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Deciphering Digital – Your Phone is Your Wallet

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epcor
Electronic Payments Core of Knowledge

About Philip Andreae & Associates

Recently left Oberthur Technologies – VP Field Marketing

- EMV Evangelist
- Mobile Payment Proponent
- Cards and Credential Specialist

Financial Services - Mobile Network Operators - Government & Enterprise - Connected Objects

Executive Coach and Management Consultant

- Serving the Payment Community
- Expert in Payments

Digital Identity And The Growing Need For Authentication In A Connected World - Providing

- Training
- Strategic Thinking
- Product Management
- Program Management
- Marketing and Business Development

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The opinions expressed by Philip Andreae during this presentation are exclusively his own and subject to change

Special thanks to Paul Tomasofsky of

Two Sparrows Consulting®
www.twosparrowsconsulting.com

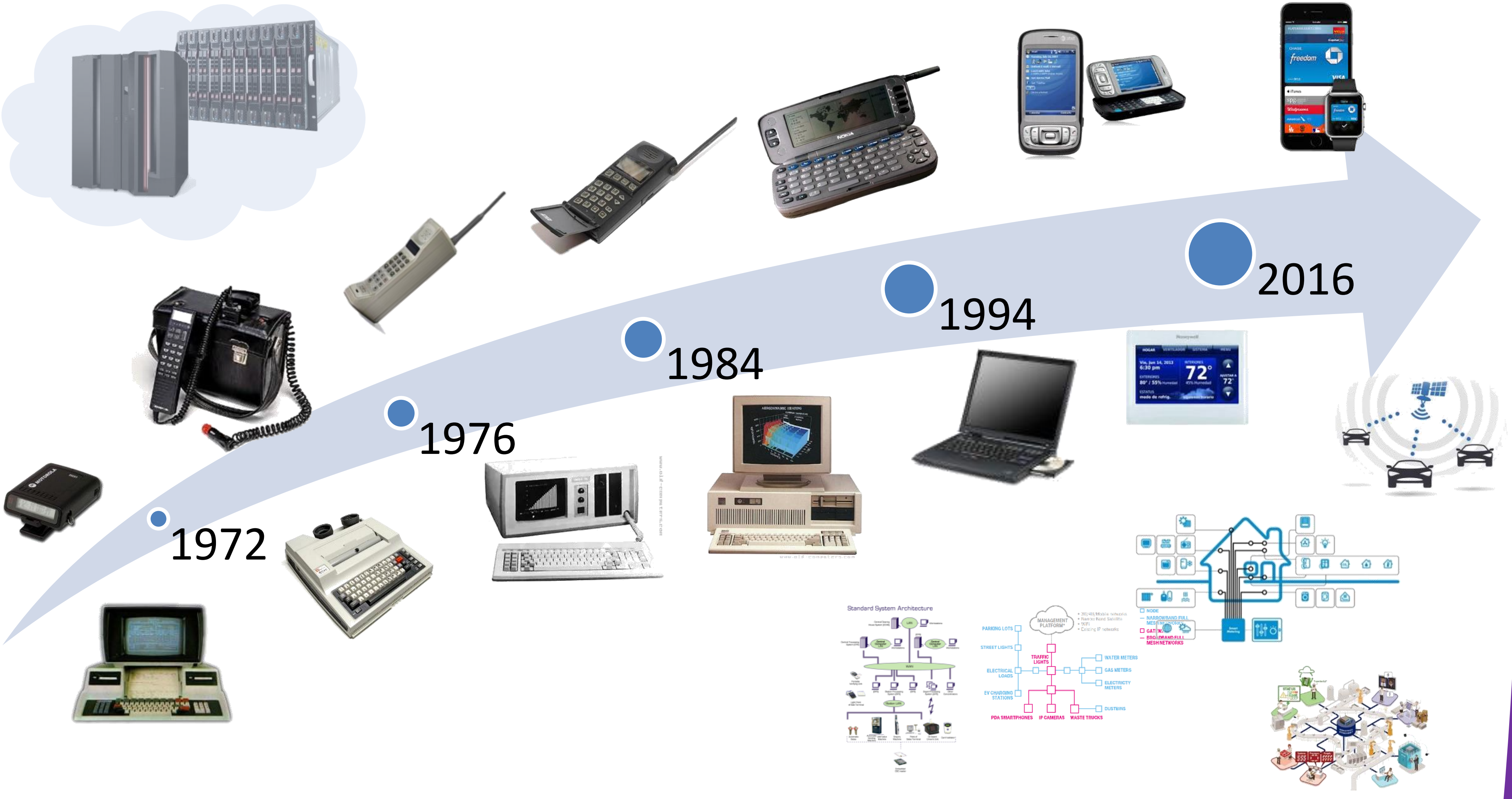
For his faith in me

From Leather to Technology

Payment Cards to Payment Credentials

- Everyone sends me their card which they expect me to carry in my pockets
- My tailor argues that my wallet, PDA & GSM do not fit in the pockets of my suit

We Live in a Age of Connected Things



Agenda

Mobile Statistics & Consumer Attitudes

A Look Inside

Identity, Authentication, Identification & Authorization

Why Should You Care

Questions

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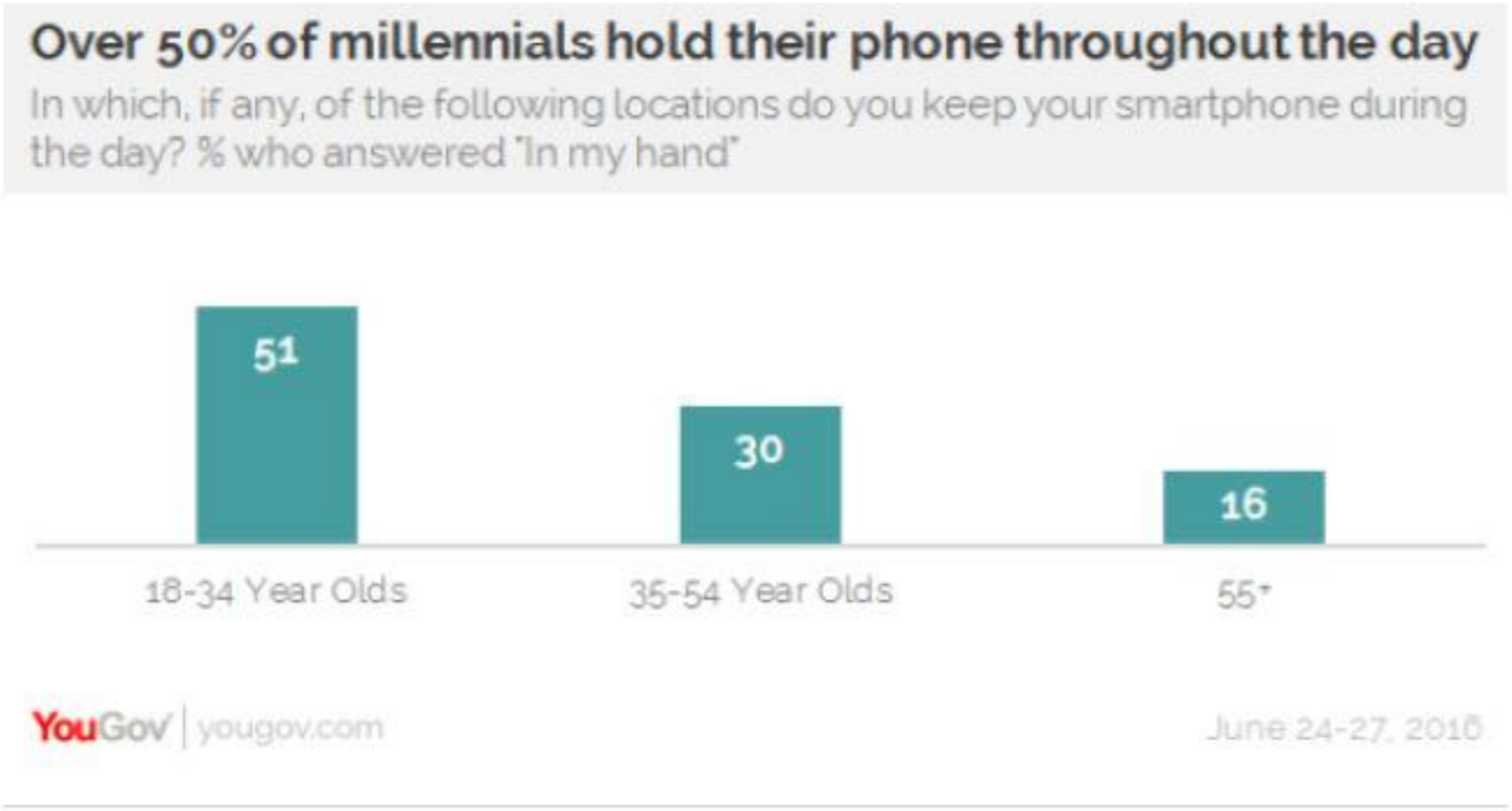
MOBILE WALLET STATS
CONSUMER ATTITUDES

Mobile Phones are Popular



Source: YouGov

Mobile Aps are Popular

Source: Fiserv

Mobile Wallet Users

Mobile Wallets: Still Early Days

Despite increased use of mobile devices, mobile wallets are just taking root. Only 16 percent of people have ever used a mobile wallet. Among those who have not used a mobile wallet, over a quarter (26 percent) indicated interest in using one.

What does a mobile wallet user look like? Currently, they trend male and millennial.

Men **20%**

Women **12%**

Early millennials	**36%**
Late millennials	**33%**
General population	**16%**

Source: Fiserv

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Mobile Wallet Users

Reasons for Using Mobile Wallets

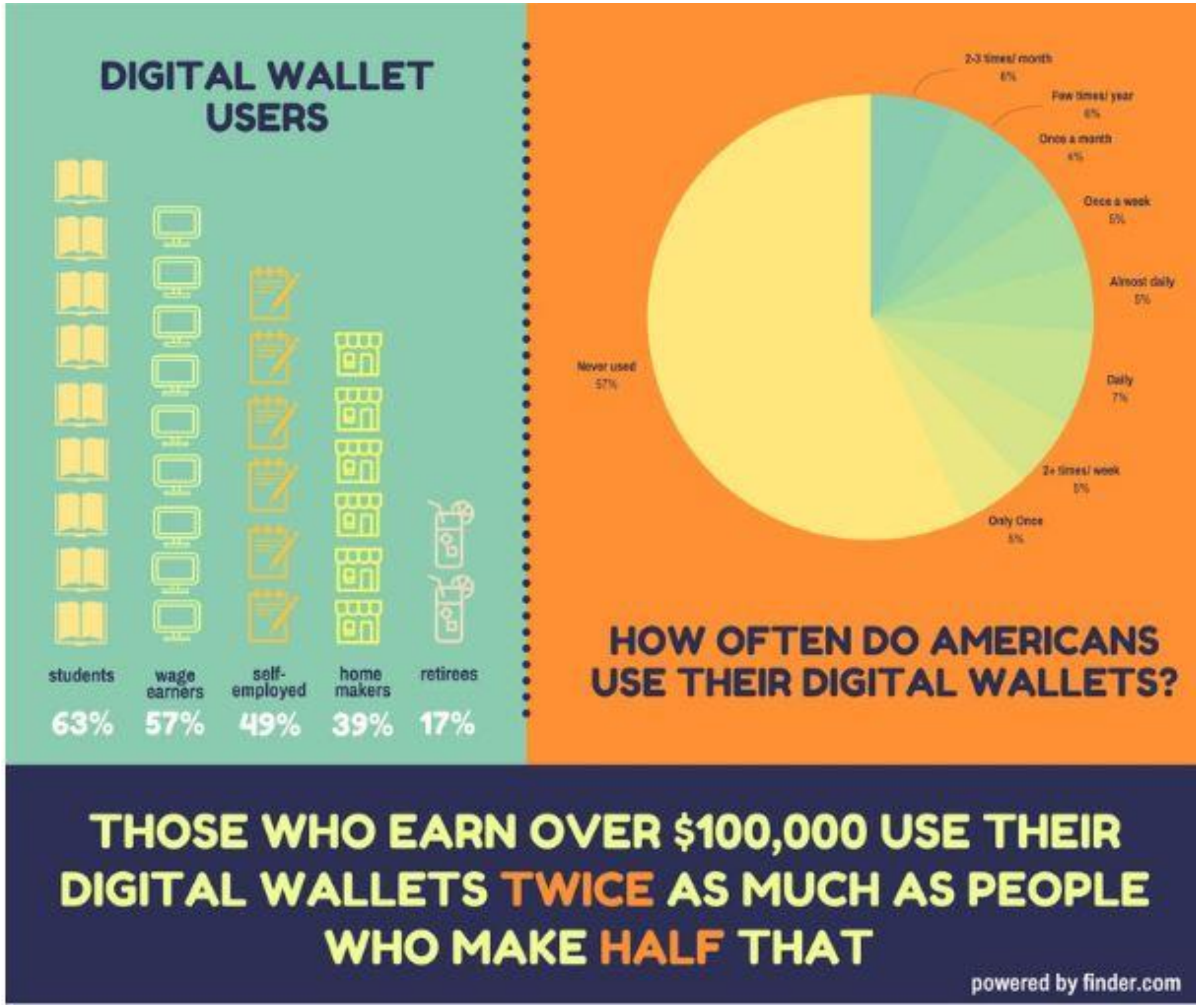
Ability to make instant payments	48%
Won't have to carry cash or cards	40%
No need to fill in card number and passwords every time	34%

Reasons for Not Using Mobile Wallets

Do not trust the security	51%
Prefer physical wallet	37%
Have no use for it	32%

Source: Fiserv

Mobile Wallet Users



Source: Finder.com

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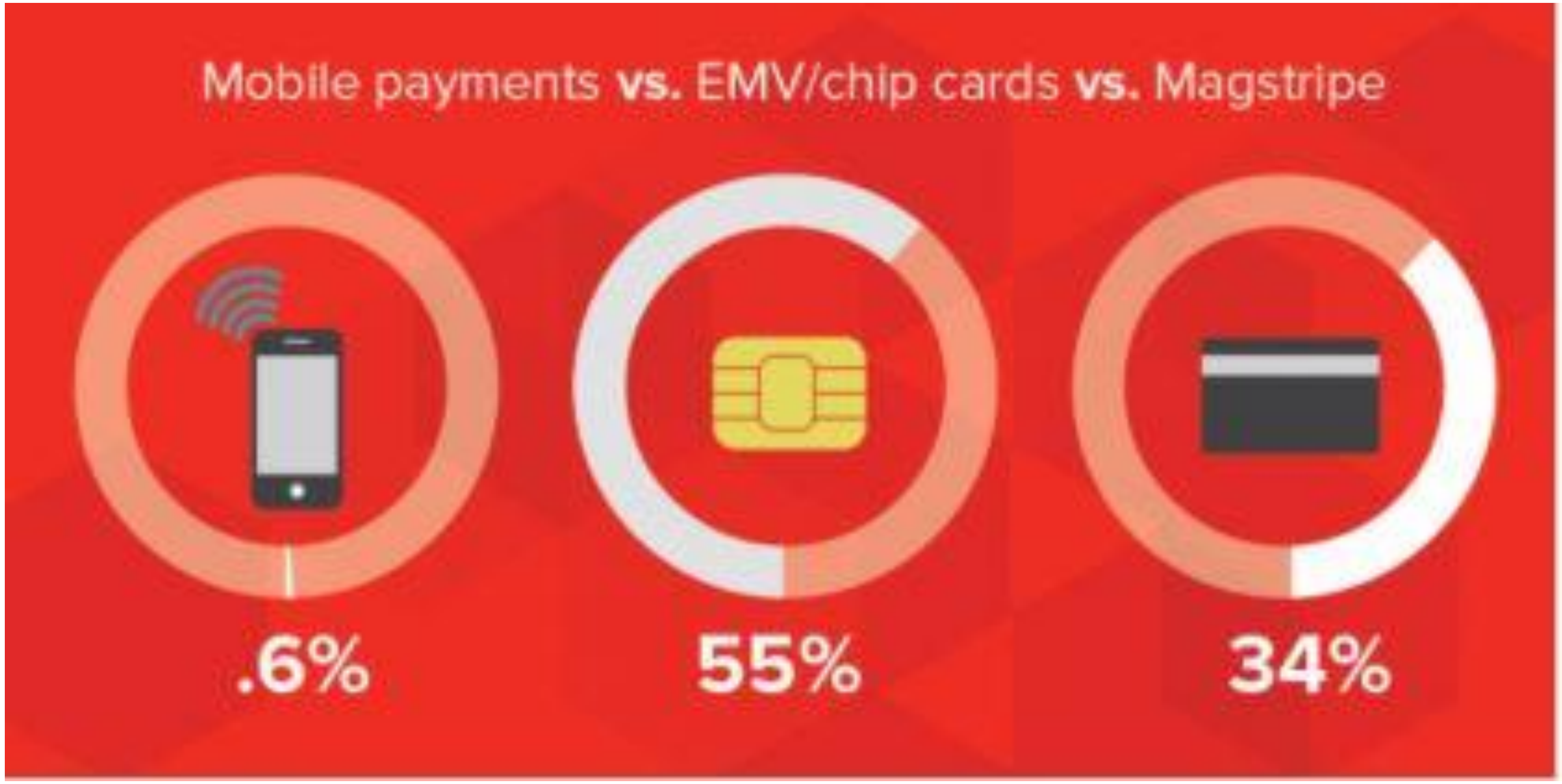
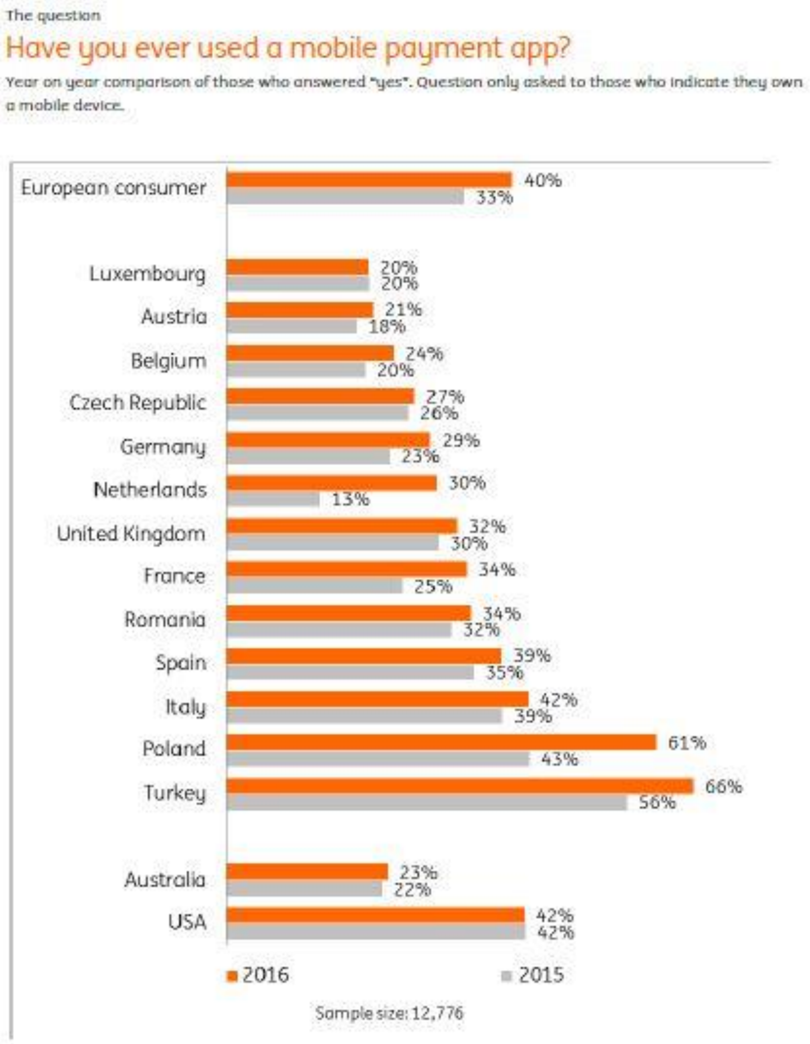
Mobile Wallet Stats

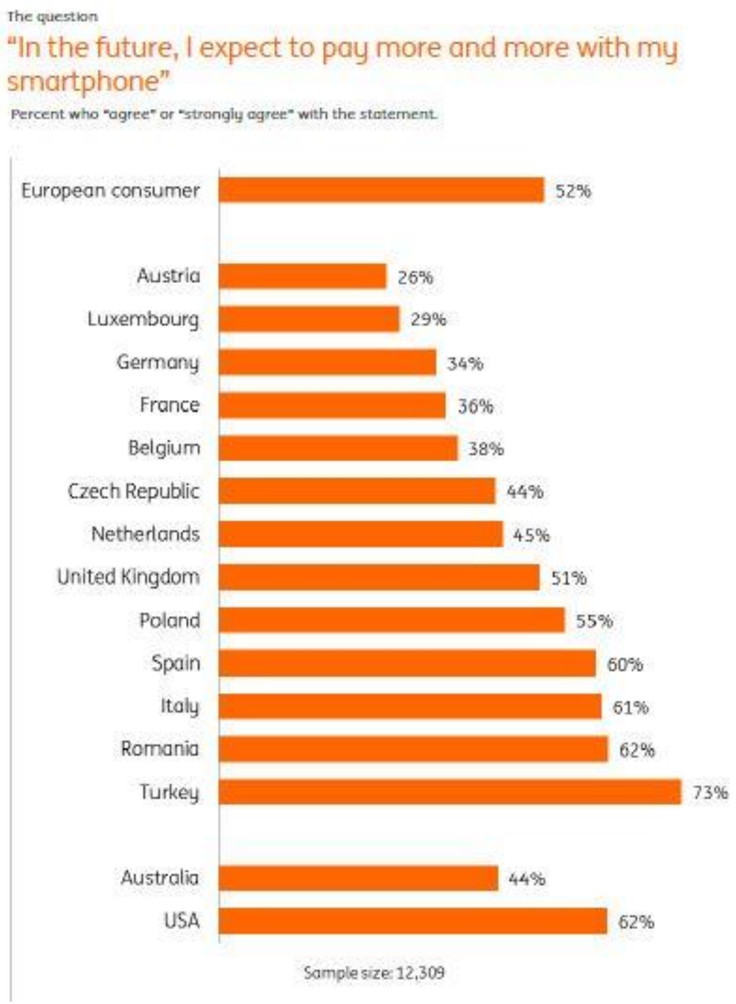


Mobile Wallet Attitudes



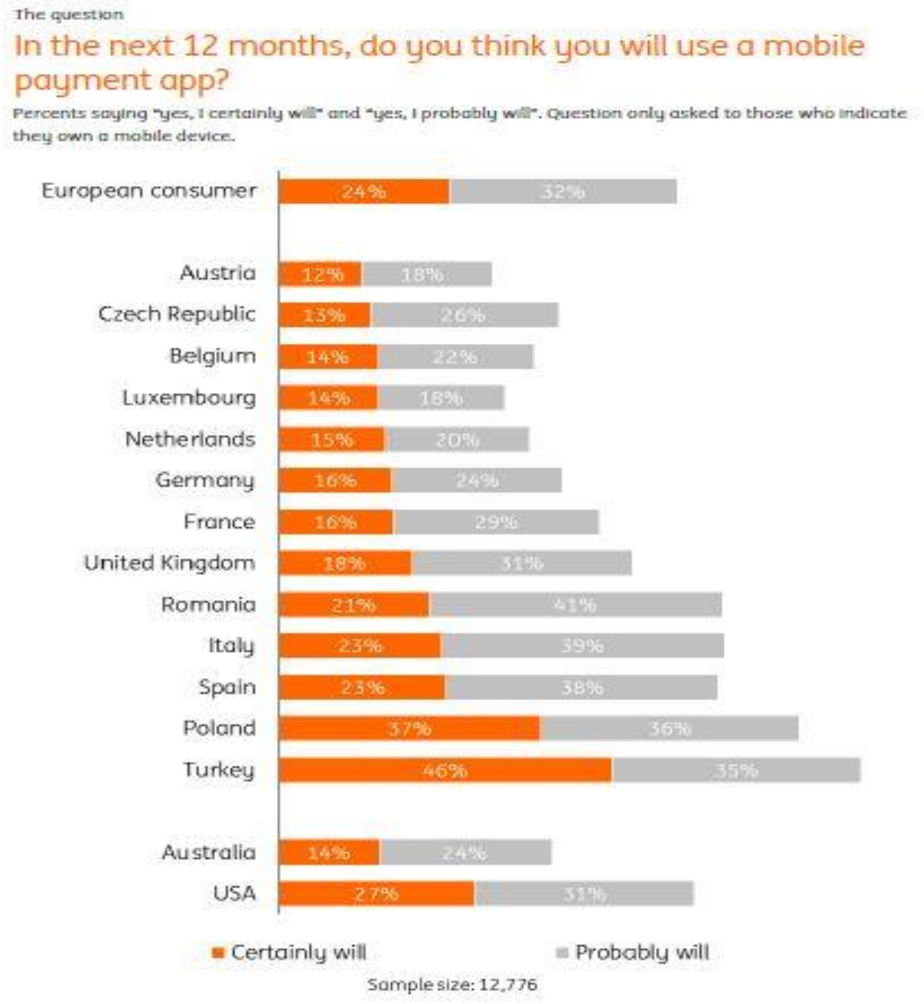
Source: ING, July 2016

Mobile Wallet Attitudes



Source: ING, July 2016

Mobile Wallet Attitudes



Source: ING, July 2016

NFC

QR

P2P

Money Transfer

Zelle

…

A LOOK INSIDE

Mobile Payment Applications

Four Major Initiatives

~~Merchant Coalition - e.g., MCX~~

Merchant Drive - e.g., Starbucks, Target, Walmart

Banking Apps - e.g., ChasePay, BofA, etc.

Universal Wallet Apps - e.g., Samsung Pay, Apple Pay, Android Pay, PayPal, Amazon Payments, VISA Checkout, Masterpass, etc.

What's in a Definition

Wallet

A Container

Wallet

A flat, folding pocketbook, especially one large enough to hold paper money, credit cards, driver's license, etc., and sometimes having a compartment for coins.

Mobile Wallet

An electronic device, website, software system, or database that facilitates commercial transactions by storing a consumer's credit card, shipping address, and other payment data.

App

An application, typically a small, specialized program downloaded onto mobile device

- Games
- Browsers
- Weather
- Travel
- Shopping
- Email
- Calendar
- Contact
- …

Who's App or Wallet

A Merchant Focuses On
1. Increase Size of Basket
2. Number of Visits
3. Loyalty

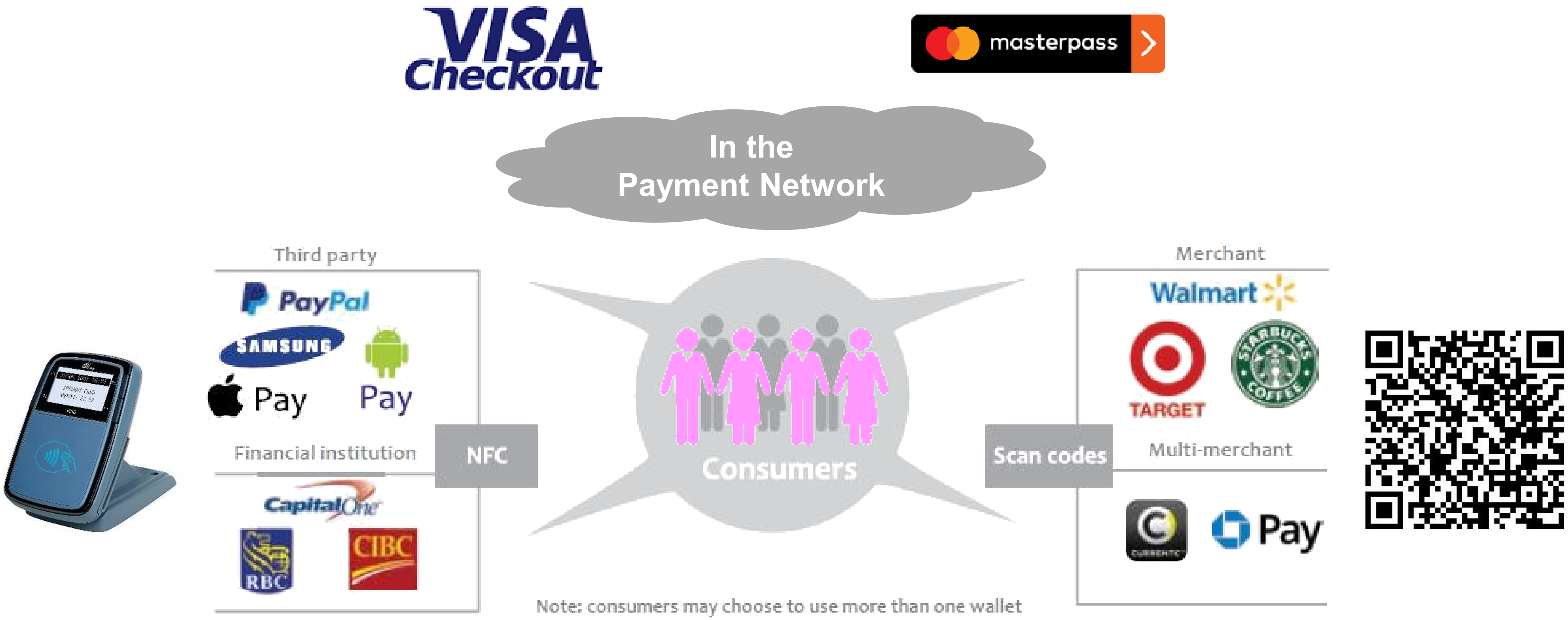
An Issuer (FI) Focuses On
1. Top of Wallet Advantage
2. Increase Spend
3. Retention

A Consumer Focuses On
1. **Convenience**
2. **Savings or Rewards**
3. **Help**

A Telecomm Operator Focuses On
1. ARPU
2. Usage
3. Retention

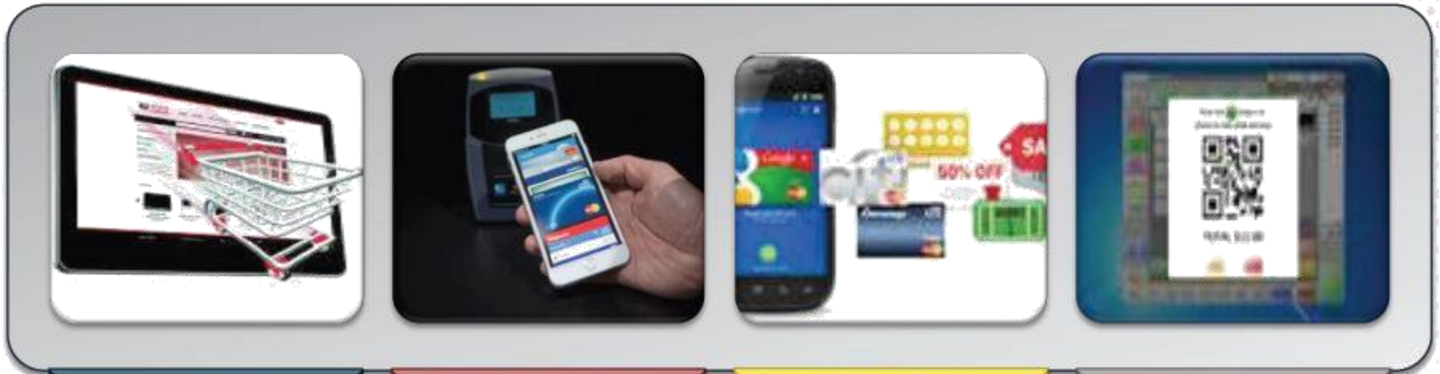
A OEM Focuses On
1. Equipment Sales
2. MNO Relationships
3. Services Revenue

The Interface at the Point of Sale Varies



Source: Criteo.com

Credential and the Interface



eCommerce/ Card-on-File Merchant

Merchant uses tokens instead of PANs in card-on-file database

NFC and Chip

Account number in NFC or chip device

Digital Wallet / HCE

QR and Bar Code

QR or bar code supplier puts a “bar code” in front of card on file

EMV Provides Authentication in The Virtual World

EUROPAY International

MasterCard Worldwide

VISA

In 1993 six people from three payment schemes met at Hotel at O'Hare airport and agreed to work together to defined a common set of requirements and subsequently published "The Integrated Circuit Card Specifications for Payment Systems"

The goal Global Interoperability allowing each region and nation to decide when to migrate from Magnetic Stripe to the EMV Standard

EMVCo is owned & staffed by Visa, MasterCard, JCB, American Express, UnionPay and Discover

Counterfeit Protection
Off/On-line Authentication

Lost and Stolen Fraud
Cardholder Verification

EMVCo

Offline Authorization
Cost Reduction

Revenue Creation
Value Added Services

EMV Describes How to Secure Payments

Authentication

"What you have"

Offline by Terminal
Online on Issuer Host

Verification

"What you know"

Signature
PIN In Chip
CD-CVM
On Host PIN
No CVM

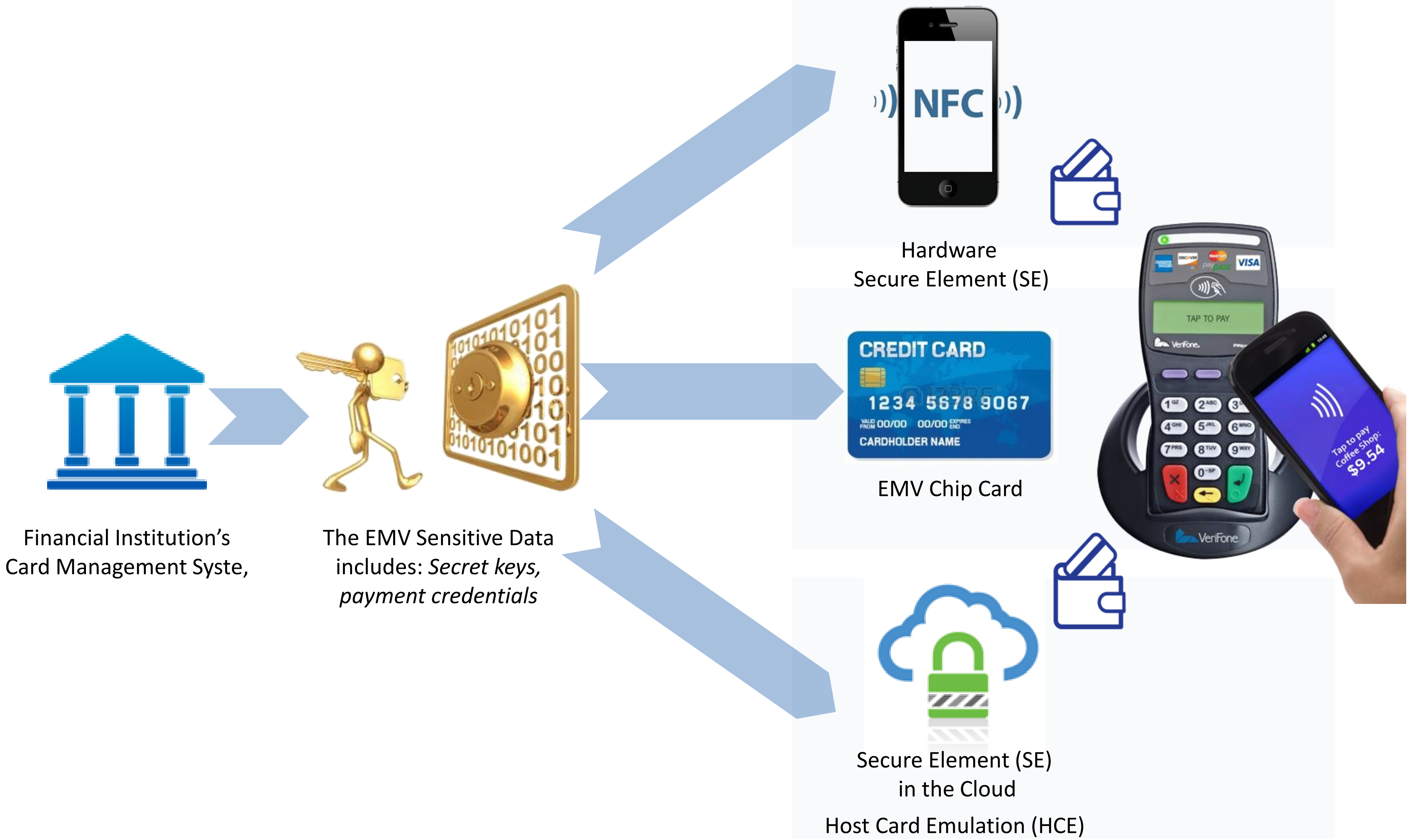
Authorization

"You have the funds"

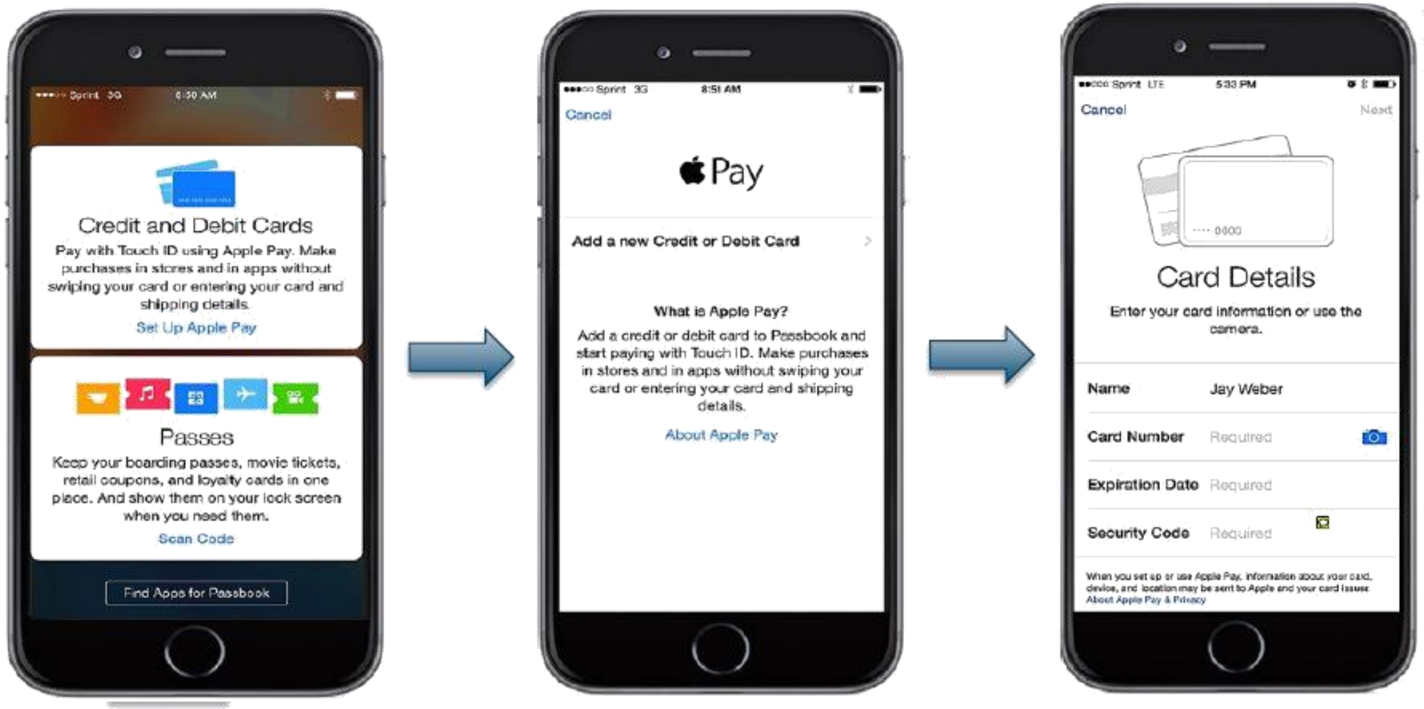
Offline
Issuer Defined Card Risk Management Parameters

Online
Host Authorized

EMV a Card to Terminal Protocol
Agnostic to the Location of the Secure Element

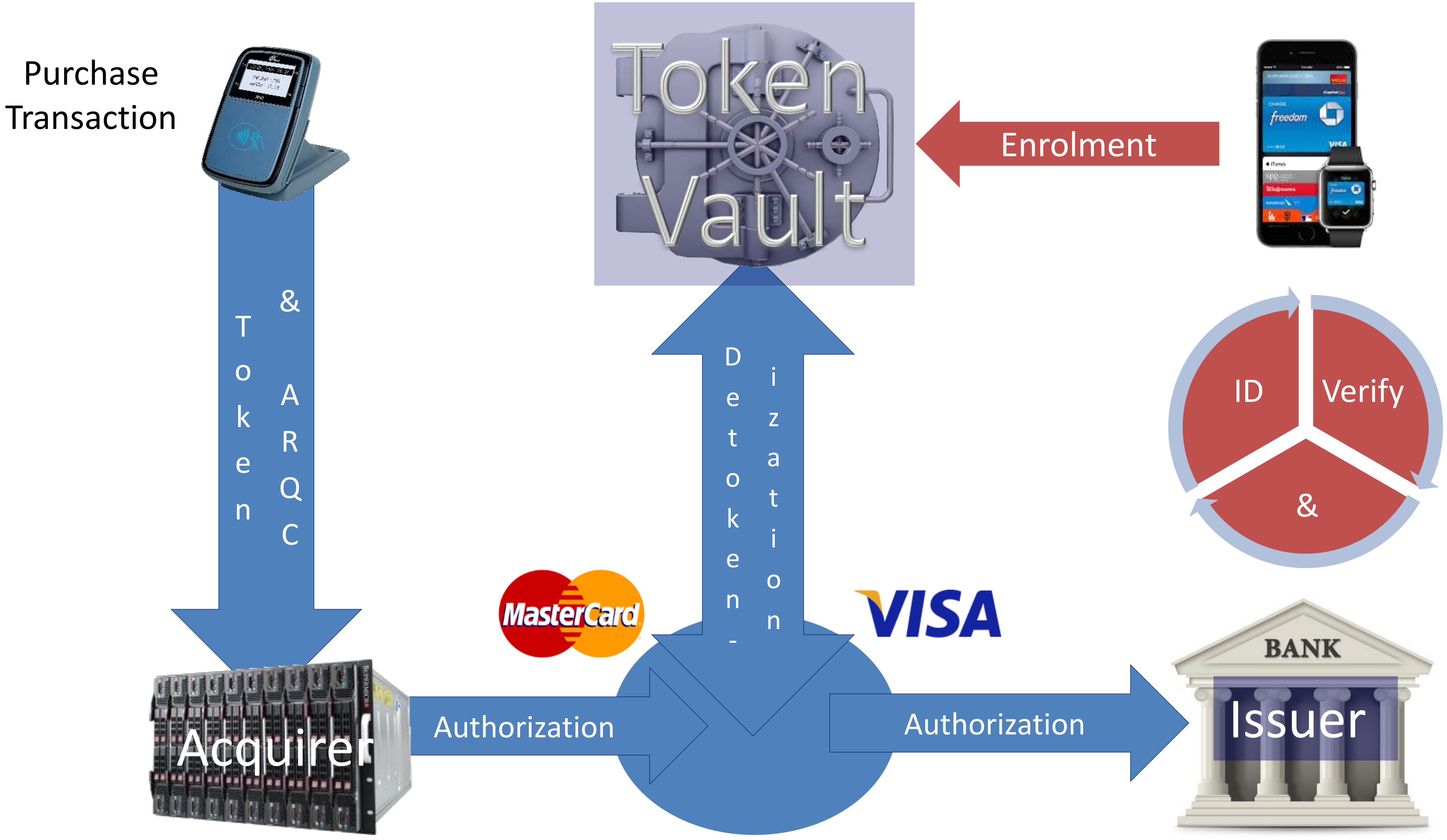


Enrollment and Identity Verification



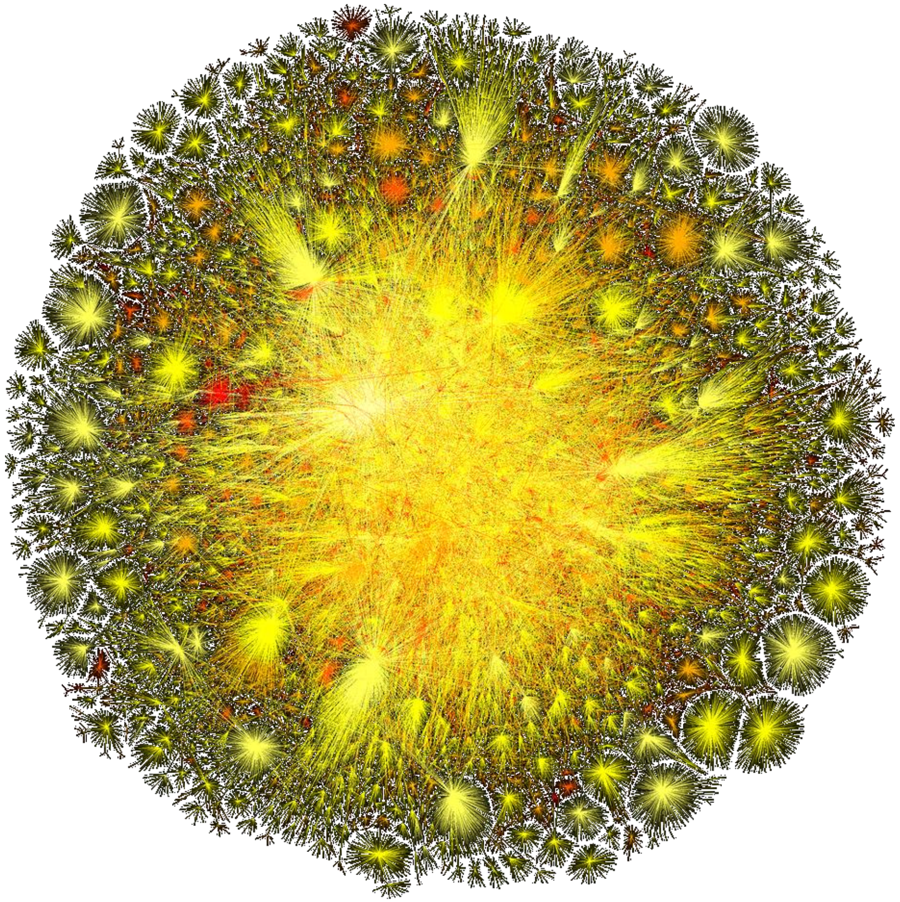
ID&V is Key to Secure Token

Tokenization at Point of Provision & Sale



IDENTITY, AUTHENTICATION, IDENTIFICATION & AUTHORIZATION

Identity in a Digital World is a Challenge



The Internet at the MOMA

The New Yorker

Authorization

Identity

Identification

Authentication

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Authorization

Identity

Four Words

Independent and Inseparable

Identification

Authentication

Privacy

Security

Confidentiality

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Privacy

Security

Three Concerns

Lost as we engage and leave tracks

Confidentiality

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The Key to Digital Security

Multi-Factor Authentication

➢ Something You Have	✓ The Token = Card/Phone
➢ Something You Know	✓ The Secret = PIN/Password
➢ Something You Are	✓ Biometric = You

EMV, PIV, ICAO, eID, FIDO … Exploit

✓*The security of hardware*
✓*The flexibility of software*
✓*The power of cryptography*

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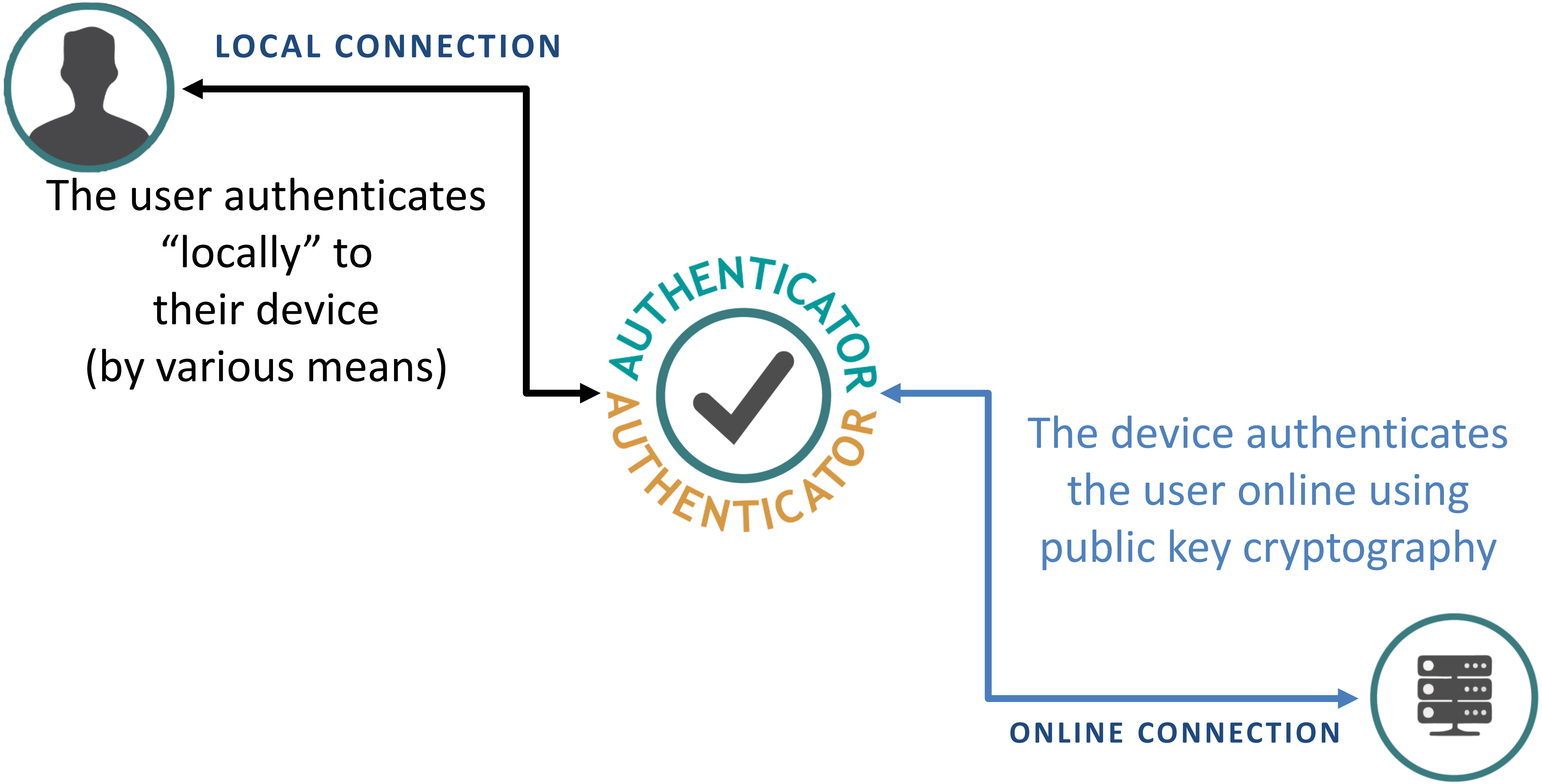
THE NEW MODEL

Fast
IDentity
Online

open standards for
simpler, stronger authentication
using public key cryptography

HOW FIDO AUTHENTICATION WORKS



WEB AUTHENTICATION SPECIFICATION BRINGS FIDO TO THE PLATFORM

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World Wide Web Consortium (W3C) developing a Web Authentication specification based on 3 FIDO Alliance technical specifications

Standard web API enables web apps to move beyond passwords and offer FIDO strong authentication across all web browsers and web platforms

Sets model for native platforms to follow

WHY SHOULD COMMUNITY BANKS CARE

Why Care

Consumers embrace the Internet and are adopting mobile

They expect to be able to bank & make payments Online

Merchants offering more ways to pay through mobile…good & bad for FIs

Fintech offering more mobile options…good & bad for FIs

Top of mobile wallet is a big advantage

More data for servicing and marketing

Beyond payments…Account management, Cross-sell, P2P; ATM card-less access, IOT, AI

Identity theft and account take-over

Where criminals, terrorists and hackers focus their intelligence & resources

Simple Math - Using the Equifax breach as an example

143 Million Accounts stolen, if they can sell 1% at $20.00 a piece = $28.4 million revenue

Design the Present as the Past of the Future

What is Yours?

Is Open For Business

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Any Questions

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