



Payment Account Reference

Enhancing Customer Experiences with Payment Data

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Executive Summary

Merchants today face a frustrating dilemma: the same security measure designed to protect payment information has obscured necessary insights into buyer behavior. By masking payment account numbers with indecipherable codes, tokenization has indeed cut down on fraud—yet it's also left merchants with fragmented data across various purchasing channels.

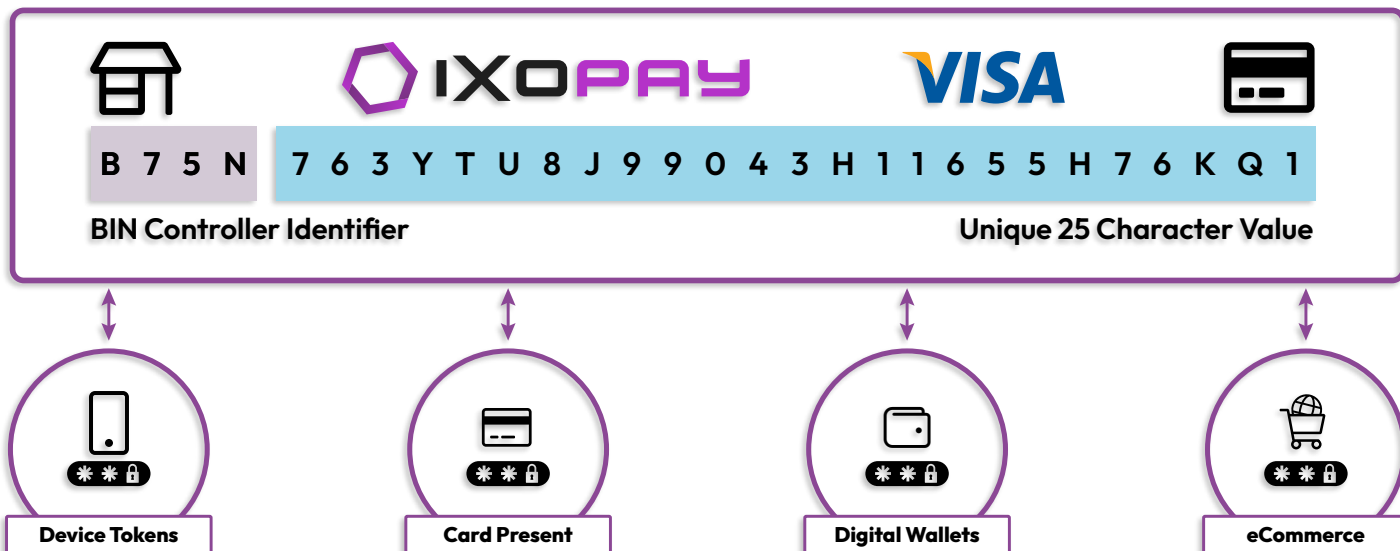
But what if security and data didn't have to compete? Imagine effortlessly tracking purchases across every sales channel, running smarter loyalty programs, and uncovering actionable insights into buyer behavior—all while preserving the security advantages of tokenization. This is the promise of Payment Account Reference (PAR), a secure transaction identification system introduced by EMVCo in 2017. It seems simple: a non-sensitive value that can associate all transactions related to a single card account, but the value proposition is significant. By linking Primary Account Numbers (PANs) with associated payment tokens, PAR enables merchants to better monitor fraud, drive loyalty, and understand customer behavior with greater ease and security.

The adoption of PAR is still in its early stages. However, merchants can start accessing this valuable tool by working with a payment service provider or payment orchestration platform that offers support. In this white paper, you'll learn how PAR works and its practical applications for merchants.

What is Payment Account Reference (PAR)?

Made up of 29 alphanumeric characters, PAR is a non-financial identifier that cannot be used to transact. The data point is assigned by the card networks and operates one-to-one with PANs and one-to-many with tokens, enabling merchants to link all transactions and tokens originating from the same cardholder account.

The graphic below maps out how a single PAR and PAN are linked to each other and the PAN's various tokens:



PAR value remains consistent across all transaction and token formats

Why Use Payment Account Reference (PAR)?

As tokenization technology has become widespread, using PAN data for non-payment purposes entails significant risk and PCI scope. Greater adoption of digital payment methods like mobile wallets, card-on-file, and network tokens has vastly increased the number of payment tokens related to a single underlying card account. When customers (or merchants) accept and store payment cards in-person or digitally, unique channel-specific network tokens are generated. This means that merchants are often unable to link transactions from different channels, since the PAN is hidden by a token. This is essential to security, but obfuscates the card account to which the token is linked.

PAR provides a secure alternative to PAN-based identification. In essence, it gives merchants a complete picture of customer spending patterns across all payment channels, card-based payment methods, and tokens. This adds benefits across three primary aspects of the business:

- **Marketing & Loyalty**

PAR enhances marketing efforts, particularly loyalty programs. Loyalty programs can be built since your business can track customer activity across all payment tokens. This leads to better intelligence and tailored loyalty programs to create long-term value.

- **Fraud**

PAR builds better fraud detection through better monitoring. PAR can easily identify fraud in multi-account or promotional fraud cases, where a user takes advantage of account-based promotions like a first-time customer discount. It also can provide additional data fields to use in your fraud models, where better data and more fields equate to a better overall fraud engine.

- **Operational**

PAR values can save your operational team time by reducing the steps and complexity around customer tracking. It can also replace PCI data in your system if it is used outside of a transaction for purposes such as customer identification.

Example Transaction Sequence for a Single Cardholder



Transaction 1

Customer enters the PAN number listed on their physical card at online checkout.
Merchant system receives PAN.



Transaction 2

Customer uses Apple Pay to check out online.
Merchant system receives a device token.



Transaction 3

Customer signs up for a membership and stores their card on file for recurring payments.
Merchant system receives a digital token from their PSP or vault provider.

Without PAR, each transaction in this scenario
is assumed to derive from a unique PAN.

Once support for PAN is added, however, the merchant can see that
all three originate from the same cardholder account.



PAR Use Cases and Benefits for Merchants

By enabling merchants to recognize repeat customers, PAR improves customer service capabilities, data reconciliations, fraud monitoring, and many more operational activities. Let's take a closer look at the use cases of PAR:

1. Better Customer Service

PAR equips customer service teams with a 360-degree view of customer behavior across all purchasing channels and payment methods. Even if the customer only provides details for a single transaction, the support representative can retrieve a full transaction history based on the PAR. This complete picture allows for more tailored service, faster dispute resolution, and better refund tracking.

Examples:

- A customer buys a coffee maker online using a digital wallet and returns it in-store using a physical card. The merchant is able to update the customer's online account with return status updates, even though the transactions did not use the same token.
- Multiple payments are linked to reflect a recurring payment plan. Customer service knows the customer is on a subscription plan and can provide support accordingly.

2. Optimized Loyalty and Rewards Programs

With improved visibility into buyer behavior, merchants can tailor loyalty programs and offers to cater to customer preferences.

Examples:

- A customer buys children's clothing from a department store's website, brick-and-mortar location, and mobile app. The purchases are all linked, and the merchant can provide a special discount just for kids clothes.
- A customer orders takeout from a pizza restaurant's app and pays with their mobile wallet. A few days later, they order dine-in Italian cuisine and pay with the same card. Both restaurants are within the same restaurant group, so the merchant automatically enrolls the customer in a loyalty program. The customer can continue to earn points without even having to present a loyalty card each time they order.





3. Improved Fraud Monitoring Capabilities

When PAR data is available, merchants and financial institutions can better detect suspicious patterns spread out across multiple payment tokens. This is crucial for developing customer risk profiles and responding to chargeback disputes.

Examples:

- ✧ A fraudster uses a stolen card to place multiple big-ticket orders that can be linked together to reveal a pattern of fraud.
- ✧ A cardholder repeatedly disputes legitimate transactions to get a refund, a practice known as friendly fraud, creating a new user account with each attempt. Even though they deleted and re-added their card to their digital wallet to generate new tokens each time, the transactions can be linked.
- ✧ A repeat customer who normally enters their card number places an order using Google Pay at checkout. The merchant's system detects that it's a repeat customer, granting the transaction a lower risk profile and thus preventing a false decline.
- ✧ A software user attempts to sign up for a second free trial using their digital wallet. The merchant detects that they already had a free trial based on the underlying card account.

4. Data Streamlining

Rather than having to mine through various tokens and transaction IDs across multiple platforms, PAR synchronizes all transactions under a common identifier. This makes payment data much more operable, ensuring that all data within the merchant's tech stack can be easily linked.

Example:

A retailer uses an e-commerce platform, POS system, and customer loyalty software. Data from all three platforms is consolidated into a single format, using PAR as a universal method of customer identification.

5. PCI Scope Mitigation

Because PAR is a non-financial reference value that cannot initiate transactions, it can be safely transmitted and stored within merchant systems so that merchants can identify cardholders without resorting to PAN storage. By using PAR for non-payment purposes, merchants can reduce the number of systems and processes within their system that must comply with PCI standards.

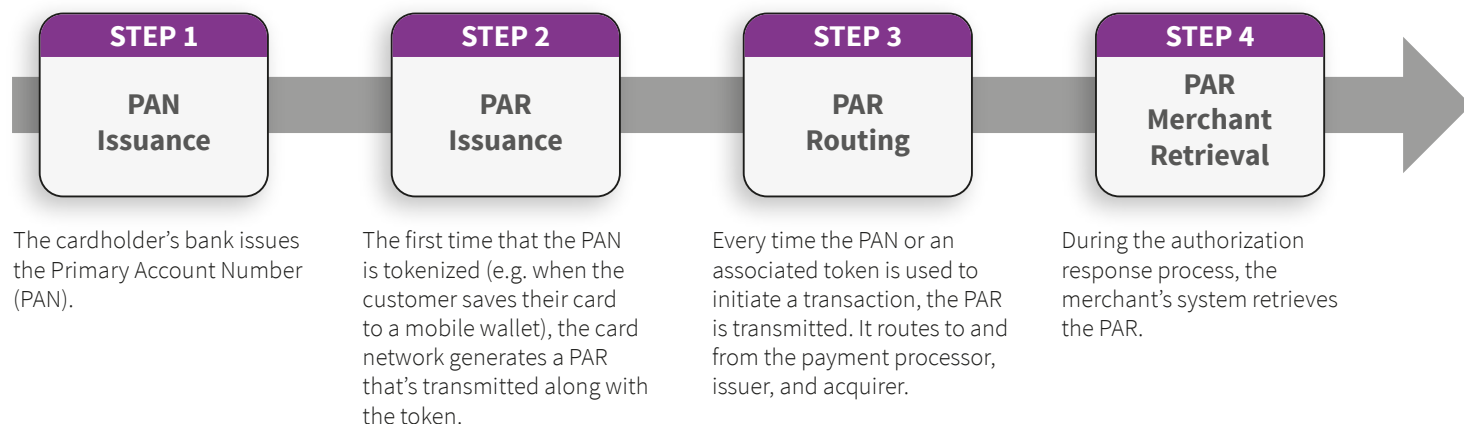
Example:

A merchant uses PAR to perform fraud checks rather than linking them to a PAN, keeping sensitive payment data away from their fraud screening system.

How PAR Works

PAR is embedded within the tokenization process and is transmitted during payment processing. Here's an overview of how PAR is generated and routed:

Note that the PAR can also be received outside of a transaction by using the card brand's PAR inquiry service.



How to Get Started With PAR

The card brands are spearheading PAR adoption by rolling out tokenization formats and system guidelines that support PAR usage. However, not all issuers, acquirers, and payment processors support the technology yet.

If you are interested in using PAR—a must if you process multiple card-based payment methods and/or need to ramp up your customer tracking capabilities—be sure to look for a payment service provider that has full PAR capabilities. Once you've integrated your system with a PAR-enabled provider, note that you'll want to configure your full tech stack to use PAR as a customer identifier.

Unify Your Payment Data With IXOPAY

PAR is set to transform payment security and data handling, offering significant benefits for customer relationship management, risk monitoring, and much more. By working with a payment service provider that supports PAR, you can get ahead of the curve thanks to unified data operations that empower key decision-making. IXOPAY's revolutionary PAR solution centralizes payment data across all channels, enhancing your customer experience, account reconciliations, and compliance needs—all without handling sensitive PAN data. To learn more, visit www.ixopay.com



IXOPAY is a leading provider of enterprise-grade payment orchestration, enabling businesses to simplify, secure, and scale their payment systems. In 2024, IXOPAY orchestrated over \$35 billion in transactions for customers from over 30 countries. With a fully integrated platform, tokenization, and flexible payment optimization modules, IXOPAY empowers enterprises to manage payments seamlessly across multiple providers.

Learn more at www.ixopay.com