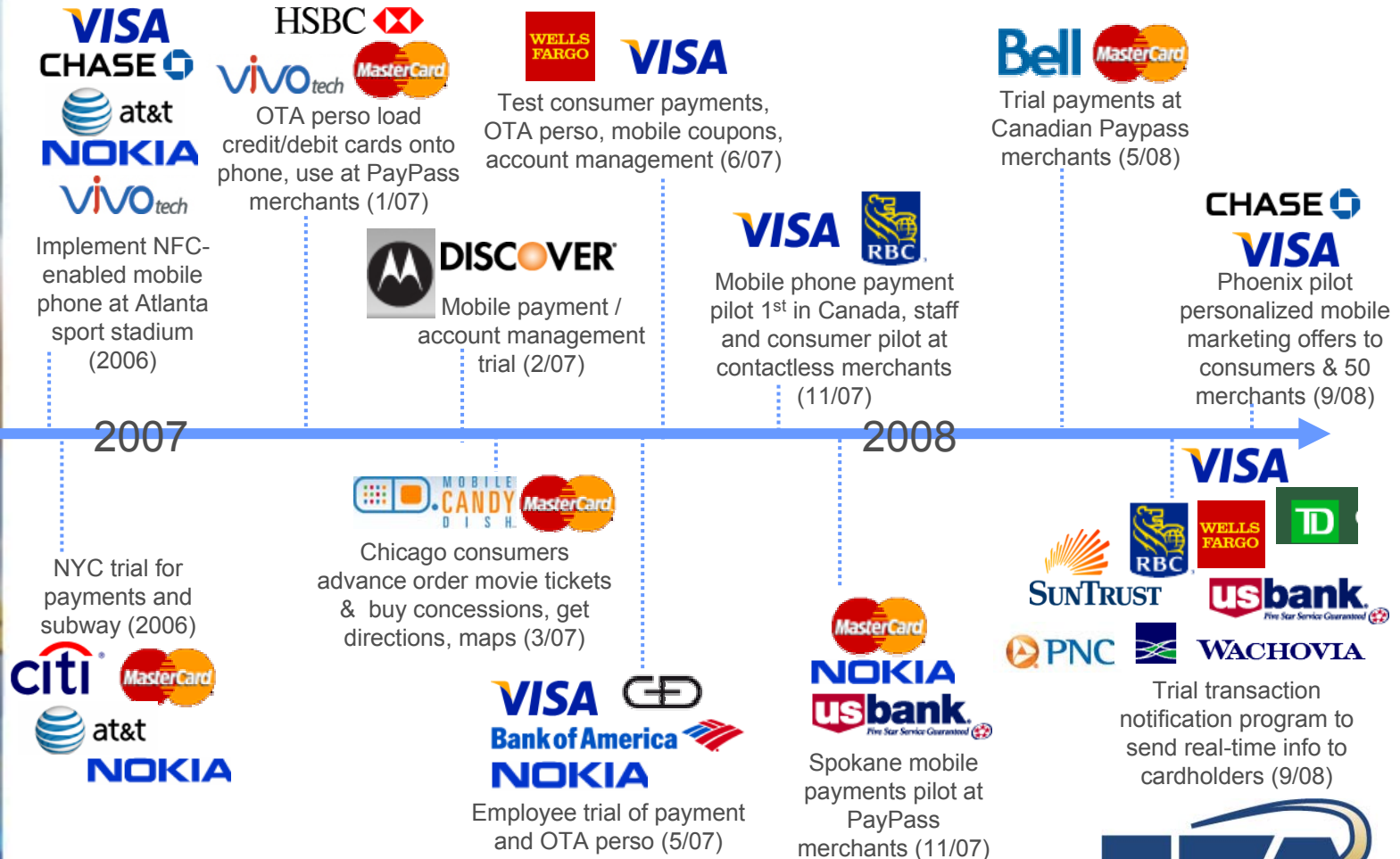
Mobile Payment Market Opportunity



- Asia Pacific in the mobile payments adoption forefront
- Major adoption hindrance is business model, not technology

Source: IBM analysis, ["Juniper Forecasts \\$600 Billion in Mobile Payments by 2013"](#)

The past 2 years have seen an outburst of mobile payment trials, involving almost every major player in North America



Source: Smart Card Alliance "Proximity Mobile Payments: Leveraging NFC and the Contactless Financial Payments Infrastructure," Paymentsnews, Visa USA, MasterCard, Mobile Candy Dish, Discover, Motorola, HSBC, newswire.ca, IBM analysis



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Near Field Communication (NFC)

Charles Walton

EVP Payments, INSIDE Contactless

Former Co-Chair, Smart Card Alliance Contactless & Mobile Payments Council



NFC – Executive Overview

What Is NFC?

Vision, Use Cases

Underlying Technology, Integration

Roll-Out of NFC for Proximity Payments

Resources



What Is NFC?

Market Problem

- Lack of wireless proximity framework
- Mobile phone and other consumer electronics
- Vertical market applications for contactless
- Content exchange & service establishment

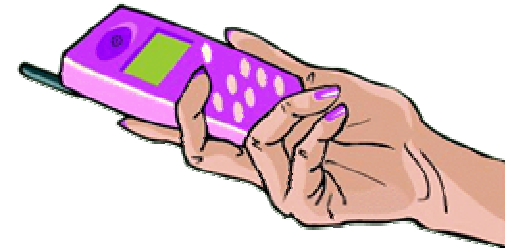
...and Near Field Communication (NFC)

- NFC is a standards-based, short-range (a few centimeters) wireless connectivity technology that enables simple and safe two-way interactions between electronic devices
- Based upon ISO standards in 13.56Mhz band
- NFC Forum: www.nfc-forum.org



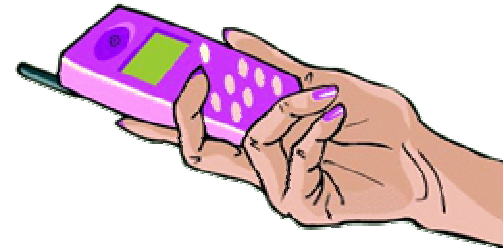
Use Cases for NFC

*The Ultimate Interaction
Method for
the 'Last Mile'*



Use Cases for NFC

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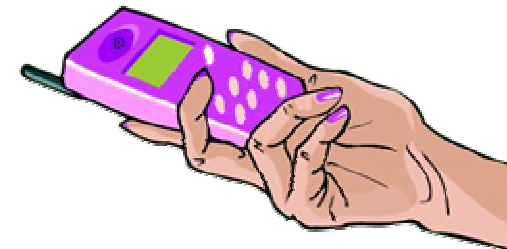


Smart
Poster
(RF Tag)

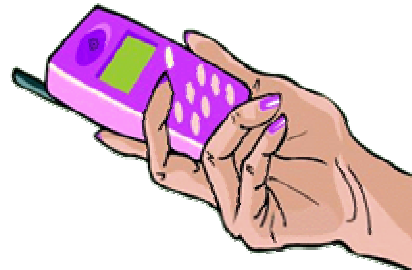
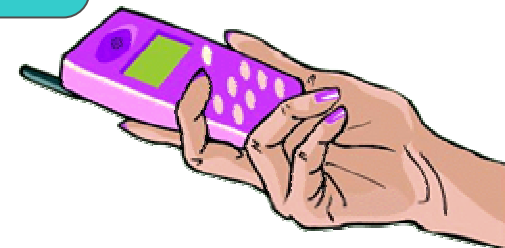


Use Cases for NFC

*The Ultimate Interaction
Method for
the 'Last Mile'*



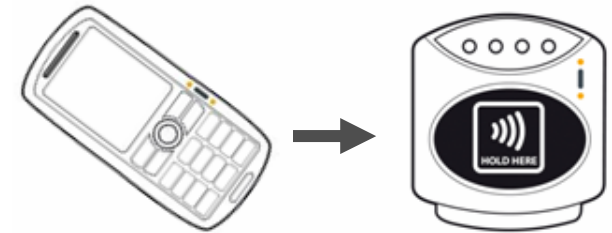
Smart
Poster
(RF Tag)



Categories of NFC Applications

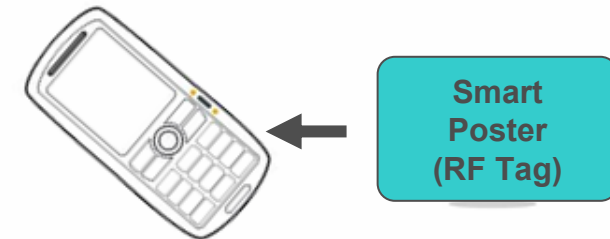
Contactless, Proximity Transactions

- Payments: Open, Closed Loop
- Transit Fare Collection
- Physical Access Control, ID



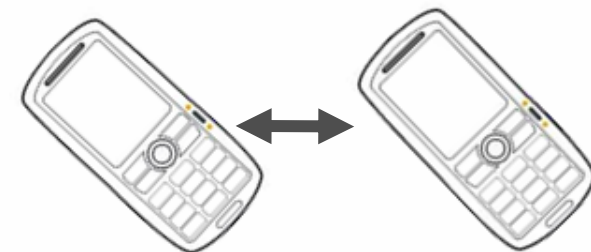
Digital Content Exchange

- Smart Posters with RF tags
- Peer-to-Peer Exchanges



Device Connection

- Pairing of Devices
- Exchange of 'Setting' Information





“Sometimes you’re a cell phone.
Sometimes you’re a credit card.
Sometimes you’re a bus ticket.
Sometimes you’re a contactless card reader.
You have multiple personality disorder.”

Living on the 'Proximity' Edge

- 700am:** Starbucks Coffee (Order, Pay, Receipt, Coupon)
- 715am:** Purchase Theater Tickets (Mobile Web)
- 730am:** Parking Garage Entry
- 740am:** Elevator, Office Entry



Living on the 'Proximity' Edge

700am: Starbucks Coffee (Order, Pay, Receipt, Coupon)

715am: Purchase Theater Tickets (Mobile Web)

730am: Parking Garage Entry

740am: Elevator, Office Entry

1030am: Enter Subway for Downtown Meeting

1045am: Pick Up Web Link for New Sony PC (Smart Poster)

1100am: Business Card Exchange at Downtown Meeting

130pm: Business Lunch – Tap and Go; Receipt for Expense Report



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130pm: Business Lunch – Tap and Go; Receipt for Expense Report

700pm: Pre-Theater Drinks/Dinner; Coupon for Reception Next Week

745pm: Pay for Taxi

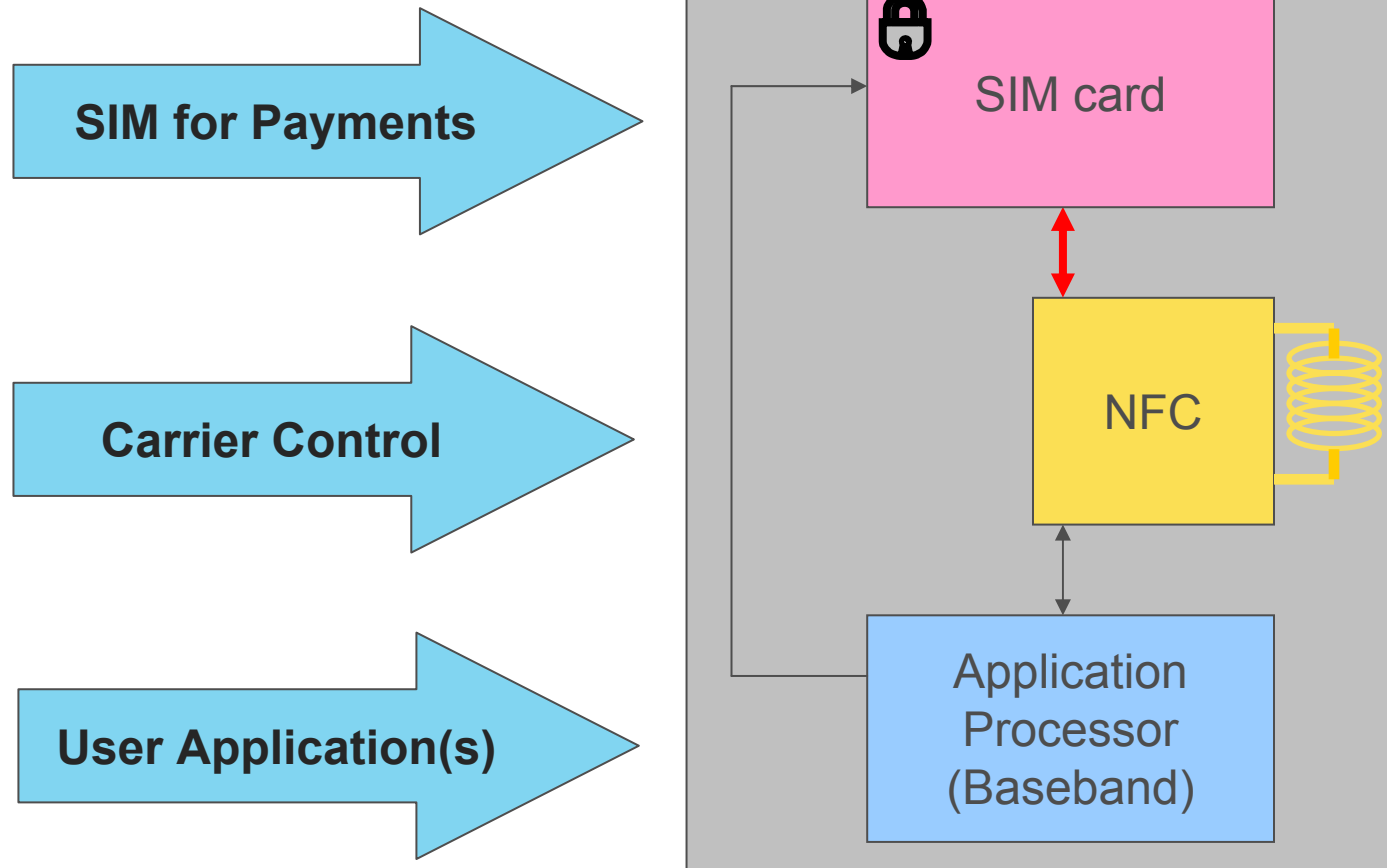
800pm: Ticketless Entry at the Theater

1130pm: Home Alarm Deactivated

NFC Phone Integration – Model 1

SIM-Centric Model

- *NFC chip integrated (physical, SIM, baseband processor)*
- *SIM application security functions - payments*

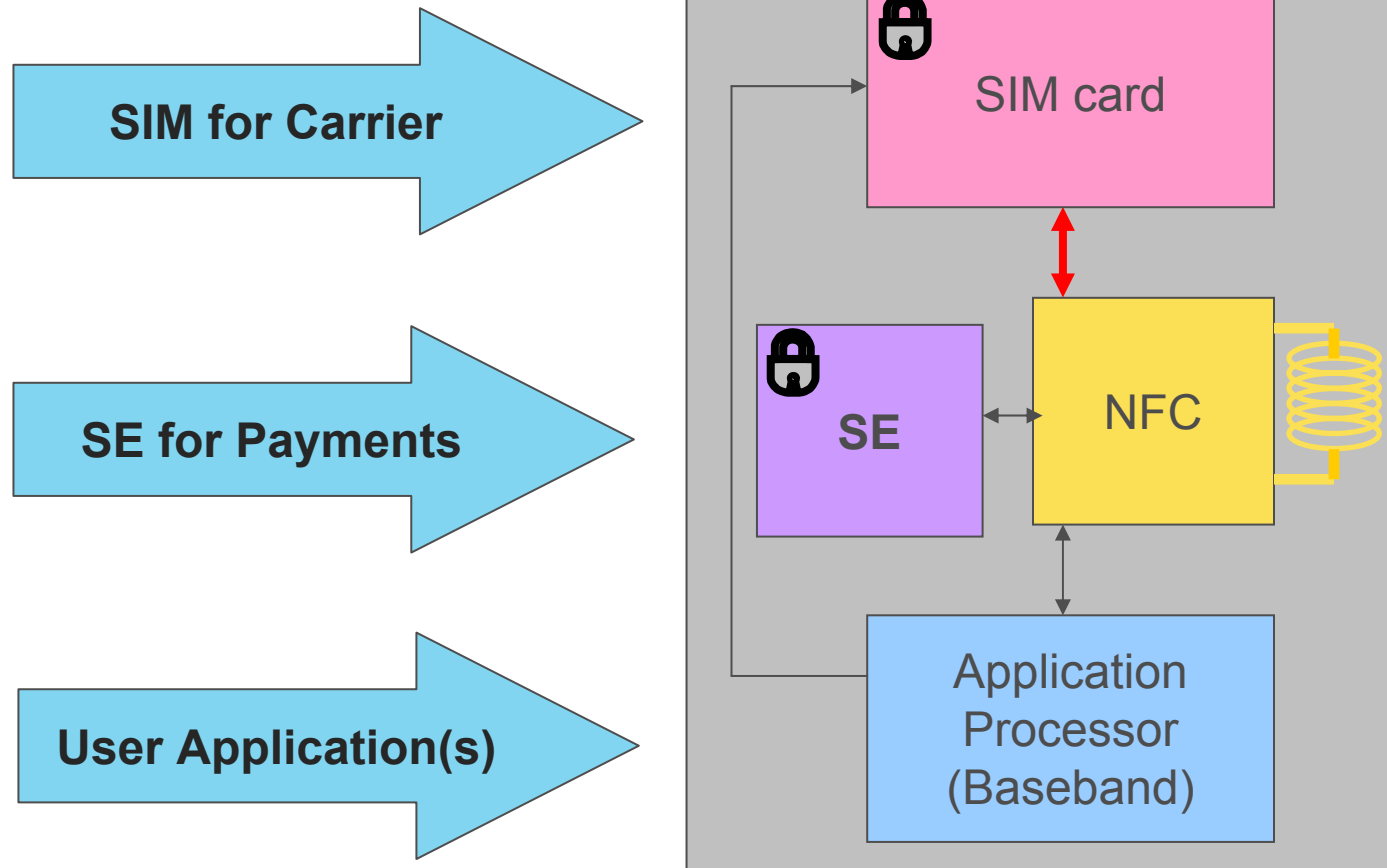


NFC Phone Integration – Model 2

Separate Secure Element for Payments

-NFC chip

-Separate Secure Element (SE) for payments



NFC for Proximity Payments

Acceptance Infrastructure

- U.S. contactless POS devices support NFC payments
- Visa, MasterCard, Discover, AMEX brands supported
- Continued growth for cards sets foundation for NFC

Vision for Rich NFC Payments Experience

- Basic payments: open loop, closed loop
- Ordering: kiosk, drive-thru wave to order; favorites
- Retailer / merchant interaction – CRM exchanges
- Loyalty, offers: presentation, redemption
- Receipting
- Physical to web link – “Physical Hyperlinks”
- Content exchange
- Emerging peer-to-peer payments



NFC for Proximity Payments (cont.)

Core Technology

- Handset, chip core technologies exist
- Frameworks from major U.S. brands are emerging
- Contactless Payment Application Standards defined
- Trials conducted

When...

- Mid to late 2009 timeframe for commercial rollouts
- Commercial phones
- Brand approvals
- Carrier-Issuer-Retailer/Merchant business cases





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Contactless Payments & Proximity Mobile Payments

Deborah Baxley

Partner, IBM Global Services

Chair, Smart Card Alliance Contactless & Mobile Payments Council



The case for contactless is compelling, and paves the way for mobile payments

Contactless Payment Benefits/Results

Benefits to merchants: speed, spend, cost, insight

- Transaction time 10-40% faster
- Increased sales: 40% increase average ticket, 35% increase in purchase frequency*
- Improved customer satisfaction
- Repeat visits and higher transaction frequency
- Reduced cash handling fees
- Staff reduction from POS automation
- Ability to capture data on customer buying behavior, providing opportunities for marketing and loyalty programs

Benefits to consumers: speed, convenience, security

- Reduced wait time: stores 15-20%, drive-through/QSR 40%
- Convenience – less need to handle cash or carry cash at all, no need to sign or enter PIN
- Security – don't have to let go of card



94% of consumers “somewhat” or “very satisfied”

Source: IBM analysis, MasterCard

* Note: Frequency of everyday purchases vs. mag stripe cards



Business model complexity complicates the case for NFC-based proximity mobile payments



Source: Smart Card Alliance "Proximity Mobile Payments: Leveraging NFC and the Contactless Financial Payments Infrastructure," IBM analysis

The mobile payments landscape continues to evolve with various business models emerging

Four potential mobile payment business model scenarios are emerging for payments enabled through mobile devices - focused on NFC

1. Operator Centric Model: Mobile operator independently deploys m-payment applications to NFC-enabled mobile devices. Pre-paid stored-value or charged to wireless bill.



2. Bank Centric Model: Bank deploys m-payment applications or devices and ensures merchants enablement. Payments processed over traditional financial network.



3. Point to Point (P2P) Model: Independent P2P service provider provides secure payments between customers or between customers and merchants.



4. Collaboration Model: Banks, mobile operators and trusted third parties collaborate to manage the deployment of mobile applications.



Sources: IBM Analysis; Gartner, "Dataquest Insight: NFC Mobile Payment Calls for Cross Industry Collaboration"

Merchants are asking for ability to drive loyalty and a “seat at the table”

Points of Agreement	Points of Disagreement	Surprising Findings
<ul style="list-style-type: none"> ▪ Customer rewards = killer app ▪ Merchants asking for a seat the table, along with operators, associations and banks ▪ Phone software must be easy to use – carrier preloads wallet, then customers load cards 	<ul style="list-style-type: none"> ▪ Some merchants readily see benefit of contactless / NFC payments, others need to be convinced 	<ul style="list-style-type: none"> ▪ IT, maintenance and replacement costs challenge the ROI case ▪ Need to balance value of convenience, loyalty and spend lift with potential of increased fees

Merchant Quotes

“Cell phone and software add capabilities that are interesting – coupons, loyalty programs, everything that the QSR find difficult to do.”

“Problem with loyalty in QSR is installing the equipment. If provider could use open standard NFC and add loyalty without POS upgrades, this would be a real value to merchants. In this case, fees would be justified.”

Overwhelming agreement that collaboration model is most promising, along with ideas for loyalty and other “sweet spot” to drive daily usage

Greatest potential for success

- 86% support for collaborative model

Killer apps/successful approaches

- Loyalty / reward programs, access control, targeted coupons, transit, location linked rewards
- Something to drive daily usage
- App easily loaded and easy to use
- “Sweet spot” that addresses an unmet need while addressing economic inefficiency
- “Contactless” because it is intuitive and easy; existing and growing infrastructure to support

Quotes

“Has to be the collaboration model ... Banks do what they do best ... Collaboration model offers the customer the best flexibility in how he pays and will increase his usage”

“Consumers have an affinity for mobile but the application must be user friendly. NFC has such capability. The proliferation of mobiles and contactless technology is helping to make it happen.”



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Conclusions

Randy Vanderhoof

Executive Director, Smart Card Alliance



Conclusions

Contactless payments has established a strong foothold in the U.S. market

NFC-based proximity mobile payment has a strong head start – compatible with contactless payments infrastructure

NFC applications and proximity mobile payments offer innovative functionality for the point-of-sale

Getting Ready for NFC Mobile Payments

Promote contactless payments to merchants

- Contactless POS infrastructure compatible with mobile payments

Provide education and support to merchant community

- Smart Card Alliance resources

Stay informed about new contactless and mobile payments developments



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Questions & Answers

Randy Vanderhoof

Executive Director, Smart Card Alliance





ETA & Smart Card Alliance Web Seminar Series

Fundamentals of Smart Cards for Payments

➤ November 18, 2:00 pm ET

Smart Card Implementation

➤ January 13, 2009, 1:00 pm ET

Smart Cards and Payment Security

➤ February 3, 2009, 1:00 pm ET





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Electronic Transactions Association

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Smart Card Alliance

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