

# **MODERNISING YOUR CARD PROCESSING: OVERCOMING THE CHALLENGES**

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# Challenges and opportunities of a complex world



Modern Card Processing



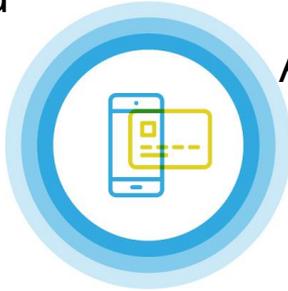
High Availability



Migration



Modernizing the ATM/POS experience



Real Time Payments

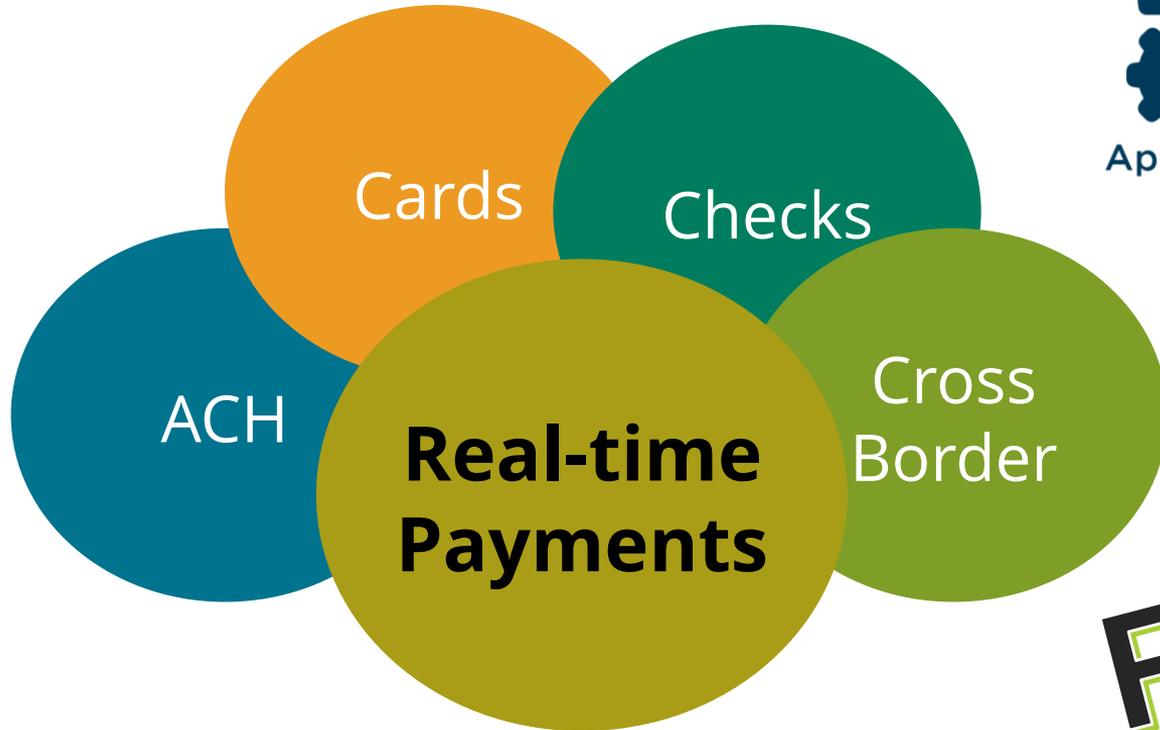


Cloud



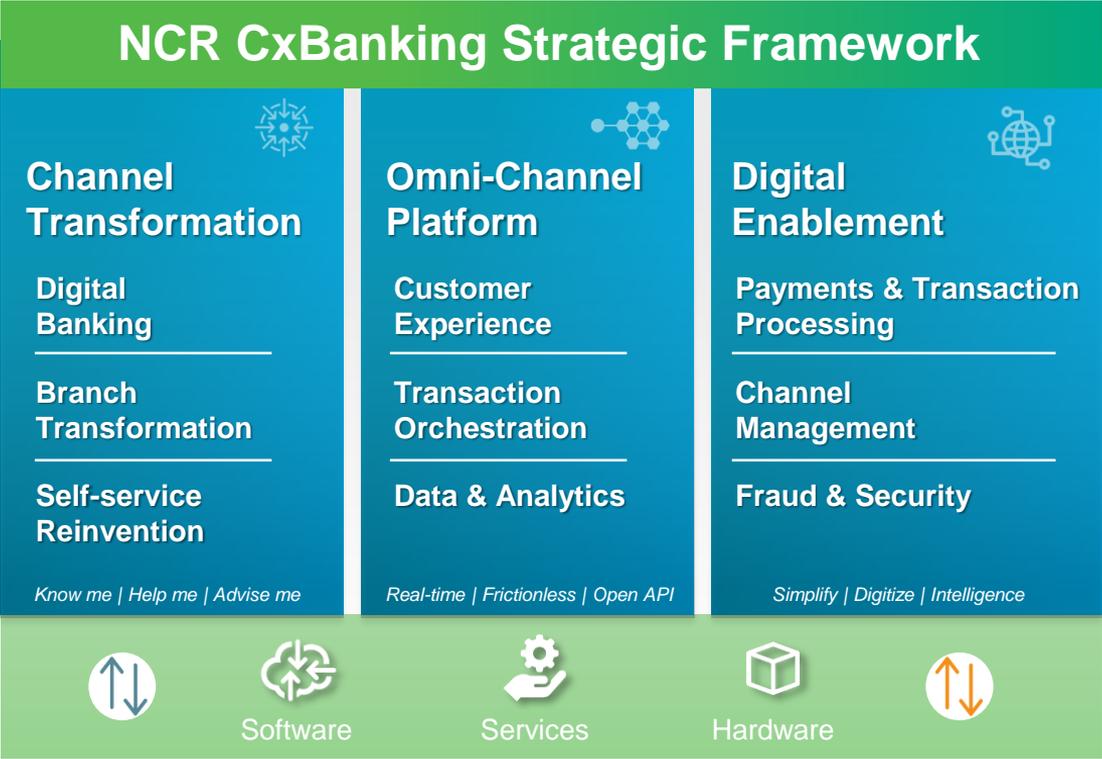
Open Banking

But where next?



**Fintechs**

# NCR's CxBanking Platform for Financial Institutions



**Consumers**

*Mass, Mass Affluent, High Net Worth, Small & Medium Business, Non-Customers*



**Businesses**



**Enterprise systems & services**

*Core, Commerce, POS, Marketing, Analytics, Compliance, Fraud*

**External systems & services**

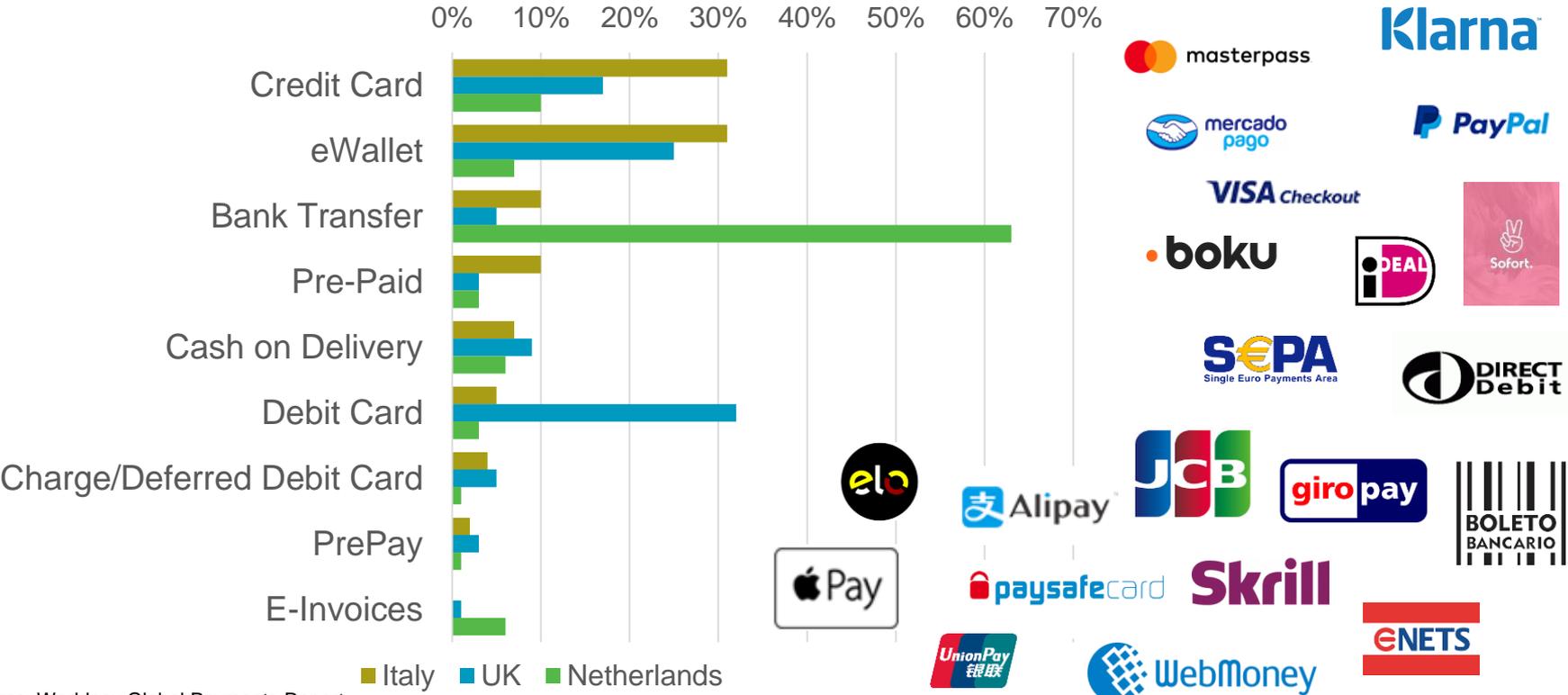
# Modernizing card processing



- Card mix – credit, debit, pre-pay
- Card schemes – Bancomat, Visa, Mastercard, Amex, Diners, Union Pay etc
- Responsiveness in authorisation
  - How to reduce decline rates
  - But protect from risk
- Tokenisation – Apple Pay, Samsung Pay, wearables
- Alternative payment schemes – important for acquirers

# Many more payment schemes around

## eCommerce Payment Usage 2016 (% of total spend)



Source: Worldpay Global Payments Report

# Swiss Private Bank



## Context

- One of the largest Issuer (Visa, Mastercard, Diners) in Switzerland and other countries
- 1.4m cardholders
- Service and operational excellence
- Early adopter of Authentic

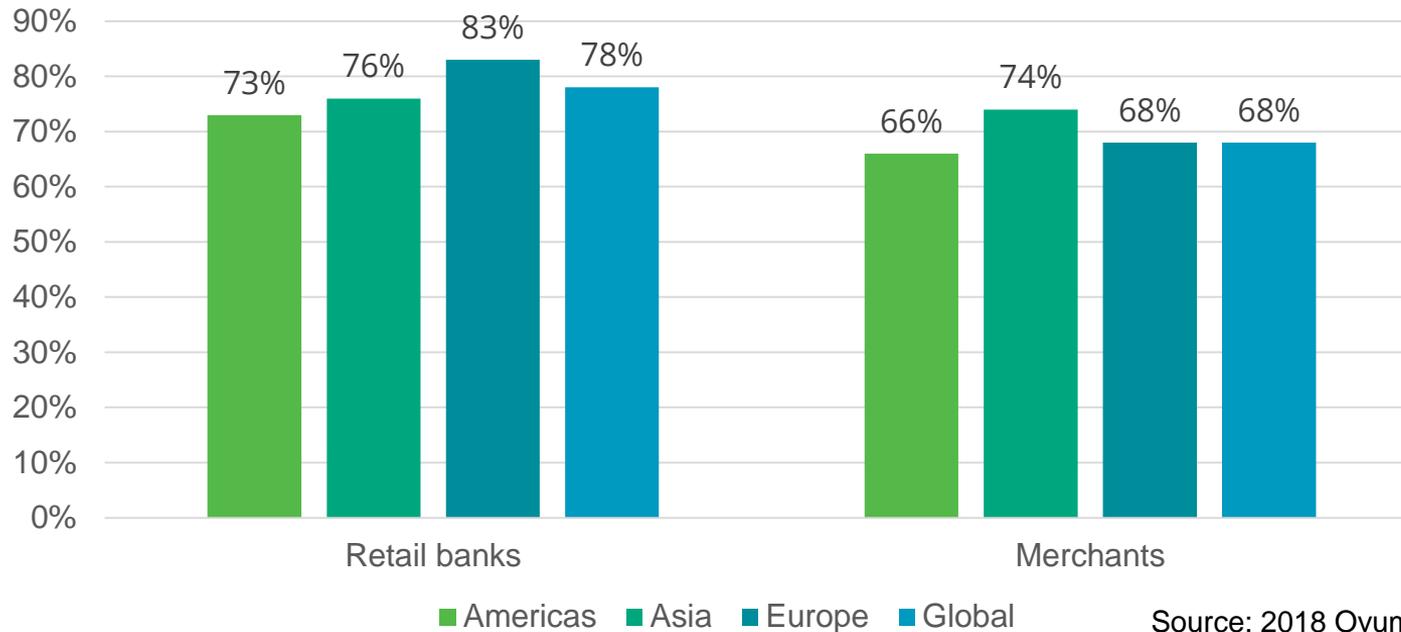
## Solution

- Single platform across all countries
- Apple Pay, Samsung Pay
- Rich authorization processing
  - How long a customer
  - Spend behaviour
  - Velocity checks
  - Integration to fraud detection engine
- Responsive to business demands

# Real-time Payments + Open Banking Impact Cards



Please state your level of agreement with statement “The combination of immediate payments and open bank APIs will see the importance of payment cards reduce over time”

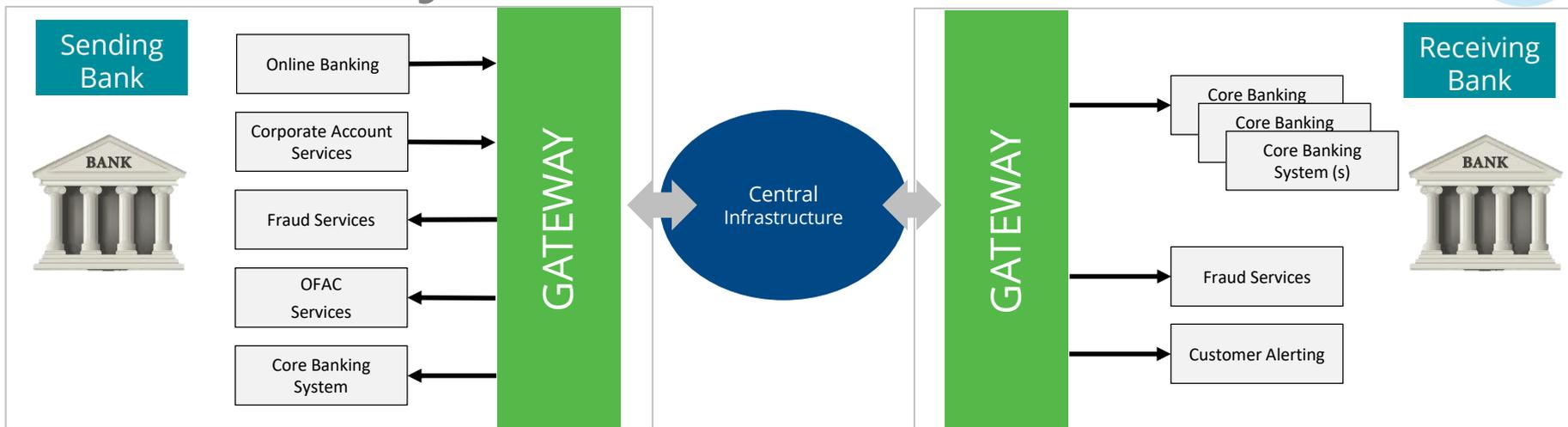


**Over time, banks and merchants expect to see card volumes put under pressure by the combination of immediate payments and open banking**

Source: 2018 Ovum Global Payments Insight Survey (report available [here](#))



# Real-time Payments



## Gateway Functional Characteristics:

- Message Protocol Mapping
- Workflow control
- Monitoring & Alerting
- Authorization & Transaction Monitoring
- Respond to new requirements (Request to Pay)

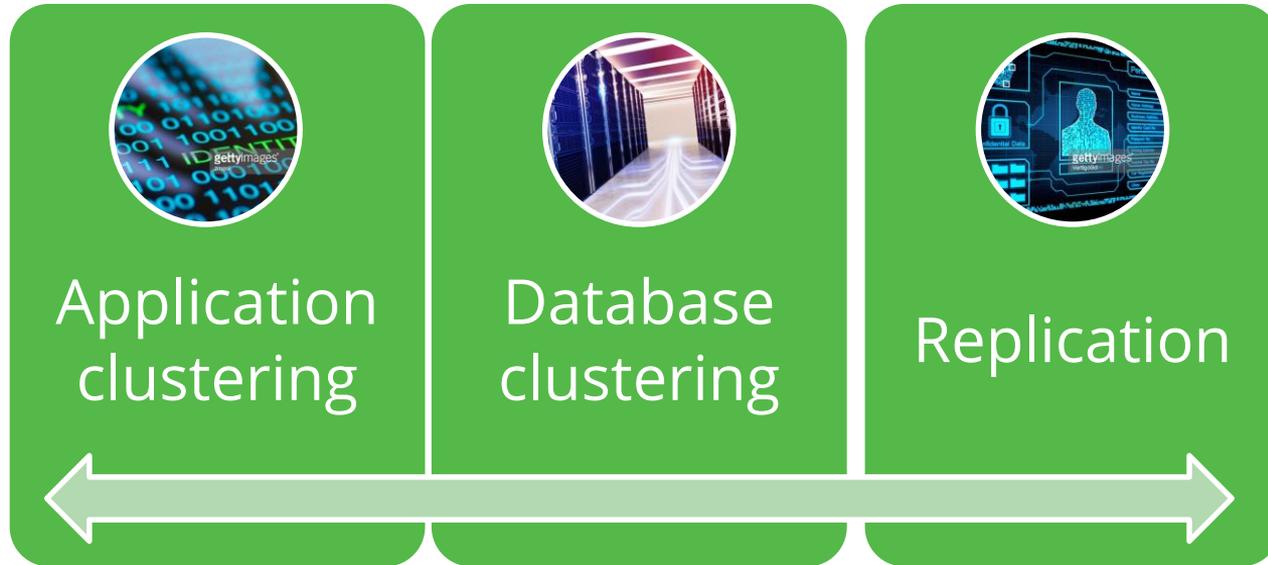


## Gateway Non-functional Characteristics:

- High performance
- High availability
- Fail-over / alternate processing options
- Security & Data Integrity

# High availability on commodity hardware

In modern technical topology, resilience and extensibility are achieved through 3 key elements

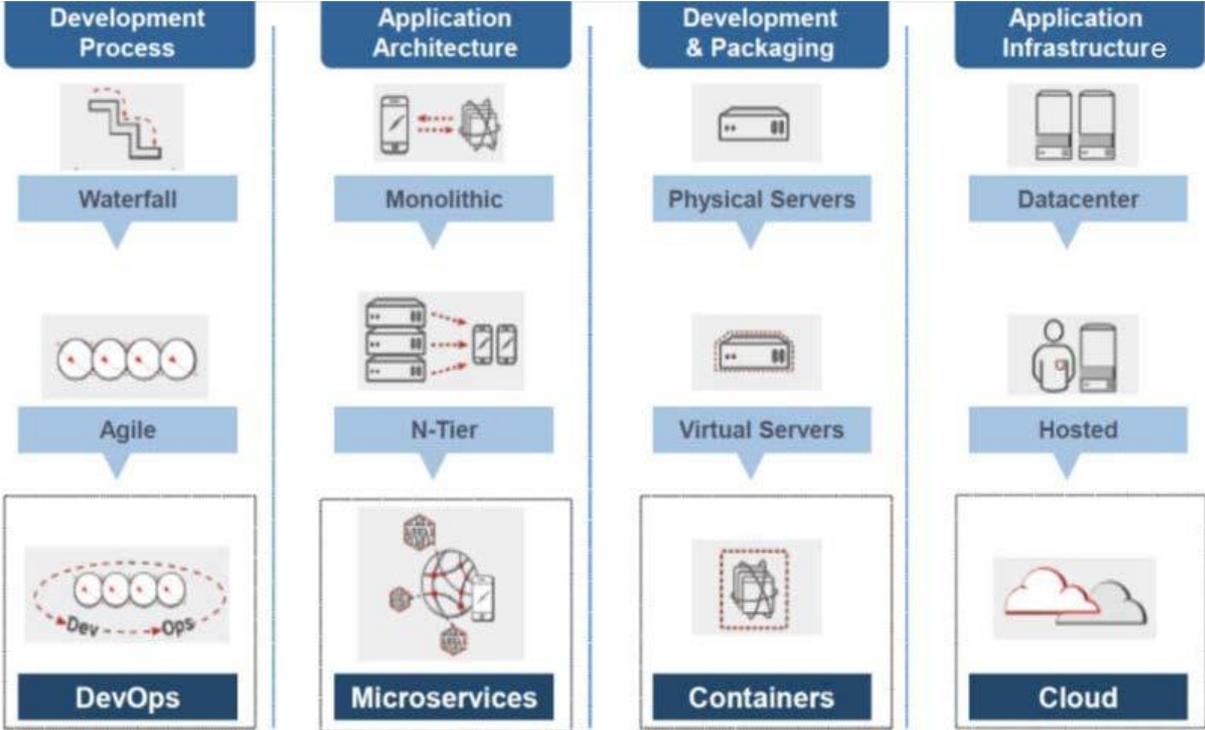


Example availability: 8bn transactions per year with just 20 having a problem  
Customer does not measure availability as % - counts problem transactions



# Cloud environments

## Changes in How Technology Is Being Developed and Deployed

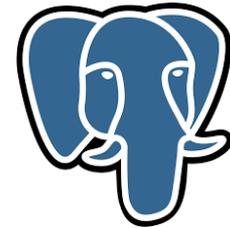


# Cloud Technologies, Challenges, Benefits

- Containerization – Docker and Kubernetes
- Database – Cassandra, PostgreSQL, NuoDB
- HSMs
  - *Cloud providers* – no payment functions
  - *Cloud enable HSM* – non performant
  - *Hosted* – potential performance issue
  - Hosted & collocated – only route for now
- Working with Barclaycard and others
- Key benefits:
  - Reductions in Capital spend
  - Elasticity
  - Deployment cycles (DevOps – CICD)



**kubernetes**



**cassandra**

# Migrating to a new system



## THE TIMES

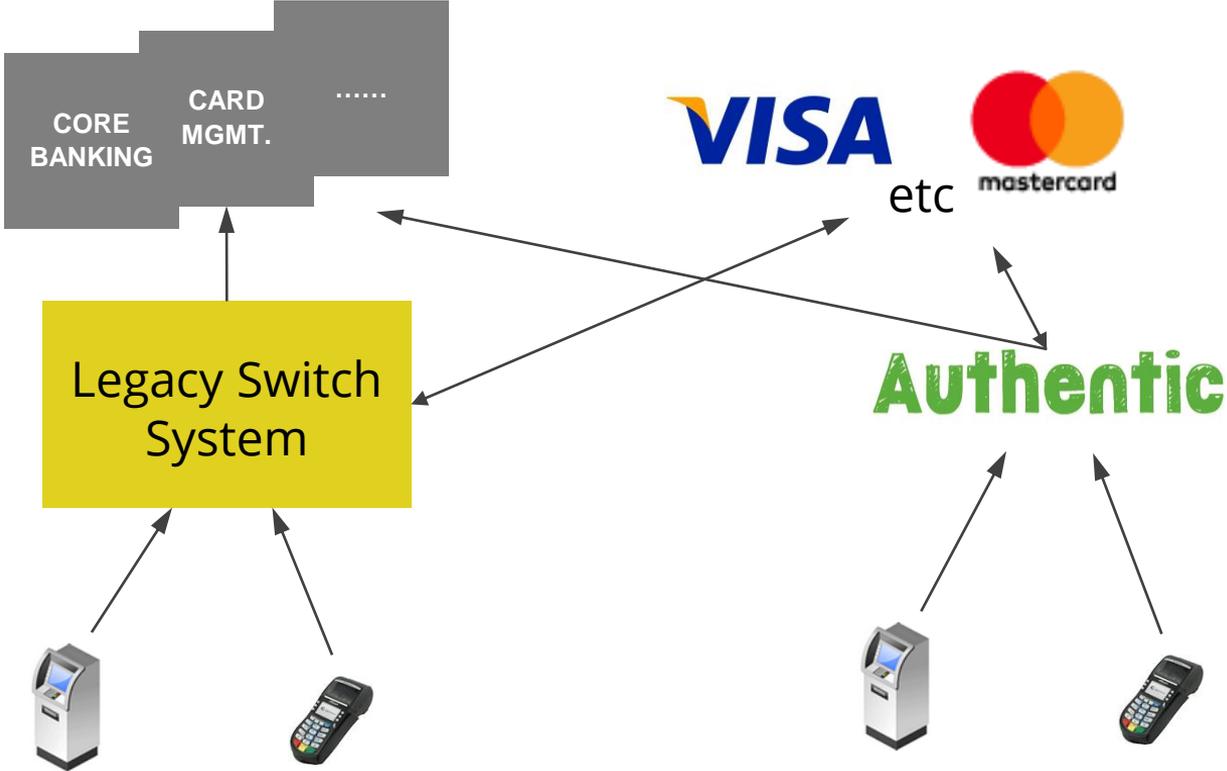
### Paul Pester quits TSB after latest computer meltdown

September 4 2018

Paul Pester has quit as chief executive of TSB four months after a botched systems upgrade as the bank continues to struggle with IT failures.

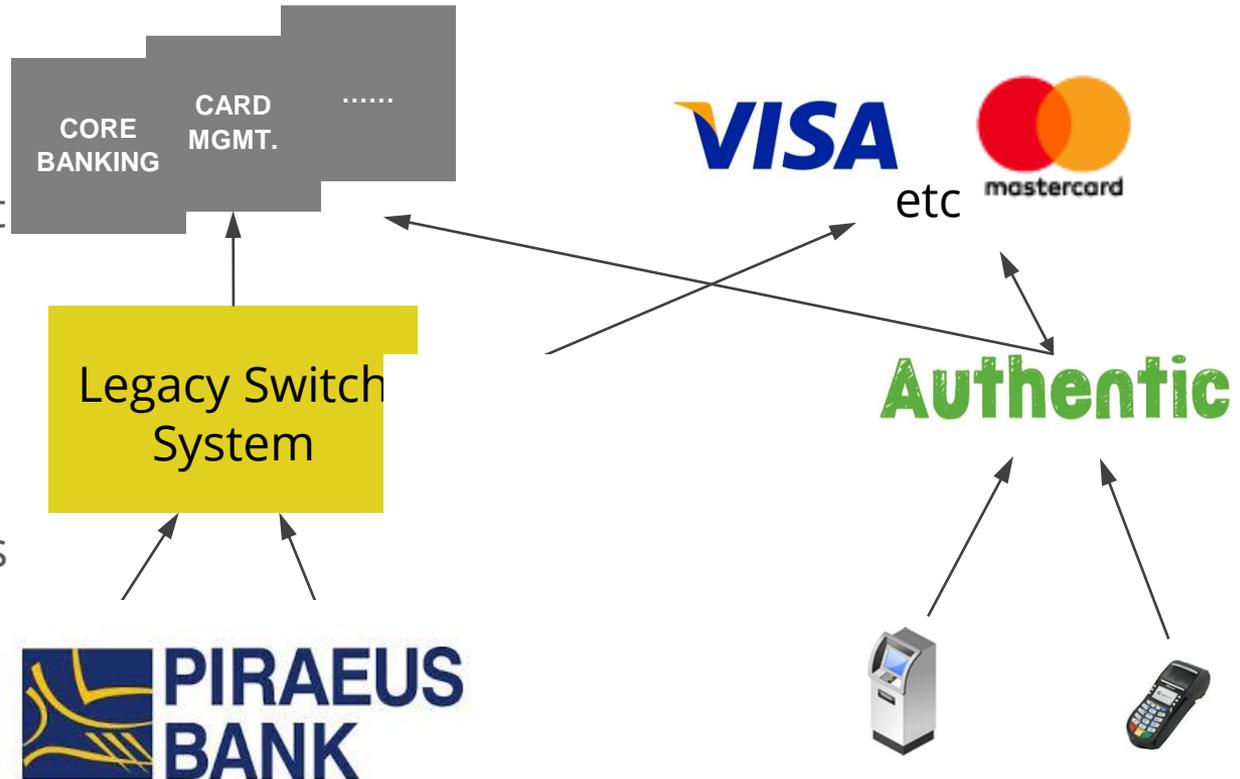
Up to 1.9 million people were locked out of their online or mobile banking accounts after the IT upgrade in April. Yesterday the bank was forced to apologise again after some customers suffered further digital disruption over the weekend.

# Migration Routes



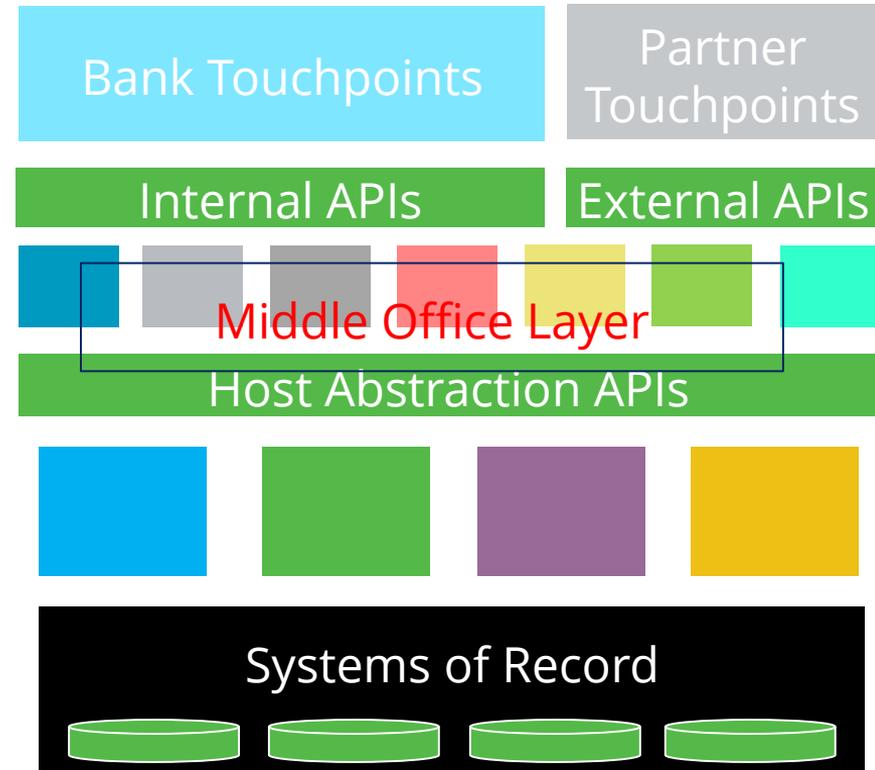
# Migration Routes

- Steps
- Rollback
- Source for settlement & reconciliation
- Incorporating new business functions
- Risk vs time
- Fast example: Piraeus Bank: 16 months contract to finish



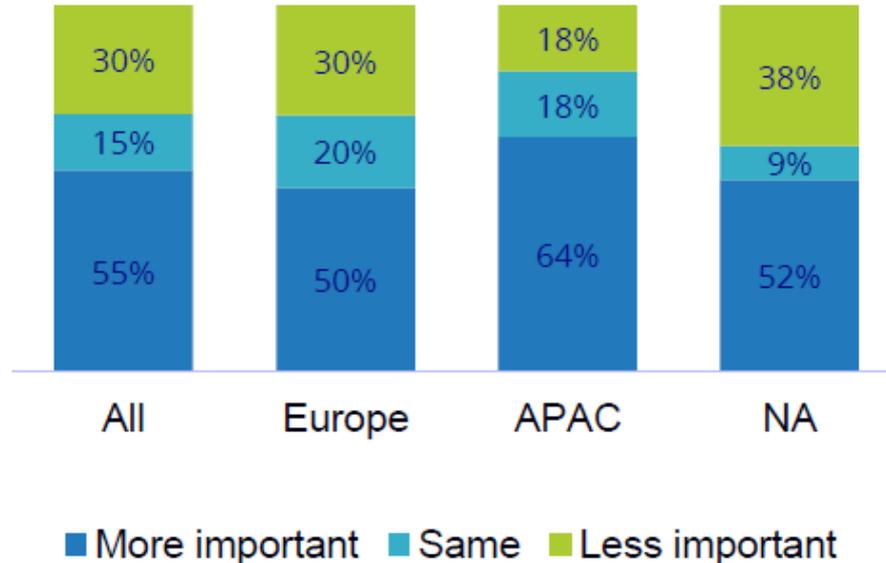
# Open Banking

- Another 'channel' to your customer
- Another silo of data processing?
  - Adding to branch, cards, digital banking
- Move to Omni-channel transaction processing
  - Middle Office
  - Single transaction execution layer
  - Single point to integrate with internal (core banking etc) and external systems
  - Ability to execute cross channel capability
    - start in digital complete in branch
  - Knowledge across channels
  - APIs for bank touchpoints and external



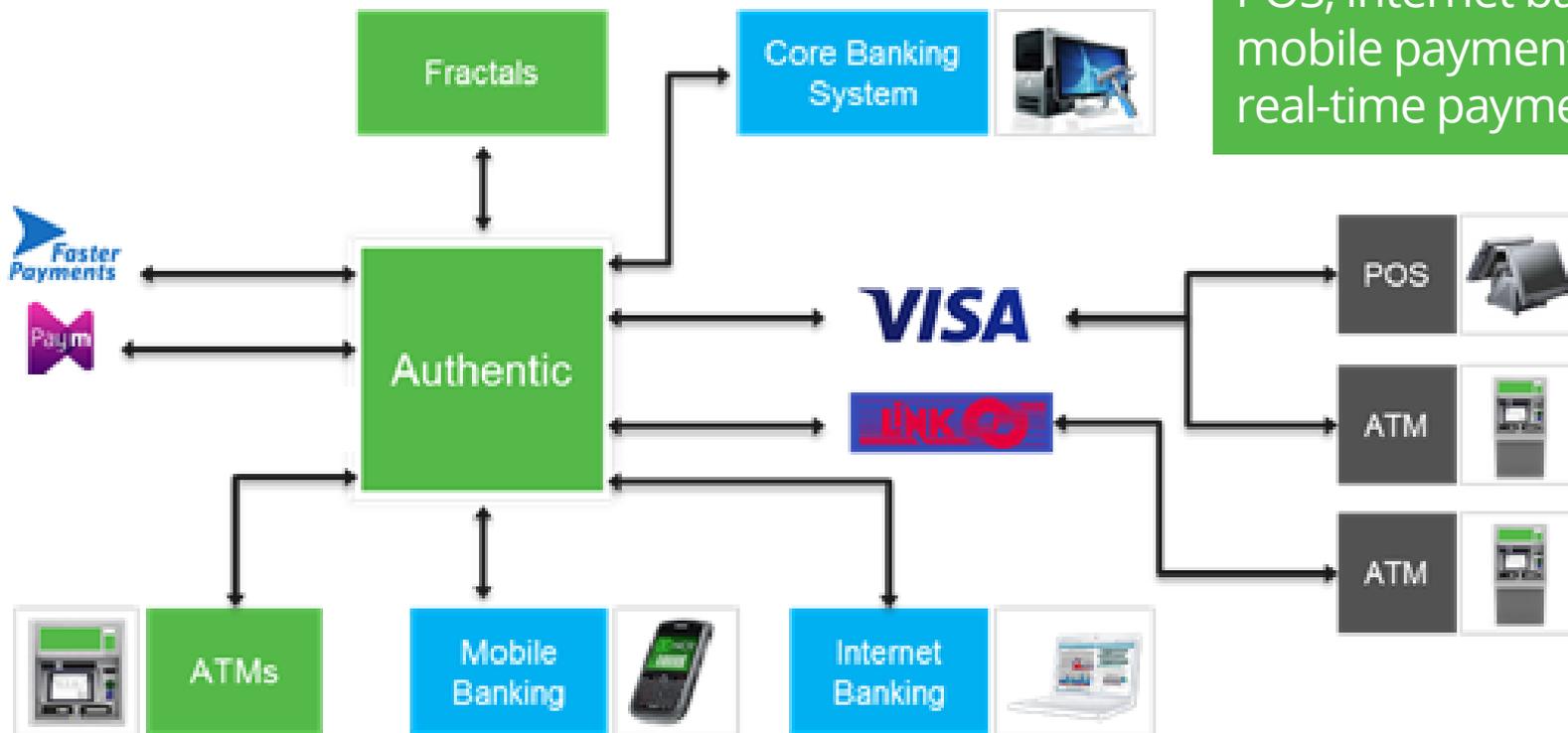
# Omni channel more important with open banking ....

Will omnichannel capabilities become more, or less, important in the open banking era?



Source: IDC research 175 FIs globally (Q2 2018)

# The Cumberland



Hub for all payment transactions – ATM, POS, internet banking, mobile payments, real-time payments

# Modernizing the ATM and POS



- ISO 20022 based protocols for ATM and POS
- Two layers to standard:
  - Information elements
  - Syntax of the message
- Protocols:
  - nexo Acquirer Protocol (merchant to acquirer)
  - nexo-IFX ATM protocol
  - (others)



These standards have now been included in the acceptance platform used by Carrefour, a global leader and the reference in food retail. Meanwhile, nexo standards also enable Natixis Payments to more easily and swiftly design new innovative services, as an in-flight mobile device/tablet payment service for airlines.

Natixis press release 3 October 2018

# Nextgen ATM: industry and Deployers Asking for Change



*“The ATM network has grown increasingly complex. and it’s our job to create meaningful change that makes ATM technology easier to own and operate, and more supportive of the digital-first consumer.”* Frank Gauld

The mission is to **define the next generation ATM architecture, to simplify standardize and rationalize.**



**THE ATM MUST EVOLVE**

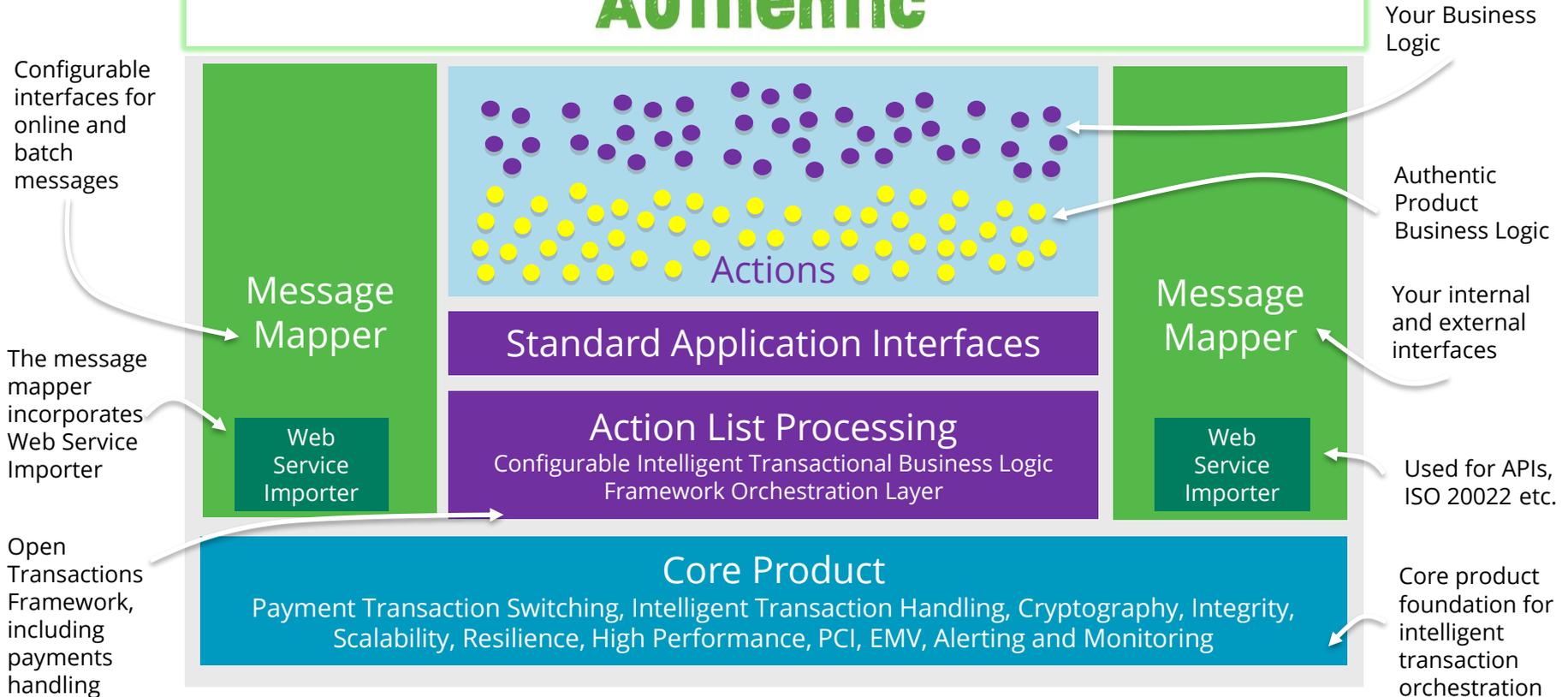


**CONSUMER BEHAVIOURS ARE CHANGING**

# AUTHENTIC TECHNOLOGY

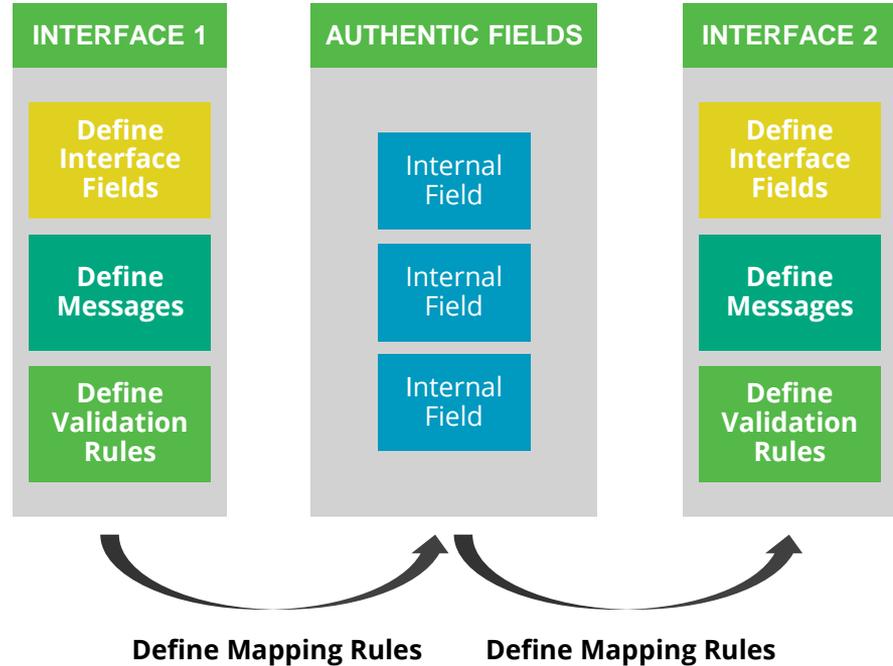
# Intelligent Transaction Handling

## Authentic



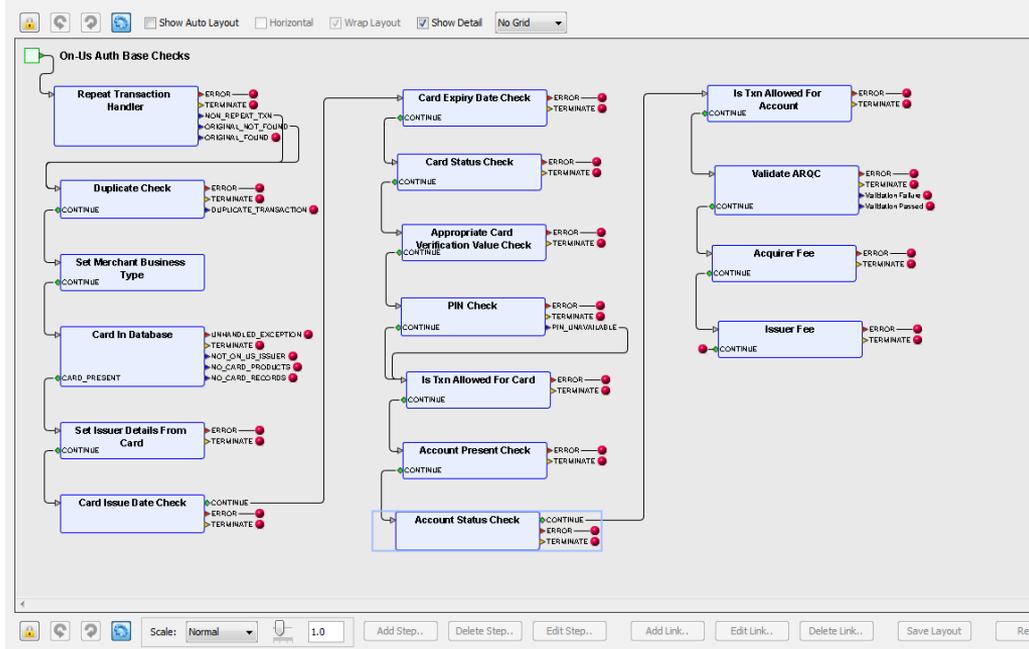
# Message Mapping

- External / internal translation
- GUI to define message conversion
  - Transformation rules
  - Parsing and formatting rules
  - Validation rules
- Fixed length, variable length, bit mapped, XML/web service
- Web service importer
- Java code for complicated transformation



# Action List Processing

## Orchestrating the transaction processing



End-to-end transaction workflow management

- Combines workflow with routing
- Actions grouped into lists
- Lists assigned to scenarios
- Actions re-usable across lists
- Lists re-usable across channels
- Alaric provide hundreds of actions
- Customer add own – Java 'applet'

# CONCLUSION

# Challenges and opportunities of a complex world



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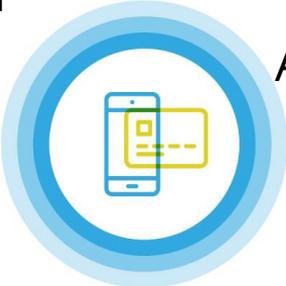
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Migration



Modernizing the ATM/POS experience



Real Time Payments



Cloud



Open Banking

Where next?

# THANK YOU

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