# Emerging Trends in eCommerce
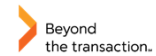
Rhonda Kirk, Stephanie Spencer & Alan Kelly
Product Solutions

April 30th 2014

First Data.

Beyond the transaction.

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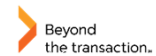
# Agenda

❑ Ecommerce Overview

❑ Ecommerce Connectivity Options
  ❑ Virtual Terminal
  ❑ Hosted Pages
  ❑ Application Programming Interface (API)

❑ Ecommerce Processing Options
  ❑ First Data Global Gateway e4
  ❑ Hosted Solutions (HRP)
  ❑ Pay Point

❑ Ecommerce Security & PCI Scope Reduction

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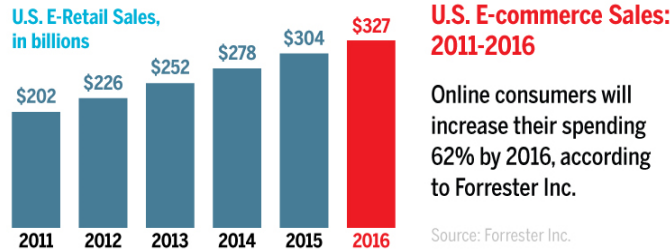
2

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# eCommerce  Products

# eCommerce Market Drivers

**24/7**

### Always Open
Merchants need reliable, redundant processing to ensure that no order is  lost due to outage or errors

### Fraud Liability
eCommerce merchants assume 100% of fraud liability and require advanced fraud management tools

### Payment Options
Merchants are expanding the mix to include alternative payments

### Transaction Security
Merchants must deliver total security while managing their PCI burden

### International Markets
Merchants need support for various currencies and acquiring solutions

### Mobile Commerce
More consumers are using Internet devices to browse, shop and buy

# eCommerce Landscape & Trends
The number of web shoppers will continue to grow rapidly

[1]

**U.S. E-Retail Sales, in billions**

$202  $226  $252  $278  $304  $327

2011  2012  2013  2014  2015  2016

**U.S. E-commerce Sales: 2011-2016**

Online consumers will increase their spending 62% by 2016, according to Forrester Inc.
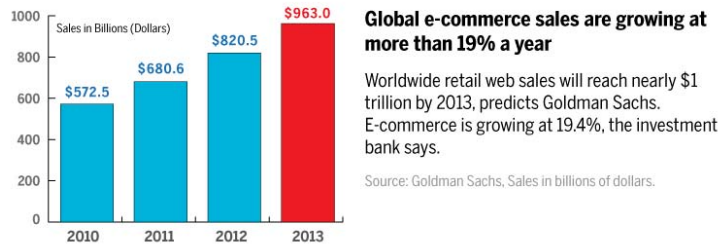
Source: Forrester Inc.

## By 2016, it is estimated that …

- Online shoppers in the U.S. will spend $327B
- 192 million U.S. consumers will shop online[1]
- U.S. consumers will spend an average of $1,738 online[1]
- e-Retail will account for 9% of total retail sales[1]

[1]"U.S. Online Retail Forecast, 2011 to 2016" by Forrester Research Inc., February 2012

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# eCommerce Landscape & Trends (continued)

[1]

1000
800
600
400
200
0

Sales in Billions (Dollars)

$572.5    $680.6    $820.5    $963.0

2010   2011   2012   2013

**Global e-commerce sales are growing at more than 19% a year**

Worldwide retail web sales will reach nearly $1 trillion by 2013, predicts Goldman Sachs. E-commerce is growing at 19.4%, the investment bank says.
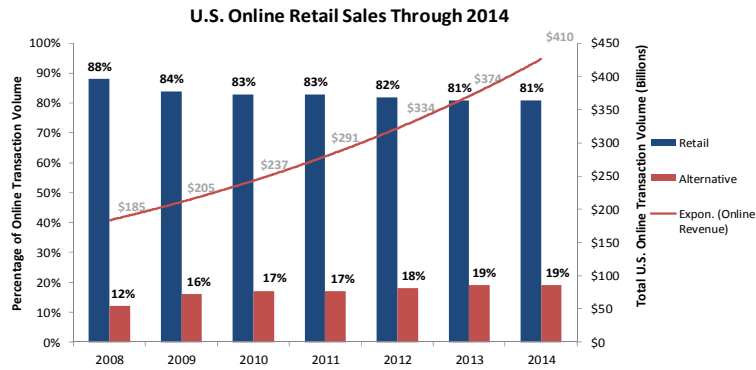
Source: Goldman Sachs, Sales in billions of dollars.

## Globally…

- E-commerce revenue reached $680 billion worldwide in 2011, up 18.9% year-over-year[1]
- European online consumers this year will spend more than 305 billion euros, approximately $396.5 billion, up 20% from 254 billion euros ($330.2 billion) in 2011[2]

[1]J.P. Morgan: Global e-commerce Revenue to grow by 19% in 2011 to $680B', TechCrunch Newsroom , 2011
[2] eCommerce Europe

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# Alternative Payments

Online retail sales will continue steady growth with alternative payments representing a growing percentage of online transactions

**U.S. Online Retail Sales Through 2014**



Legend:
- Retail
- Alternative
- Expon. (Online Revenue)

| Year | Retail | Alternative | Online Revenue |
|------|--------|-------------|----------------|
| 2008 | 88% | 12% | $185 |
| 2009 | 84% | 16% | $205 |
| 2010 | 83% | 17% | $237 |
| 2011 | 83% | 17% | $291 |
| 2012 | 82% | 18% | $334 |
| 2013 | 81% | 19% | $374 |
| 2014 | 81% | 19% | $410 |

Online Payments Forecast, Javelin Strategy & Research, February 2010

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# Alternative Payments

Popular choice for CNP merchants & shoppers due to security & convenience

- Enables merchants to conduct business globally

- No additional card data stored by merchant (PCI)

- Alternative providers assume or share fraud liability
  - Acculynk's PaySecure creates a PIN debit transaction - issuer takes liability

- Merchant transaction fees are often simplified or reduced (as opposed to interchange)

**$110** Billion | Projected eCommerce revenue from non-card payments in 2016, up from $64 billion in 2012

Source: "U.S. Alternative Payments Forecast, 2011 to 2016", Forrester Research Inc., May 2012

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# eCommerce Solutions Overview

| Key Suite Features | |
|---|---|
| Customizable solution delivering fully integrated, seamless functionality across multiple selling channels through a single point of access | |
| **Key Suite Benefits** | |
| **Efficiency** | Cost-effective bundling with features to optimize payment processes to speed transactions, cut costs and improve the flow of funds |
| **Payment Options** | Comprehensive payment options including all major credit cards, e-checks and alternative payments such as PayPal™, Google Wallet™, and Bill Me Later® —all through a single process |
| **Unsurpassed Reliability** | Unsurpassed system reliability for uninterrupted service, 24/7/365 support and continued investment in new eCommerce technologies |
| **Stronger Security** | Advanced security technologies to lower risk, reduce fraud and simplify Payment Card Industry (PCI) compliance |
| **Dedicated Support** | Online payment processing operations delivered through a customer-centric approach to building long-term relationships |
| **Simpler Integrations** | Simplified merchant integration through a wide variety of direct, gateway, plug-In, and XML/SOAP interface options |

# First Data eCommerce Solutions

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## Compass Overview

Card-Not-Present processing platform that meets the diverse needs of merchants' customers and delivers advanced capabilities to expand business globally, protect against fraud, lower cost, and simplify management and reporting

| Key Features | |
| --- | --- |
| | Compass delivers Card-not-Present front-end authorization services with First Data's back-end processing capabilities |

| Key Benefits | |
| --- | --- |
| Functionality | Key functionality built into the transaction flow to simplify process and maximize capability |
| Reliability | Transaction confidence established through highly redundant, reliable systems |
| Security | State-of-the art security and fraud-prevention features fully compliant with the latest PCI-DSS |
| Enhanced Reporting | Advanced online reporting featuring dashboard reporting and drill-down capability |
| Scalability | Scalable solution that grows as your business grows providing access to a broad range of payment types |
| Integration Options | Broad set of interface and connectivity options to simplify and minimize merchant integration cost and effort |

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## Compass Interface Options

Merchants have three options for interfacing with the Compass platform

**1 Direct Connect (Code to Spec)**
- Online Specification – Single inbound merchant specification for real-time authorizations
- Batch Specification – Single inbound merchant file specification for batch settlement (and authorization)
- Detailed, explicit file specifications reduce the time and effort required to configure merchant systems

**2 Gateways**
- CyberSource and Palm Coast Data are certified to the Compass platform for both online and batch processing*

**3 Software Development Kits**
- Auric Systems – Using simple web posts and delimited text files, Auric SDK can accelerate integration of any eCommerce application
- IBM WebSphere Commerce (v6 & v7) – Software plug-in that translates IBM WebSphere payment transactions to Compass specifications
- eCometry plug-in –Integrated Compass payment plug-in ships with eCometry software
- Ready to use software application which simplifies integration from a merchant's host system to Compass

* For a full list of certified Third Party service providers, refer to www.firstdata.com/en_us/first-data-partners/pos-payment-application-partners.html

# Global Gateway e4<sup>SM</sup> Overview

Enables merchants of all sizes to securely and reliably accept and process internet payments through a cost-effective and easy-to-implement solution

| Key Features | |
|---|---|
| Merchants can configure the Global Gateway e4 solution to accommodate and enhance their business needs with three interface options: Web Service API, Hosted Checkout and Real-time Payment Manager | |
| **Key Benefits** | |
| Functionality | Reduce transaction and overhead cost through consolidated set of comprehensive features |
| Easily Integrated Technology | Simple integration through customized connectivity options |
| Advanced Reporting | Dynamic reporting capabilities to create and manipulate transaction reports to better analyze and understand payment activity |
| Security | PCI/DDS compliant hosted connectivity to eliminate sensitive data storage |
| Scalability & Reliability | Scalable solution that grows as your business grows providing access to a broad range of payment types |
| Dedicated Support | Sophisticated technology and dedicated support from an industry leader |

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# Global Gateway e4<sup>SM</sup> Features

Benefit and Capability Enhancements

## Functionality

- TransArmor Tokenization
- Mobile Optimization
- Dynamic Soft Descriptor Support
- AVS/CVV Support
- Multi-merchant Administration/Reporting
- Multi-language Support
- PayPal Integration
- Payer Authentication (3-D Secure)
- Fraud & Velocity Controls
- Retail Support
- Advanced Reporting Capabilities
- Recurring Billing
- Level III Processing (HCO & WS-API)

## Merchant Benefits

- Single source for gateway and processing (no third parties)
- Simplified integration with dedicated support and self-serve test environment
- Flexible integration points meet the demands of any business
- Intuitive user-interface simplifies business & payments management
- Extensive, real-time reporting capabilities
- Retail swipe capabilities for multi- channel merchants
- Offers payment acceptance consolidation through a single solutions

## Scalable Interface Options

| Three Distinct Interfaces | | |
|---|---|---|
| **Real-time Payment Manager** | **Hosted Checkout** | **Web Service API** |
| **Process transactions online** | **Process transactions *on your website*** | **Process transactions on your web site *using SSL encryption*** |
| • Individual or batch transactions | • Hosted, customizable checkout pages | • Connect direct to web apps |
| • Dashboard, virtual terminal and transaction history search | • Integrate with shopping carts and ecommerce platforms | • Platform independent |
| • Moto, Retail card swipe & receipt printing | • Optimized for mobile checkout | • Build HMAC with transaction keys |
| ← Supporting your business as it grows → | | |

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## Advanced Security Tools

- Set and customize risk settings, so you control your own transaction thresholds and the time dedicated to managing risk
- Determine which transactions are automatically approved or denied with Positive & Negative lists
- Remove card data from your environment and reduce your PCI scope with TransArmor tokenization
- Promote consumer confidence with buyer authentication tools like 3DSecure

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# Hosted Recurring Payments Service Overview

Merchants are able to manage recurring transactions reliably and effectively through a comprehensive solution that integrates seamlessly with the merchant's existing processes and operations

| Key Features | |
|---|---|
| Hosted consumer profile management solution with the option to pay for scheduled and unscheduled transactions with multiple methods of payments | |
| **Key Benefits** | |
| Reduced Security Risk | Merchants no longer have to store a consumer's sensitive payment information, which reduces security breech concerns and PCI compliance requirement |
| Consumer Profile Management | Consumer Profile Management eliminates the need for merchants to transmit sensitive payment data with every transaction; instead, the merchant pass a unique customer identifier (token) |
| Payment Wallet | Merchants have the flexibility to let consumers maintain several payment methods with the payment wallet.  Merchants set the parameters consumers can use to select payment method(s) and payment order priority. |
| Simple Integration | Allow single integration of PINless debit, multi-currency and alternative payments |
| Flexible Payment Schedules | Process recurring and one-time payments using the consumer's profile |

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# Overview

**Hosted consumer profile management solution with the option to pay for scheduled and unscheduled transactions with multiple methods of payments**

| Payment Schedules | Key Capabilities |
|---|---|
| **Scheduled Payments:**<br>➢ Fixed Amount Recurring<br>➢ Variable Amount Recurring<br>➢ Installments<br><br>**Unscheduled Payments:**<br>➢ Custom<br>➢ One-time Payment<br>➢ One-time Deferred Payment | • Real Time Authorizations<br>• Email and/or print a transaction receipt<br>• Consumer profile management<br>• Integrated Account Updater - Visa, MasterCard, Discover (2013)<br>• Three Levels of Convenience Fees:<br>  ➢ Special<br>  ➢ Convenience (Miscellaneous)<br>  ➢ Payment<br>• Split  payments and split convenience fee with 3rd parties<br>• Electronic Payment Wallet<br>• Advanced  and Partial payments<br>• Soft Decline/Forced Deposit **(by authorization code)**<br>• Credit/Debit card retry logic (by authorization code)<br>• Notifications file (card expiring, transaction confirmation, etc.)<br>• Online reporting |

CNP Awards
Judges Choice Award
WINNER

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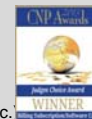
## Consumer Profile Management

**Allows merchants to securely store, retrieve, edit, and use consumer profile for scheduled and unscheduled payments**

### Benefits of Consumer Profile Manager

1. Reduces scope of PCI compliance

2. Uses a unique identifier to represent consumer data for future transactions

3. Stores payment credentials eliminating need to enter or pass sensitive data with each transaction

4. Eliminates need for merchant to physically store sensitive consumer payment data

5. Provides ability to have several payment schedules in each consumer profile with dedicated payment methods per schedule

### Consumer Detail

**Details**

| | |
|---|---|
| Display Name | Consumer, Sunil A. |
| Consumer ID | 181703f9d26b4647857954715b7d7a1c |
| Consumer # | ajs (129823) ① |
| First Name | Sunil |
| Last Name | Consumer |
| Middle Initial | A |

### View Payment Methods

**Consumer, Sunil A. » All Payment Methods** ②

| Priority | Nickname | Payment Method |
|---|---|---|
| 1 | Personal Card | Credit Card ( MasterCard ending in 3560 ) |
| 2 | Corporate Card | Credit Card ( American Express ending in 1009 ) |
| 3 | Checking Account | eCheck ( account ending in 5167 ) |

### View Payment Schedules

**Consumer, Sunil A. » All Payment Schedule** ③

| Schedule Type | Schedule Description | Entered On | Next Payment On |
|---|---|---|---|
| Fixed Recurring Payment | Monthly Payments | 02/07/2013 | 02/08/2013 |
| Variable Recurring Payment | Usage Based Charges | 02/07/2013 | 02/08/2013 |
| Custom Payment | Ad Hoc Purchases | 11/30/2012 | |

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## PayPoint® Payment Gateway Capabilities

**Multiple Payment Mediums**
VISA · MasterCard · AMERICAN EXPRESS · DISCOVER · STAR · pulse · NYCE · eCHECK

**Multiple Payment Channels**
Web, IVR, Recurring, Kiosk, POS, Face-to-Face

**Convenience Fee Management**

**Advanced Duplicate Payment Detection**

**Enrollment & Recurring Payment Management**
Stored Account Data & Flexible Recurrence Patterns

**Fraud and Identity Verification Services**
AVS, CVV2, TeleCheck® Processing

**Full ACH Service**
Returns, Refunds, eCheck Warranty, NOC

**Flexible Cross Reference to Biller Transaction**

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## Common Biller Challenges

"It's hard to keep up with NACHA and PCI compliance rules."

"Managing multiple processes for online, IVR, CSR, and walk in payments is time-consuming. "

I don't want to store any sensitive account information on my systems."

"Managing multiple billing solutions for different payment types is overwhelming."

"I don't have the development resources to create a bill payments web-site and IVR."

"I want to limit payment and reporting functionality to specific users."

"I have development resources but want to integrate through one process for eCheck, Credit Card, PIN-based, Signature Debit, and PINless Debit Card payments."
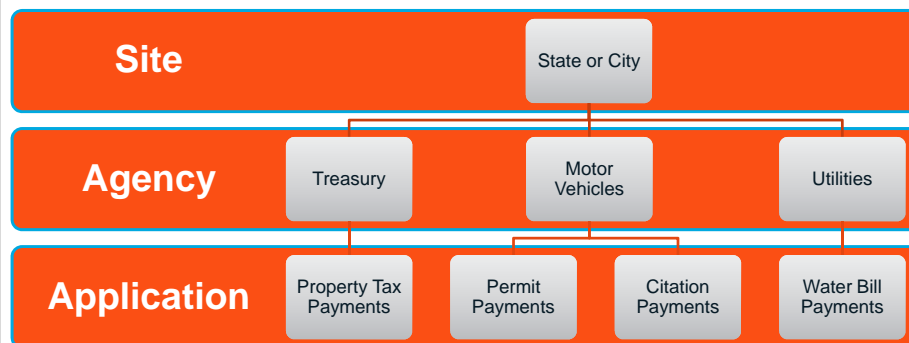
"Researching bill payments and providing access for customer service is complicated.

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## PayPoint® Payment Gateway Enterprise Approach

**Site** — State or City

**Agency** — Treasury, Motor Vehicles, Utilities

**Application** — Property Tax Payments, Permit Payments, Citation Payments, Water Bill Payments

**Three Hierarchical Levels**

- **Site** – Primary entity (i.e. business, government, biller, etc.)
- **Agency** – Sub-organization of the Site (i.e., department, division, etc.)
- **Application** - Specific payment application. (i.e. Electric Bill via Web, IVR or Kiosk with multiple payment channels)

*Unlimited Agency & Applications, Data aggregated at any level, Support for multi-level payment management*

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# Tokenization & Encryption

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# Data Breaches are on the Rise

- In 2012, payment card information was again involved in more (61%) breaches than any other data type[1]

- This represents an increase of 13% from 2011, when payment card data represented 48% of the data compromised during a breach[1]

# Large Merchants are Prime Targets

- Most breaches to large organizations take place in minutes, and in just few hours, 69% of large merchants have data extracted from their environment.[1]

- 73% of attacks on large merchants aren't targeted. The business simply exhibited a weakness that the attacker(s) knew how to exploit.[1]

**PCI Compliance requires significant – and on-going – effort and is no guarantee of security against a breach**

[1] Verizon, 2013 Data BREACH Investigations Report, April 2013

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# Storing Card Data is Valuable…

*Many merchants use – or would like to use - transaction data to:*

- Run business processes such as recurring payments, returns or voids
- Understand consumer buying behavior for valuable marketing and loyalty programs

## But risky!

*Loss of data due to a breach can have profound affect on a merchant business[3]*

- Brand damage and loss of customer trust and loyalty
- Ongoing compliance effort and costs to maintain systems, resources, etc.
- Fines from regulatory entities
- Legal costs
- Financial institution costs
- Business disruption and inability to deliver products and services

3 The True Cost of Compliance, A Benchmark Study of Multinational Organizations, Research Report, Independently Conducted by the Ponemon Institute LLC, January 2011

## The Costs of a Data Breach are Staggering

- Total average cost per breach: $5.5M
    - Average number of breached records: 28,349
    - Average cost per breached record – overall: $194

- Average annual *additional* customer churn - or loss due to a data breach - was 3.2%, or an additional $3.0M*

- 78% of consumers said they would stop shopping at a store if they believed the store had experienced a card data compromise.

*78% of companies surveyed had already experienced a breach in prior years*

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## Reduce the Risk of Payment Card Data Breach

- Support a multi-layered approach to payment card protection
- Reduce the number of places where card data exists
    - Point-of Sale systems
    - CRM systems
    - MIS databases / reports
- Transfer burden of storing payment card data from merchant to processor
- Reduce the Card Data Environment (CDE) and therefore PCI compliance efforts

*The First Data® TransArmor® Solution*
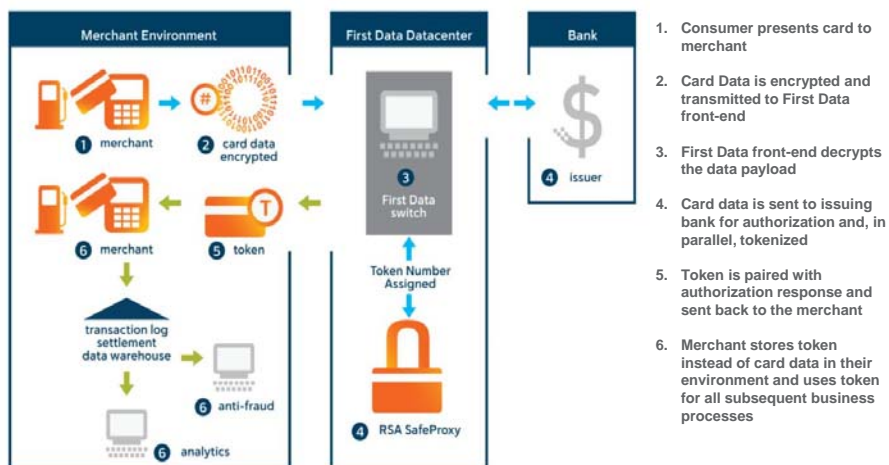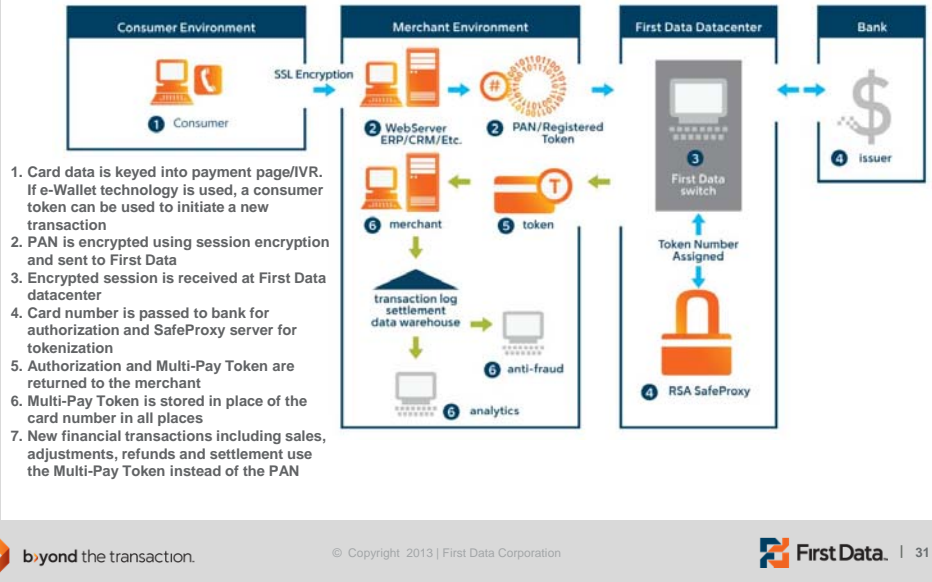
# What is the TransArmor Solution?

- A combination of encryption and tokenization technologies
  - Encryption protects data on the front end
  - Tokenization removes card data from the merchant environment post-authorization

| | Card Present | Card Not Present |
|---|:---:|:---:|
| **Hardware or software-based encryption** secures the transaction | ✓ | ✓ |
| **TransArmor Tokens** remove card data from the merchant environment | ✓ | ✓ |
| **Multi-Pay Tokens** support recurring payments or reporting that drives business decisions and loyalty programs | ✓ | ✓ |

# How does it work for Card Present?



1. Consumer presents card to merchant
2. Card Data is encrypted and transmitted to First Data front-end
3. First Data front-end decrypts the data payload
4. Card data is sent to issuing bank for authorization and, in parallel, tokenized
5. Token is paired with authorization response and sent back to the merchant
6. Merchant stores token instead of card data in their environment and uses token for all subsequent business processes

## How does it work for Card Not Present?



1. Card data is keyed into payment page/IVR. If e-Wallet technology is used, a consumer token can be used to initiate a new transaction
2. PAN is encrypted using session encryption and sent to First Data
3. Encrypted session is received at First Data datacenter
4. Card number is passed to bank for authorization and SafeProxy server for tokenization
5. Authorization and Multi-Pay Token are returned to the merchant
6. Multi-Pay Token is stored in place of the card number in all places
7. New financial transactions including sales, adjustments, refunds and settlement use the Multi-Pay Token instead of the PAN

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# Reducing PCI Scope

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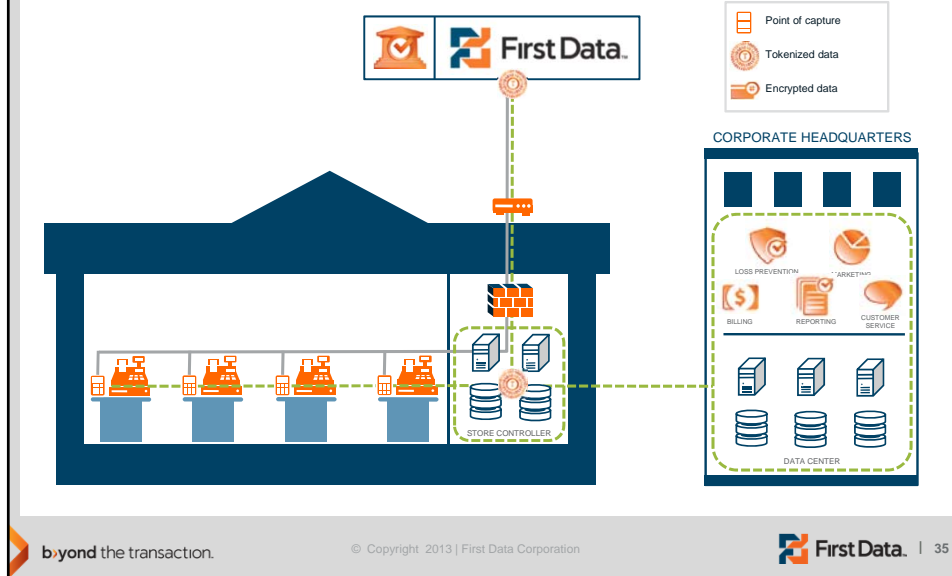## How TransArmor Reduces Scope
*TransArmor lowers the costs and minimizes efforts associated with PCI compliance in several ways*

- Shrinks the card-data environment (CDE) by removing both store systems and corporate systems

- Simplifies which questionnaire you must answer and completely removes some requirements from scope

- Changes the answers of some questions to N/A

## Before:
## Card Received, Used & Stored In the Clear
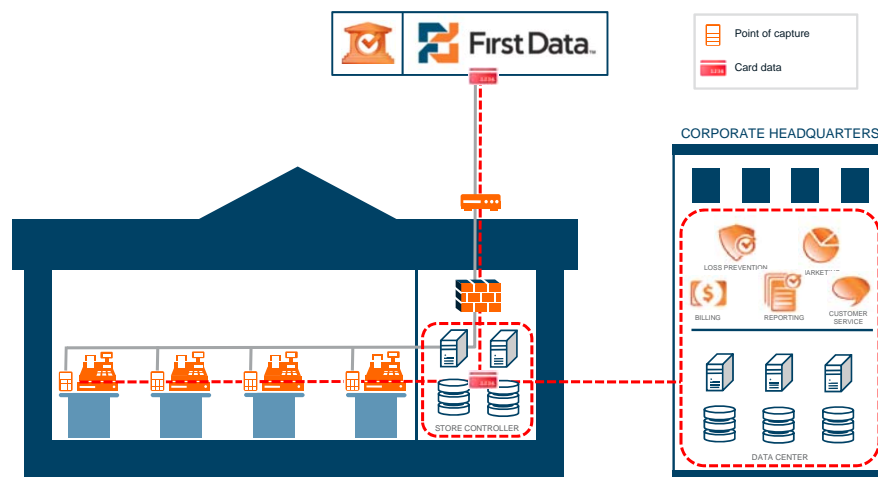
**After:**
**Tokenized Data Protects Entire CDE**



Thank You!