

PayPal Adds Citi, FIS, and Discover

Amazon.com, the largest U.S.-based ecommerce retailer, obtained a U.S. (but not European Union) patent for “1-click” checkout in 1997 for payments connected to remotely stored

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Card Industry Litigation Updates

The U.S. Supreme Court heard arguments this month on litigation concerning a New York state law that prohibits merchants from adding a surcharge to any payment made using a credit card.

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Lloyds Buys MBNA Credit Cards

The second largest credit card issuer in the U.K. based on outstandings has purchased the fourth largest issuer in that country. Lloyds Banking Group will pay a premium of \$2.35 billion

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Guaranteeing Online Payments Against Fraud

Retailers and supermarkets in the U.S. have been able to buy guarantees against fraud losses from payments made by paper checks since the 1970s. Companies including First

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Acquisitions/Investments in Merchant Acquiring '16

There were 53 acquisition and another 59 investment transactions on the merchant acceptance side of the card payment business in 28 countries last year. This does not include acquisitions and

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Walmart's Prepaid Card "Prize Savings" Program

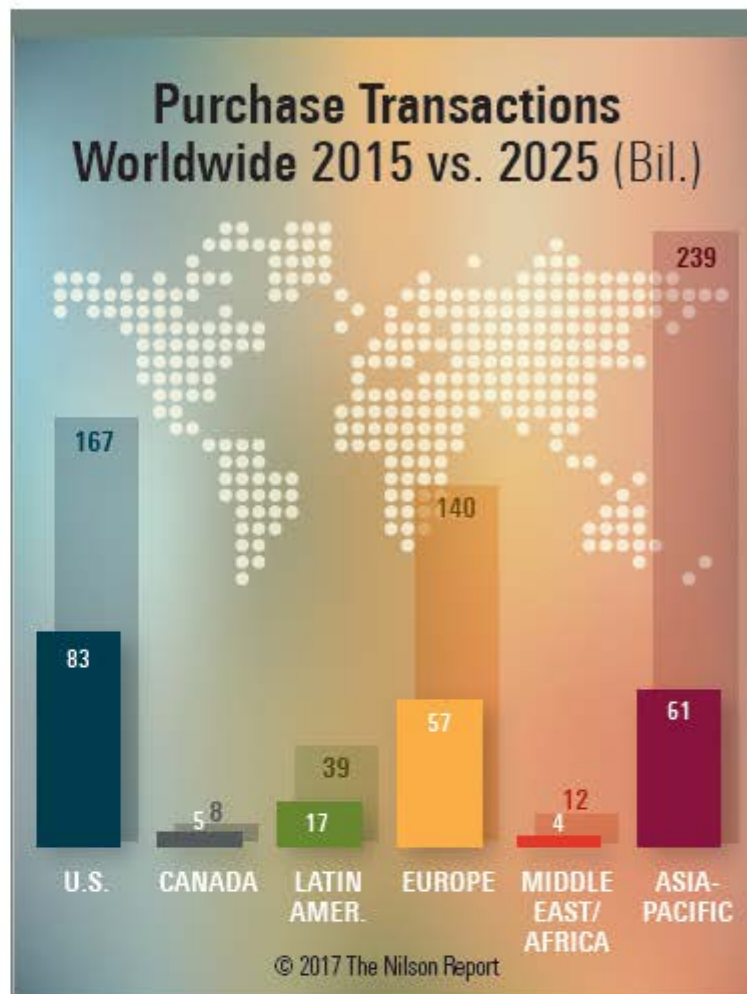
Walmart's Prize Savings program is available to its MoneyCard prepaid Mastercard and Visa cardholders. It is the first U.S. retailer to offer a prize-linked savings (PLS) program. PLS programs have

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Boloro Multifactor Authentication

Patents granted to Boloro in 49 countries including the U.S., Canada, and Russia, and pending in 38 additional jurisdictions including the European Union and China, cover multifactor

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Purchase Transactions by Global Brand Cards — Projected through 2025

General purpose payment cards with global brands — Visa, Mastercard, American Express, Discover, JCB, Diners Club, and UnionPay — collectively generated 227.05 billion purchase transactions in 2015. They are projected to generate 604.10 billion purchase transactions in 2025. These card-present and card-not-present payments for goods and services are generated by credit, debit, and prepaid cards.

There are also domestic-market-only general purpose cards. They are not counted here. Worldwide there are more than 60 domestic-market-only brands. They include Star, Pulse, Interac, RuPay, Elo, Shetab, Girocard, Carte Bancaire, BC Card, Mada, Accel, Hipercard, Banricompras,

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Boloro Multifactor Authentication

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authentication of payments and other transactions using real-time flash messages on the USSD (unstructured supplementary service data) signal channel to request PIN authentication. The signal channel is available on every mobile telephone in the world. Voice and data operate on a telephone's media channel.

Every phone number in the world is unique. Boloro's platform adds a self-selected PIN to provide end-to-end transaction validation including a millisecond authentication audit trail. Boloro's technology does not require a smartphone or internet connection. No cardholder information is ever outside of the card issuer's control.

In a Boloro-managed authentication, cardholders receive a flash message display on their handset, to which they respond with a PIN. They don't have to open an app. Flash messages, which are designed to stand out from other text messages

...uses real-time flash messages on the USSD signal channel.

on a mobile phone, are delivered by every mobile network operator (MNO) in the world. In the U.S., Amber Alerts sent by MNOs when a suspected child abduction has occurred are flash messages.

Boloro says that fraud and disputes are eliminated because only the cardholder has the handset and knows their PIN. Its technology is device and operating system agnostic. The cardholder's handset retains no trace of the transaction authentication process. The PIN is not stored on the handset and disappears as soon as it is entered. Boloro's technology can be used in combination with information about the handset, billing information, and location, making it even more comprehensive. Flash messages have the added benefit of being



immune to malware that can capture one-time passcodes inputted in an SMS message.

Issuers can integrate card account numbers with phone numbers and host the Boloro authentication platform on their secure site for direct customer transaction authentication. They can also choose to switch authorization validations to Boloro on a software-as-a-service basis while retaining all card account data on their site. Boloro's platform permits cardholders to initiate card payments by inputting only their phone numbers at a point-of-sale terminal and then selecting a button on the terminal that identifies their card issuer.

Allowing merchants to initiate payments is a network "push" model. By comparison, Safaricom's Mpesa mobile payment program in Kenya, which also uses the flash channel to deliver a PIN, is a network "pull" model. The pull model requires consumers to make as many as five steps before a purchase is completed. The push model requires only one step — respond to the prompt for their PIN.

In addition to payment authorizations, other applications for Boloro's technology include mass transit (when linked to an NFC application), government benefits, bill payments, as well as mobile banking fraud protection.

Boloro has received more than \$7.0 million in funding. Its platform is available for licensing by banks, merchants, and MNOs. The technology does not require an app but can be layered on top of any licensee's app regardless of operating system.

Boloro has customers in Pakistan, Afghanistan, Jordan, Bahrain, and South Africa and will soon launch programs in India, Nigeria, Zambia, and the United States.

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Walmart's Prepaid Card "Prize Savings" Program

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been used in other countries to encourage savings among low-income individuals for more than a decade. Walmart MoneyCard prepaid cardholders can transfer funds from their card balance

into MoneyCard Vault, a no-fee savings feature that is part of their prepaid product. For every dollar a cardholder moves into MoneyCard Vault each month, they receive one entry in a monthly nationwide

Prize Savings drawing that awards 500 cash prizes. The grand prize is \$1,000. Winnings are added directly into their Walmart prepaid MoneyCard. Walmart