Explaining Open Payment Fare Systems

22 February 2017 / Wei Ping Ong

Conduent Public Sector
Transportation Services

Conduent (Cŏn´- dū - ĕnt)

CONDUENT

We're changing the way businesses and governments interact with their customers, employees and constituents creating client value by modernizing the constituent experience.

Making a difference every day in the lives of those we touch.

Driving value for our clients by providing a great experience to the constituents that they serve —
be they patients, shoppers, commuters, citizens, benefit recipients, customers, or employees.

We are an extension of our clients, creating long term value:

- improved constituent satisfaction and loyalty
- increased operational efficiency
- contemporary, digital experiences
- outcome-based business model

We touch million of lives each day:

- 67% of all U.S. insured patients
- 8.9M travelers daily
- 43% of all child support payments
- Delivering customer care for 3 of the top 5 U.S. mobile phone providers

World's largest

multi-service Business Process Services company.

93,000+ employees

in 43 countries.

Leader

Acclaimed leader in Customer Care, Learning, Finance and Accounting, Workers Compensation, HR Services, Population Health and Care Management.

CONDUENT

76% of Fortune 100

Servicing 76 companies of Fortune 100 and 500+ government entities for over 3 decades.

30 years of experience

benefiting from years as part of Xerox, and long-standing experience in business process management

18 industries

Providing services for over 18 industries in Transportation, Healthcare, Public and Commercial Sectors.

$6.5 Billion

global business with the most diversified Business Process portfolio.

A company embedded into the operations of thousands of clients.

CONDUENT

Making a difference everyday in the lives of millions of people.

27 countries

use our solutions in transportation

8.9 million

people estimated to travel through Conduent - managed toll systems daily

46%

of U.S. electronic toll collection market served

#1 provider

of parking solutions in the U.S. with award-winning innovation

40%

of U.S. commercial vehicle operations market served

Open payment systems can save time for riders and make inter-agency transfers easier

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US commuters spend an estimated **32 minutes** per day accessing transit

US commuters say the benefits of open payments are:

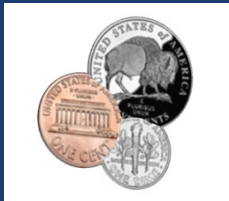**59%**

Reduce wait time and delays

64%

of people make transfers – and open payment makes that easier on an individual or interagency basis

The Evolution of Transit Fare Payment

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110+ Years

Coins & Cash

Tokens

Magnetic Stripe

Proprietary Smart Cards (closed)

Open Standard Contactless

Vendor Independence Flexible Design Merchant Approach Not Ticketing System

The Origins of Open Payments

History

- Sought ideas from marketplace for over a decade: 1996-2006
- Industry solutions did not meet agency's innovation objectives
- MasterCard & NYCT conceived open payment system
- MC spearheaded rules changes to support approach
- ACS was selected as the provider of the system

Large Agency Impact - MTA New York City Transit

- Largest public transportation agency in North America
- 6,380 subway cars /468 stations & 660 miles of track
- Subway nearly 1.6 billion annual ridership
- Operates 24x7
- 5,900 busses
- 846 million annual riders

The Origins of Open Payments

NY/NJ Transit Trial Results

- Viability of Technology:
    - <500 ms responses
    - Full fare policy
    - No down time
    - Full reconciliation of revenues
    - Simplified Regional Approach
    - Customers preferred to other forms of payment
- Trials met all business objectives
- MTA to roll out system wide
- Leading to paradigm shift to Open Payments US

Description

- MTA/NYC Transit
    - Stations along Lexington Ave. subway line
    - 8 bus routes
- PATH
    - 11 stations out of 13
- New Jersey Transit
    - 3 bus lines
- Over 1 million riders use these routes daily

How do "Open Payments" in transit differ from "Proprietary Closed Loop" Systems?

- With Open Payments there is no need for consumer to first buy proprietary transit fare media or load proprietary transit fare media with value before they can access transit.
- Open Payments allow consumers to simply tap with a contactless banking card/device at entry points without any prior interaction
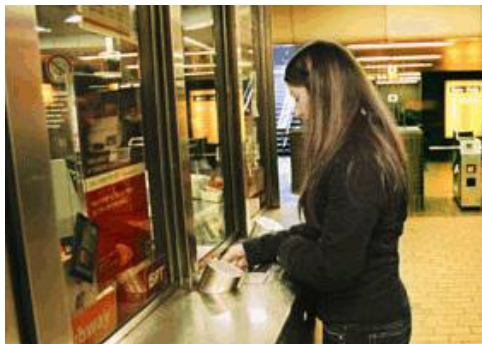
Not Required:
Purchase/Reload
Transit Fare Media

Access
Transit Services

Use
Transit Services

MasterCard and readycard are trademarks of there respective company and are registered in the U.S. and other countries.

Benefits of Open Payments in Transit

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Can displace cash and proprietary tickets/contactless cards:

- Reduced ticket vending lines and boarding times
- Increased passenger flow in stations & on buses

Standard Cardholder Devices:

- Contactless cards/devices from all payment brands that are already in market can work in the system
- No special Transit Application required
- Solution based on industry standards (EMV, ISO14443)
- Multiple form factors (fobs, mobile devices, stickers, etc.)

Standard Terminals and Readers:

- ISO Compliant terminals and readers available via multiple vendors
- Compliant with industry security standards (PCI-DSS)
- Certified independently to international standards (EMV, etc.)

Benefits of Open Payments in Transit

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Open payments can reduce the need for…
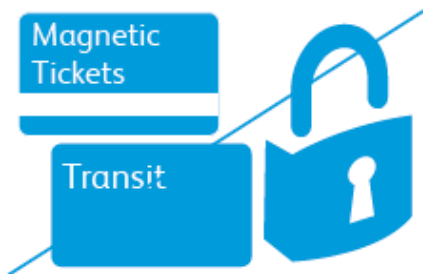
Proprietary card procurement and life-cycle management as well as agency-provided fraud protection.
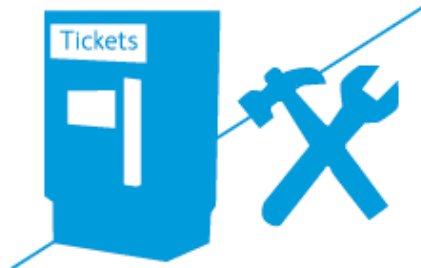
Ticket vending equipment and maintenance.

Call center costs.

Cash handling and reconciliation.

Reduced Costs For Transit Agencies

- **Standards-based hardware** - can be procured from traditional and non-traditional transit vendors, reducing costs.

- **Standard-based software** - allows the agency to integrate with whatever new technology they choose.

- **Reduced cash management costs** - as more riders use contactless payment cards or smart phones as fare media.

- **Agencies no longer have to procure, encode, secure and distribute fare cards** - a majority of cards accepted in the open standards fare system are issued by other entities (banks, mobile phone providers, employers, etc.)

Reduced Costs For Transit Agencies

- **Back-office functionality allows simplified fare changes** - reducing time for new policy introduction. Changes can be performed by the agency with no vendor support.

- **Reduced customer service support** – customer service is mostly addressed by the card/device issuing entity.

- **Retail distribution in most transit systems operating area** – reduces the need to purchase and maintain large quantities of vending equipment.

- **Re-allocation of staff resources** - to other areas of the transportation operations.

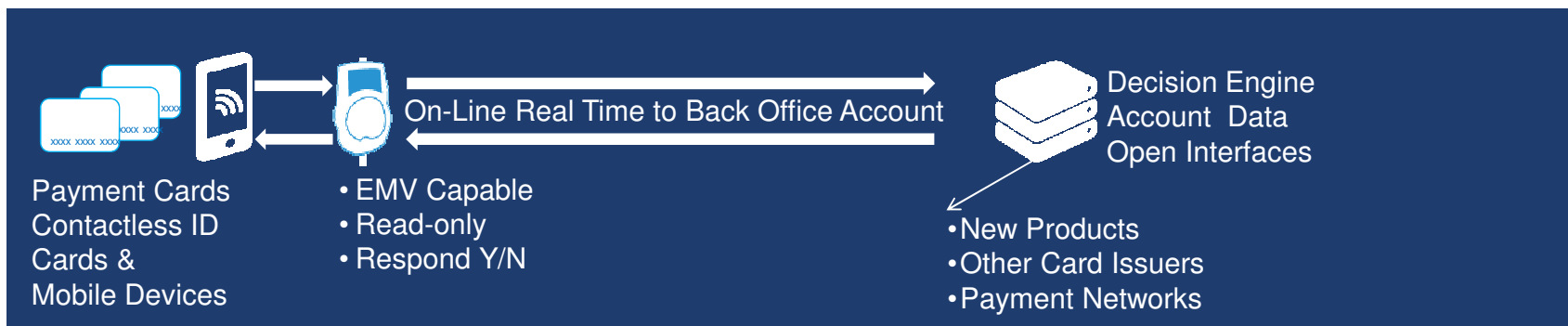# The Appeal of Open Payments

- Other companies issue Payment Media
- Customer service with issuers
- Automatic interagency interoperability
- Open Architecture provides flexibility
- Security Standard exists
- Certification of devices
- Integrates with robust Payments Ecosystem
- More convenient for customers
- Potential for "elimination" of cash
- Speed of deployment
- Facilitates Co-promotion

Account Based Processing Shifts System Intelligence to Back Office

Ticketing Approach

Payment Cards

Validator   Offline - Store & Forward

Reporting Download Manager

Decision Engine
• Business Rules
• Read & Write
• Validation & Fare Policy

Account Approach

Payment Cards Contactless ID Cards & Mobile Devices

On-Line Real Time to Back Office Account

• EMV Capable
• Read-only
• Respond Y/N

Decision Engine Account Data Open Interfaces

• New Products
• Other Card Issuers
• Payment Networks

Advantages of Account Based Systems

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- Typically easier to implement than traditional systems.
- Account Based processing eliminates need to download action lists to devices.
- Fare changes made at host can take effect rapidly.
- No limitation in fare policy due to device limitations.
- Hot lists checked on host – faster updates.
- Value added to account available in real time.
- Able to support significantly greater complexity. e.g.: fare policy, system or technology
- Multiple funding sources for each account.
- Restricted sub-accounts to control spending.
- Employer Accounts for employee benefit cards.

What About Riders Who?

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… Are un-banked
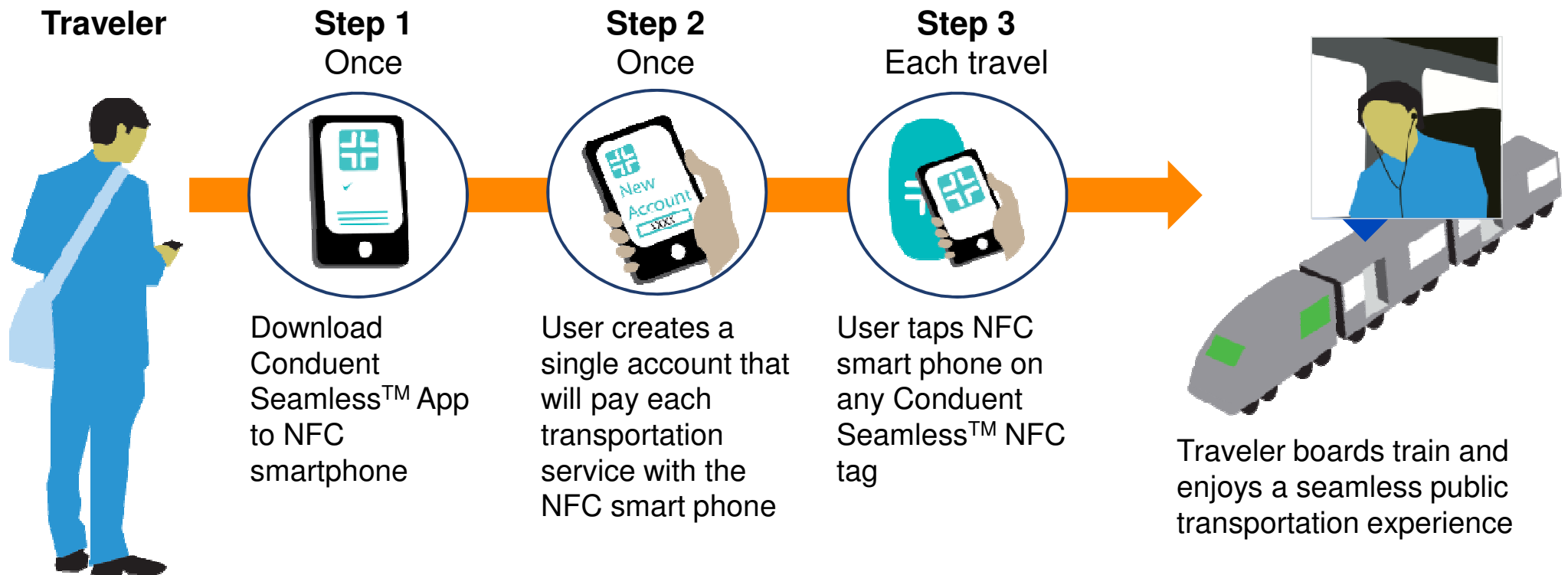
… Don't have a contactless bank card

… Or, don't want to use their bank or credit card

The answer is GPR Fare Media

- Two types of prepaid cards:
  - Instant, anonymous card
  - Personalized card
- Can sell fare products online, through a mobile application, at agency locations, at third party retailers and other electronic channels.
- Agency can receive commissions from prepaid card revenues for cards sold from approved locations.
- A Program Manager can support the distribution and promotion of cards on behalf of the agency.

Conduent Seamless

Traveler

Step 1
Once

Download Conduent Seamless™ App to NFC smartphone

Step 2
Once

User creates a single account that will pay each transportation service with the NFC smart phone

Step 3
Each travel

User taps NFC smart phone on any Conduent Seamless™ NFC tag

Traveler boards train and enjoys a seamless public transportation experience

For Further Information

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